The Value Relevance of Repetitive Information—Is the Expected Social and Environmental Disclosure Informational?

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Abstract

This paper analyzes the value relevance of firms' social and environmental disclosure (SED) patterns expected by investors considering firms' institutional contexts. Results show that the expected SED is value relevant for Chinese firms, not value relevant for Mexican and Canadian firms, and partial value relevant for Chilean, South African, and American firms. For Chinese firms, when the expected SED is isomorphic within the country, it is positively related to market value. However, the alternative expected SED is negatively related to market value. For Chilean firms, only the isomorphic social disclosure is (positively) valued by the stock market. Whereas for South African and American firms, only the alternative social disclosure is positively related to market value. Results suggest that institutions are essential to SED valuation as they determine whether and how stock markets value SED. Researchers in the discipline of accounting has taken an interest in social and environmental activities along with the rise of environmental protection regulations.

Keywords: environmental disclosure, social disclosure, firm value, neo-institutional theory, institutional logics

1. Introduction

Since the market efficiency hypothesis firms' values reflect all available information at any time (Fama, 1970), stock markets can incorporate the social and environmental known information before its disclosure. A piece of information available to all market actors is the institutional pressures to which the firms' social and environmental disclosure (SED) must conform. Institutions are self-imposed social constraints to structure human relationships. They take the form of laws, rules, norms, social expectations, and shared beliefs (North, 2010). Institutions change very slowly, and their temporal stability is robust to the different individual choices (Aoki, 2010). Thus, based on the firm's institutional pressures, market actors can expect the SED of some topics, at least in a ceremonial way.

This study poses the question of whether the stock market values the expected SED institutional adequacy. The term expected SED is used to designate the social and environmental topics, which disclosure can be anticipated by the market actors considering the institutional pressures managed by the firms. There are two reasons for the expected SED's market valuation. First, markets react to both SED content and information costs. After a low level of disclosure, non-financial information's costs exceed its benefits in a U-shaped relationship between a firm's market value and its social, environmental, and governance disclosure (Yu et al., 2018). Expected SED can be value relevant as an indication of future information costs. Second, the expected SED is an indication of the firm's conformity with the SED institutions. A firm's adherence to institutional demands is vital to ensure its survival and success (Scott, 2014). By disclosing social and environmental information in the same way as the other firms from their context, firms can signal to the market actors that it respects the institutions of that context. Therefore, following the SED patterns can reassure investors about their probabilities of future gains.

Previous research analyzing the SED's value relevance has not yet reached a consensus (Gödker & Mertins, 2017). Several reasons may explain the differences in their results. In particular, the differences between the institutional contexts studied (Coluccia et al., 2018); analyzing social disclosure and environmental disclosure together (Verbeeten et al., 2016); the differences in SED measurement, and disregard if the SED is expected or unexpected (Cahan et al., 2016). This paper considers these aspects. To consider the differences between the institutional contexts, this study analyzes the expected SED value relevance by country. According to the neo-institutional theory (NIT) and the institutional logic perspective, the elements that intervene in the

measurement of value depend on the relationships and social structures institutionalized by a given culture (Thornton et al., 2012). Each market evaluates its costs and benefits, and therefore its prices, according to its institutions (Friedland & Alford, 1991).

This paper focuses on the expected SED's value relevance. To identify the informative SED, Cahan et al. (2016) proposed the separation of the SED into its expected and unexpected components, arguing that even when it is voluntary, investors have some SED expectations. Cahan et al. (2016) show that only the unexpected SED is value relevant, while the expected one is not. However, SED is a multidimensional construct responding to a multitude of institutional logic that investors may perceive differently. An institutional logic is a set of institutions and patterned behaviors derived from them, shared by a group of individuals or organizations (Thornton et al., 2012). They can be complementary, concurrent, consensual, or only shared by a subgroup of the population (Boxenbaum & Jonsson, 2017; Thornton et al., 2012).

Firms evolve in institutional contexts that exert diverse and sometimes contradictory pressures to disclose social and environmental information. When all the firms in an institutional context share the same institutions, their responses to these institutions may be similar, resulting in structural similarities between firms. This phenomenon is called isomorphism (DiMaggio & Powell, 1983). However, most of the time, firms strategically choose how to respond to institutional demands or between several institutional demands coexisting in the same context (Thornton et al., 2012). Hence, the SED topics expected from one firm can differ from those expected from another firm in the same country. Therefore, alternative SED choices complement in different ways the isomorphic SED, shaping diverse SED behaviors within the same institutional contexts. Consequently, this study disaggregated the expected SED into four components, the isomorphic social disclosure; the isomorphic environmental disclosure; the complementary alternative social disclosure; and the complementary alternative environmental disclosure.

According to the NIT, the more an institution is shared the more it is perceived to be the truth and the more it is difficult to change. So isomorphic behavior regarding SED represents the most difficult patterns to change. This study is only interested in the value relevance of using these patterns regardless of their content.

To verify the expected SED components' valuation, this research used four versions of Ohlson's (1995) accounting-based valorization model. Results show that the expected SED is value relevant in some institutional contexts and that stock markets differently value the isomorphic SED and complementary alternative SED. More precisely, the Chinese firms' isomorphic SED is positively related to the market value, while their complementary alternative SED is negatively related to the market value. The expected SED of Mexican and Canadian firms is not valued as relevant. In the case of South African, Chilean, and American firms, only one part of the DS is value relevant. The isomorphic SD of Chilean firms is positively related to their market value, while for South African and American firms, it is the complementary alternative SD, which is positively related to their market value.

These results support both the NIT and the institutional logic perspective by confirming the existence of isomorphic and different behaviors within the same institutional context and emphasizing the importance of differentiating each institutional context in the value relevance studies. These results provide a better understanding of SED value relevance, allowing us to observe antagonistic links between the isomorphic SED and firms' market value, and the complementary alternative SED and firms' market value. This precision can help sophisticated analysts and investors to make more accurate forecasts of share prices and guide managers in their SED choices.

The remainder of the paper is organized as follows. The next section explains the study's theoretical framework, reviews the literature, and develops the research hypotheses. Section 3 describes the methodology used to test the hypotheses. Section 4 presents and discusses the results and the last section conclude this study.

2. Theoretical Analysis, Literature Review, and Hypotheses

2.1 Theoretical Framework

The theoretical foundations of this study are a mix of the sociological NIT and the institutional logic perspective since it allows us to explain both the similarities and differences in the firms' patterned behaviors within each society. The NIT advance that isomorphism is the phenomenon of firms' structural similarities and behaviors explained by the limited acceptable responses to comply with the institutions that they share (DiMaggio & Powell, 1983). There are three connected mechanisms inducing isomorphism among firms' structural features: regulative mechanisms as constitutions, laws, codes, rules, directives, regulations, and formal structures of control; normative mechanisms resulting from the social expectations as values and professional codes; and the

cognitive mechanisms stemming from culturally shared patterns of thinking, feeling, and acting (Scott, 2014). This study proposes that some dominant institutions could be shared by all the country's firms resulting in observable similarities among firms' SED topics. Consequently, this study designates these SED structural similarities as isomorphic SED.

However, isomorphism is not the only possible behavior resulting from societal institutions (Boxenbaum & Jonsson, 2017; Scott, 2014). Within a country, institutions can convey fuzzy, incomplete, and contradictory demands, resulting in a different logic of action possible (Aoki, 2010; Thornton et al., 2012). An institutional logic is a set of patterns of cultural symbols and material practices that provide meaning to individual and organizational behaviors (Thornton et al., 2012). Institutional orders are the family, religion, state, market, professions, and corporation (Thornton et al., 2012). These institutional logics can drive firms' SED. Indeed, face to the multiple institutional logic demands that coexist in a society, firms respond simultaneously to different and sometimes contradictory logics, even combining them (Lepoutre & Valente, 2012).

Consequently, the different institutional logic in each society affords firms the possibility of making some different choices. The observable consequence of these choices is the formation of subgroups that share the same patterns of behaviors within an institutional context (Boxenbaum & Jonsson, 2017). Consequently, this study designates these different SED patterns as a complementary alternative SED.

Given the complexity of institutional contexts in which different institutional logic coexist, the utility of the isomorphism concept has been questioned (Boxenbaum & Jonsson, 2017). Different institutional logic translates into different patterned behaviors within a society (Boxenbaum & Jonsson, 2017). However, society's stability depends on sharing certain beliefs (Aoki, 2010; North, 2010). As a result, some degree of isomorphism arises from society's shared institutions, including firms' structural similarities (Scott, 2014). On the other hand, the institutions that are not shared by all the society members allow the choice of some logic of action among others (Aoki, 2010; Thornton et al., 2012). As market logic is only one among others, it could not guide some firms' SED. In this case, SED can be perceived by investors as non-relevant or as an unjustified expense. Likewise, only a portion of the SED can be perceived as value relevant. Consequently, analyzing the value relevance of expected SED components allow us to observe the potentially contradictory links between each SED component and firms' market value.

This study aims not to provide a theoretical description of all the possible SED institutional logic followed by each country's firms, but to provide an empirical exploration of the value relevance of the SED behaviors expected considering these institutional logics. The firm's choice to disclose the same topics as other firms signals that its SED respects the laws, social expectations, or shared perceptions of reality. Respect for these institutions gives legitimacy to the firm and contributes to its survival (Scott, 2014). Therefore, the expected SED can be relevant for investors by helping them to corroborate the firms' adequacy to institutions and, consequently, their probabilities of long-term survival.

2.2 Social and Environmental Disclosure Value Relevance

The earliest American research on SED value relevance based their investigation on the annual reports SED. They generally found a positive relationship between the firms' market value and their SED (Cho et al., 2015). Concerning specifically environmental disclosure (ED), Clarkson et al. (2013) find that voluntary ED provides valuation-relevant information incremental to actual environmental performance. Plumlee et al. (2015) found that US firms' quality of ED is positively related to their market value. The authors have decomposed the quality of ED by the disclosure type, whether objective or subjective, and depending on the nature of the disclosure, whether positive, neutral, or negative. They found that ED is related to the expected cash flows only when it is disaggregated. On another hand, Cho et al. (2015) find that the market does not value the SED of US firms in 1977 and 2010. It means that the lack of consensus between the US studies is not due to the SED temporal evolution.

UK sample research also failed to reach a consensus. Murray et al. (2006) find no short-term link between the SED and the market reaction. However, De Klerk et al. (2015) find a positive relationship between the SED level and the firms' share prices. This link is more potent for firms in environmentally sensitive industries than for the rest of the firms. More specifically, Qiu et al. (2016) show that the market values only the SD while the ED is not.

For Spanish firms, Moneva and Cuellar (2009) found that the market reacts positively to environmental financial disclosure, such as investments, costs, and provisions, while non-environmental financial disclosure is not value-relevant. However, Reverte (2016) found that SED has a direct and indirect positive effect on Spanish firms' market value. On another side, Verbeeten et al. (2016) analyze the value relevance of the qualitative SED

of German firms. They also find that SD is value relevant to investors, while the ED is not. The value relevance of the SD and these of the ED must be analyzed apart regarding these results. Differences between the SD and the ED value relevance agree with Gödker and Mertins's (2017) conclusions. Gödker and Mertins (2017) synthesize behavioral studies analyzing how SED affects investors' decision-making. They conclude that the SED is partial value relevant to investors, suggesting that not all the SED is integrated into the share prices.

The international studies about the SED value relevance have highlighted the institutional differences between countries. Based on a sample of the 500 largest European firms, from 2007 to 2010, De Villiers and Marques (2016) found a positive association between the SED levels and the share prices. Similarly, Qureshi et al. (2020) find a positive association between the social, environmental, and governance scores and the firm's share prices from 22 European countries. The authors also find a positive association between ED and SD individually. However, analyzing the value relevance of non-financial information disclosed in the integrated reports of 50 European firms, Landau et al. (2020) find a negative influence of social, environmental, and governance disclosure on market value. Carnevale et al. (2012) focus on the value relevance of 130 European banks' SD. The authors show no association between the SD and the firms' share prices. Nonetheless, after decomposing their analysis by country, Carnevale et al. (2012) find that the SD harms the share price in Portugal, Austria, and France; has a positive effect in Italy, Ireland, Germany, and Spain; and no effect in Belgium, Finland, Greece, Luxembourg, and the Netherlands.

Prior research from Oceania also finds different results for different institutional contexts. Based on an Australian and New Zealand sample Jones et al. (2007) find that the market does not react to the New Zealand firms' SED, while it reacts negatively to the Australian firms' SED. These literature findings allow identifying the country as the level of analysis from the SED value relevance.

George et al. (2020) examine the association between ED and firm value in the Gulf Cooperation Council countries. The authors show that ED is positively related to the firm's value, as measured by Tobin's Q ratio. Khlif et al. (2015) investigate the relationship between SED and Tobin's Q ratio of South African and Moroccan firms. They find a positive relationship between SED and market value only for South African firms and emphasize the need to consider the countries' institutional differences.

On another side, Cahan et al. (2016) analyze how 21 countries' institutions influence the firms' SED. The authors separate the SED into their expected and unexpected components. Their results show a positive relationship between the firms' market value and unexpected SED, and no relationship between the expected SED and the firm's market value. However, the authors do not analyze the expected SD and ED separately or by country. Nonetheless, Cahan et al. (2016) show an interest in separating the analysis of the expected SED value relevance from those of the unexpected one.

Overall, the literature shows that value relevance varies by country, between the SD and the ED, and between the expected and unexpected SED. One explanation for these differences can be the institutional differences between countries and between the SD and the ED. The institutional system affects the level of SED (Coluccia et al., 2018), and the SED levels and structures determine whether and how the market actors use this information (Gödker & Mertins, 2017). Consequently, this study decomposes the expected SED value relevance analysis into the expected SD and the expected ED by country. Moreover, based on the theoretical framework, the expected SED is decomposed in its isomorphic and less isomorphic components. To the author's knowledge, this is the first time that the expected SED is decomposed. Therefore, the hypotheses do not predict the sign of the firm's market value and the different components of the expected SED relationship. Moreover, these relationships may vary by country. Thus, the following hypotheses.

H1a: The stock market values (positively/negatively) the expected isomorphic SD.

H1b: The stock market values (positively/negatively) the expected isomorphic ED.

H2a: The stock market values (positively/negatively) the expected alternative SD.

H2b: The stock market values (positively/negatively) the expected alternative ED.

3. Method

3.1 Sample

The sample comprises the SED from 100 firms from each of these six countries: Canada, Chile, China, Mexico, the US, and South Africa. The SED was collected for the years 2014 and 2015, resulting in 1200 initial firm-year observations. Due to the elimination of the missing and invalid data from the market value data, the sample decreased to 1124 firm-year observations. The author chooses the sample countries based on their cultural,

political, and legal differences, and randomly selects 100 firms from the list of each country's public firms.

3.2 Valuation Model

This study tests the research hypotheses using a series of multiple linear regressions based on the econometric model developed by Ohlson (1995). The original Ohlson (1995) model proposes to explain the firm's market value by their book values and their growth potential. The following models explain the firm's market value by their book values, their growth potential, and the SED components: 1) the isomorphic SD; 2) the isomorphic ED; 3) the patterned alternatives SD; and 4) the patterned alternatives ED, respectively. Models are not deflated to simplify the interpretation of the interest variables' coefficients. There are no control variables as the original model explanatory power is very high, which means that the original independent variables already include most market value explanations. SED components are modeled one by one to avoid their contradictory relationships with the market value, bias, results, and multicollinearity problems.

$$MV_{it} = \beta 0 + \beta 1 BV_{it} + \beta 2 AE_{it} + \beta 3 SDI_{it} + \varepsilon \tag{1}$$

$$MV_{it} = \beta 0 + \beta 1 BV_{it} + \beta 2 AE_{it} + \beta 3 EDI_{it} + \varepsilon \tag{2}$$

$$MV_{it} = \beta 0 + \beta 1 BV_{it} + \beta 2 AE_{it} + \beta 3 CASD_{it} + \varepsilon \tag{3}$$

$$MV_{it} = \beta 0 + \beta 1 BV_{it} + \beta 2 AE_{it} + \beta 4 CAED_{it} + \varepsilon \tag{4}$$

MV_{it} denotes the market value of common equity in thousands of Canadian dollars measured at the firms' fiscal year-end. BV_{it} is the book value of common equity at the firms' fiscal year-end. AE is the expected abnormal earnings of each firm, calculated using the formula proposed by Ohlson (1995):

$AE_{it} = Et - r \times BVt{-}1$

It represents the earnings before exceptional topics and discontinued operations at the firms' fiscal year-end, and r is the risk-adjusted discount rate. The risk-adjusted discount rate corresponds to the market risk premium, calculated as the difference between the expected return on the market portfolio of stocks and the risk-free rate of return (Kothari, 2001). $BVt{-}1$ is the firm's book value at the beginning of the firm's fiscal year. All the financial data, including the market risk premium specific to each country, were collected from Bloomberg.

SDI and *EDI* are, respectively, the isomorphic SD and the isomorphic ED. They are calculated using a similarity score between the firm's disclosure and the shared patterns of the rest of the firms from the same country. The similarity score formula is an adaptation of the measure developed by Aerts et al. (2006) to observe the firm's mimetic behavior. Thus, SDI is the level of similarity between the SD of firm i compared to the SD of the rest of the firms of country j, and EDI is the level of similarity to the ED of the firm i compared to the ED of the rest of the firms of country j. The SD similarity score and the ED similarity score correspond to:

Similarity score ij = MAX (dissimilarity score) j – dissimilarity score ij

Similarity score ij is the similarity score of each firm i SD or ED compared to the SD or ED patterns of all firms in the country j, excluding the firm i;

MAX (dissimilarity score) j is the highest dissimilarity score in a country j;

Dissimilarity score ij is the SD or ED dissimilarity score of each firm i compared to all firms' patterns in country j, excluding firm i.

The SD dissimilarity score is calculated as:

Dissimilarity score ij = [DIV (SD) i – M (SD) j] / S (SD) j

The ED dissimilarity score is calculated as:

DS ij = [DIV (ED) i – M (ED) j] / S (ED) j

For both formulas, DIV (SD) i or DIV (ED) i are, respectively, the number of social or environmental topics disclosed by each firm i from a total of topics analyzed (presented in Appendix A and Appendix B respectively);

M (SD) j and M (ED) j are, respectively, the means of social or environmental topics disclosed in the country j, excluding the firm i disclosures.

S (SD) j and S (ED) j are the standard deviations of the social or environmental topics disclosed in the country j, excluding the firm i disclosures.

The number of social or environmental topics disclosed by each firm was hand-collected using a coding grid for the SD (see Appendix A) and another for the ED (see Appendix B). These grids were developed by Cormier and Magnan (2014). The SD coding grid is composed of 36 social topics, grouped into four themes: work practices,

human rights, society, and product responsibility. The ED coding grid is composed of 40 environmental topics, grouped into six themes: expenses and risks, laws and regulations, pollution reduction standards, sustainable development, site restoration, and environmental management. Each topic was coded "1" if the information was disclosed and "0" otherwise. The choice of coding the SED as "1" or "0" intends to observe only the structural similarities between firms, that is, the choice to disclose or not the information. In other way, the coding could include firm-specific information disclosed due to their technical reality instead of the response to the SED institutions.

The dependent variable corresponds to market value at the firms' fiscal year-end. Consequently, to ensure that market actors could not know their SED choices, the expected SED corresponds to the topics disclosed when available, some months after the firms' fiscal year-end. Thus, this time lag allows us to observe the SED structures anticipated by the market actors through their relationship with the firms' market values avoiding the inclusion of the market reaction to the new information contained in the analyzed reports. Four different coders, following the author's instructions and close supervision, collected the SED from the sustainability or corporate social responsibility reports, the annual reports or integrated reports, the financial statements, and the annual information forms for the fiscal years 2014 and 2015. The Cronbach's alpha is 96 percent, showing a significant agreement between the coders and the high reliability of the coding work.

CASD $_i$t and CAED $_i$t correspond to the complementary alternative SD and the complementary alternative ED, respectively, of each firm i within its country at the end of year t. The complementary alternative SD is the difference between the total SD identified for each firm and their isomorphic SD, calculated as

CASD $_i$t = DIV (SD) – SDI.

Similarly, the complementary alternative ED corresponds to *CAED $_i$t = DIV (ED) – EDI*. Considering that the isomorphism of the SED within a country j corresponds to the SED produced in direct response to the requirements of the consensual institutions of the country (DiMaggio & Powell, 1983), thus, the rest of the SED that can be directly observed constitutes a complementary alternative SED.

4. Results

4.1 Descriptive Statistics and Correlations

Table 1 shows the descriptive statistics for the whole sample. The magnitude of the market values, book values, and abnormal returns standard deviations (in thousands of Canadian dollars) shows that these characteristics are quite varied within the sample. From the possibility of 36, the maximum number of social topics disclosed is 35. For the ED, the maximum number of topics disclosed by a firm is 39 from the possibility of 40. On average, the sample's firms disclose 15 social topics and 13 environmental ones from the coding grid. Of these topics, on average, 6 are isomorphic (SDI mean = 3 and EDI mean = 3), and the rest is composed of different topics (CASD mean = 12 and CAED mean = 10). These statistics show that the SED is mostly composed of different alternatives that compete and complete the isomorphic SED. As the similarity score is calculated for each firm compared to the consensus among the other firms from the same country, the negative minimums indicate that some firms do not respect the SED institutions generally accepted in their country.

Table 1. Descriptive statistics

	Minimum	Maximum	Mean	Standard deviation
MV	0.91	31077389.97	292765.78	1920429.48
BV	7.25	2642979.00	51546.58	187022.26
AE	-86385.61	413088.87	2762.39	22862.50
SDI	0	14	3	2
EDI	0	11	3	1
CASD	-5	35	12	10
CAED	-5	39	10	10
SD	0	35	15	9
ED	0	39	13.5756	8.90869

Note. MV: Market value, BV: Book value, AE: abnormal earnings, SDI: Isomorphic social disclosure, EDI: Isomorphic environmental disclosure, CASD: Complementary alternative social disclosure, CAED: Complementary alternative environmental disclosure, SD: Social disclosure, ED: Environmental disclosure.

Figure 1 shows the different levels of isomorphic and complementary alternative SEDs by country. In each country, the isomorphic SD and the isomorphic ED are around three topics. There are three social topics and three of the environmental topics from the coding grid, in which the need for disclosure is consensual within the country, given the existing institutions. Hence, it is the complementary alternative SED that makes the difference between countries' disclosure levels. On average, Chinese firms disclose 14 social topics and 11 environmental topics that other Chinese firms do not disclose. Also, in South Africa, the firms disclose an average of 12 social topics and 11 environmental topics that are not consensual within the country. Chile has the highest expected SED level due to the firms' disclosure of 14 complementary-alternative social topics and 12 complementary-alternative environmental topics.

On the other hand, the United States has the lowest expected SED level with 11 complementary alternative social topics and 10 complementary-alternative environmental topics disclosed by their firms. Mexican firms disclose an average of 12 complementary alternative social topics and 11 complementary-alternative environmental topics for a total of 29 expected topics when including the isomorphic SED. Finally, the Canadian firms disclose, on average, 12 complementary alternative social topics and 10 complementary-alternative environmental topics for a total of 28 expected SED topics from the 76 analyzed.
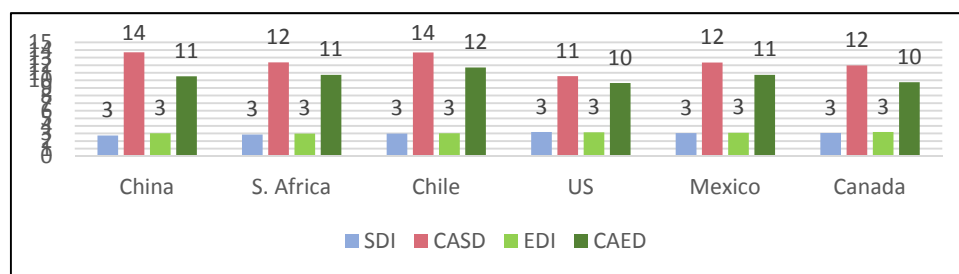

Figure 1. Expected social and environmental disclosure by country

Note. SDI = Isomorphic social disclosure, EDI = Isomorphic environmental disclosure, CASD = Complementary alternative social disclosure, CAED = Complementary alternative environmental disclosure.

Table 2 shows the bivariate Pearson's correlations between the variables. The results show that the firm's market value is positively related to its book value, expected abnormal earnings, and complementary alternative SD, and negatively related to the isomorphic SD. On the other hand, the firm's market value is not related to the expected ED, either in its isomorphic or complementary alternative form. All the variables of interest are strongly correlated. Consequently, their value relevance is analyzed separately to avoid multicollinearity problems.

Table 2. Pearson's correlations

	MV	BV	AE	SDI	EDI	CASD	CAED
MV	1						
BV	0.878***	1					
	(0.000)						
AR	0.898***	0.713***	1				
	(0.000)	(0.000)					
SDI	-0.098***	-0.165***	-0.086***	1			
	(0.001)	(0.000)	(0.004)				
EDI	-0.010	-0.054	-0.018	0.511***	1		
	(0.728)	(0.070)	(0.557)	(0.000)			
CASD	0.103***	0.152***	0.102***	-0.674***	-0.596***	1	
	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)		
CAED	-0.019	-0.001	-0.001	-0.219***	-0.824***	0.676***	1
	(0.532)	(0.963)	(0.966)	(0.000)	(0.000)	(0.000)	

Note. MV: Market value, BV: Book value, AE: abnormal earnings, SDI: Isomorphic social disclosure, EDI: Isomorphic environmental disclosure, CASD: Complementary alternative social disclosure, CAED: Complementary alternative environmental disclosure. *** The correlation is significant at 1%.

4.2 Multivariate Results

Table 3 shows the results of the expected SED value relevance's four models. The four models are very significant and explain more than 92% of the market value. In all the models, the explanatory variables proposed by Ohlson (1995), i.e., the book value and the expected abnormal earnings coefficient estimates are significant and positive ($p < 0.05$). These variables have a positive and very significant relationship with the firms' market value.

Table 3. Value relevance of the expected social and environmental disclosure

Model:	1	2	3	4	All
Constant	-190057.280***	-205638.287***	-29872.928	-57092.037**	-223579.300**
	(0.000)	(0.000)	(0.239)	(0.016)	(0.022)
BV	5.045***	5.002***	5.025***	4.979***	5.052***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
AE	46.222***	46.290***	46.352***	46.381***	46.226***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
SDI	31844.833***				9344.572
	(0.000)				(0.658)
EDI		36590.834***			35348.168
		(0.002)			(0.295)
CASD			-5188.267***		-3578.139
			(0.001)		(0.382)
CAED				-3328.309**	3420.042
				(0.038)	(0.529)
Adjusted R²	0.922	0.922	0.922	0.922	0.922
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note. The dependent variable is Market value. BV: Book value, AE: abnormal earnings, SDI: Isomorphic social disclosure, EDI: Isomorphic environmental disclosure, CASD: Complementary alternative social disclosure, CAED: Complementary alternative environmental disclosure. P values are in parentheses. Statistically significance at 10%*, at 5%**, and at 1% ***.

The first model presented in Table 3 (SDI) shows that the isomorphic SD coefficient is significant ($p < 0.01$) and positive (31844.833). It suggests that the isomorphic SD within a country is positively related to the market value, which corroborates Hypothesis 1a. Similarly, the second model (EDI) shows that the isomorphic ED within a country is positively related to the market value (36590.834; $p < 0.01$), which corroborates Hypothesis 1b. These results suggest that the isomorphic SED is value relevant to the market actors.

The third model of Table 3 (CASD) shows that the complementary alternative SD is negatively related to the firms' market value (-5188.267; $p < 0.01$), which corroborates Hypothesis 2a. In the same way, the fourth model (CAED) shows that the complementary alternative ED is negatively related to the firms' market value (-3328.309; $p < 0.05$), which corroborates Hypothesis 2b.

The last column of Table 3 reports the results of combining all the expected SED components in the same model to examine whether the expected SED, analyzed as a whole, has value relevance. Results show that the expected SED components together are not relevant. These results support the approach proposed in this study to decompose the expected SED according to its level of isomorphism to study its value relevance.

The findings in Table 3 confirm that the expected SED could be value relevant. However, it is essential to distinguish between each one of the countries sampled. Indeed, each market values firms depending on their institutions (Friedland & Alford, 1991). Hence, Table 4 reports the results of examining the value relevance of the expected SED components by country.

Table 4. Value relevance of the expected social and environmental disclosure by country

Panel A: China

	Model 1	Model 2	Model 3	Model 4
Constant	-305974.403**	-528313.807***	125243.512	124519.363
	(0.018)	(0.001)	(0.229)	(0.184)
BV	5.693***	5.616***	5.684***	5.551***
	(0.000)	(0.000)	(0.000)	(0.000)
AE	46.443***	46.536***	46.581***	46.81***
	(0.000)	(0.000)	(0.000)	(0.000)
SDI	80678.328**			
	(0.035)			
EDI		149848.787***		
		(0.002)		
CASD			-15377.703**	
			(0.016)	
CAED				-18328.994***
				(0.004)

Panel B: South Africa

	Model 1	Model 2	Model 3	Model 4
Constant	56809.665	47098.934	-6809.446	20127.604
	(0.132)	(0.298)	(0.815)	(0.469)
BV	2.252***	2.273***	2.257***	2.279***
	(0.000)	(0.000)	(0.000)	(0.000)
AE	15.072***	15.098***	14.848***	15.083***
	(0.000)	(0.000)	(0.000)	(0.000)
SDI	-9287.866			
	(0.383)			
EDI		-5975.097		
		(0.656)		
CASD			3022.752*	
			(0.090)	
CAED				835.187
				(0.639)

Panel C: Chile

	Model 1	Model 2	Model 3	Model 4
Constant	-4090.75	37788.623	37736.991**	22993.581
	(0.834)	(0.166)	(0.024)	(0.158)
BV	1.438***	1.378***	1.388***	1.377***
	(0.000)	(0.000)	(0.000)	(0.000)
AE	14.449***	14.368***	14.476***	14.204***
	(0.000)	(0.000)	(0.000)	(0.000)
SDI	11962.331**			
	(0.022)			
EDI		-1490.48		
		(0.853)		
CASD			-358.381	
			(0.713)	
CAED				901.154
				(0.392)

Panel D: United States

	Model 1	Model 2	Model 3	Model 4
Constant	57919.007**	66233.457**	6341.917	18732.215
	(0.017)	(0.026)	(0.682)	(0.213)
BV	2.186***	2.215***	2.142***	2.212***
	(0.000)	(0.000)	(0.000)	(0.000)
AE	6.601***	6.518***	7.091***	6.805***
	(0.005)	(0.005)	(0.002)	(0.004)
SDI	-7315.772			
	(0.253)			
EDI		-10305.628		
		(0.232)		
CASD			2734.428**	
			(0.013)	
CAED				1534.667
				(0.142)

Panel E: Mexico

	Model 1	Model 2	Model 3	Model 4
Constant	9777.213	15094.734	13353.729	15544.232*
	(0.356)	(0.244)	(0.139)	(0.062)
BV	1.576***	1.567***	1.561***	1.566***
	(0.000)	(0.000)	(0.000)	(0.000)
AE	8.895***	8.871***	8.852***	8.875***
	(0.000)	(0.000)	(0.000)	(0.000)
SDI	1833.602			
	(0.504)			
EDI		167.614		
		(0.963)		
CASD			195.281	
			(0.736)	
CAED				8.719
				(0.988)

Panel F: Canada

	Model 1	Model 2	Model 3	Model 4
Constant	38440.168	67576.21	20554.168	24864.214
	(0.236)	(0.100)	(0.396)	(0.268)
BV	2.308***	2.309***	2.299***	2.317***
	(0.000)	(0.000)	(0.000)	(0.000)
AE	1.240	1.271	1.025	1.262
	(0.442)	(0.429)	(0.528)	(0.432)
SDI	-696.445			
	(0.936)			
EDI		-9812.396		
		(0.402)		
CASD			1365.459	
			(0.374)	
CAED				1129.403
				(0.451)

Note. The dependent variable is Market value. BV: Book value, AE: abnormal earnings, SDI: Isomorphic social disclosure, EDI: Isomorphic environmental disclosure, CASD: Complementary alternative social disclosure, CAED: Complementary alternative environmental disclosure. P values are in parentheses. Statistically significance at 10%*, at 5%**, and at 1% ***.

Table 4 results show that the Chinese firms expected SED is value relevant to the market actors. As for the general models, Chinese firms' isomorphic SED is statistically significant and positively related to their market values (SDI = 80678.328 and $p < 0.05$; EDI = 149848.787 and $p < 0.01$), while the complementary alternative SED is statistically significant and negatively related to their market values (CASD = -15377.703 and $p < 0.05$; CAED = -8328.994 and $p < 0.01$). These results show that the stock markets valued the Chinese firms' expected SED. Hence, the respect of SED institutional demands can help investors make more accurate evaluations of

Chinese firms' market values. However, the isomorphic SED and the complementary alternative SED are valued in contradictory ways. The positive relationship between the isomorphic SED and Chinese firms' market values indicates that the Chinese firms' SED response to the institutional demands that are consensually perceived as needed contributes to better informing investors.

On the other hand, the negative relationship between the complementary alternative SED and Chinese firms' market values indicates that the SED produced in response to other institutional demands is perceived as more costly than beneficial. As stock markets negatively value the Chinese firms' greenwashing (Du, 2015), one explanation is that the complementary alternative SED is used to give a more positive image of the firm's social and environmental commitments. From this perspective, Chinese firms expected SED allows investors to identify information or "lemons" problems (see Healy & Palepu, 2001) as they can differentiate informational and lemons SED topics.

In the rest of the countries of the sample, the expected SED is mostly non-value relevant. Specifically, the expected SED is not significantly related to Mexican and Canadian firms' market value. These results can be explained by the investors' perception of firms' decoupling between their institutional conformity and their actual performance (Meyer & Rowan, 1977; Scott, 2014). Decoupling occurs when formal structures are maintained to gain legitimacy but not applied. Instead, firms' activities vary in response to practical considerations (Meyer & Rowan, 1977). It means that market logic does not drive the choice to respond to SED institutions in these countries.

For the Chilean, South African, and American firms, only a portion of the expected SD is positively valued. From the entire expected SED disclosed by the Chilean firms, only the isomorphic SD is significantly and positively related to their market value (SDI = 11962.331; $p < 0.05$). For US and South African firms, only the complementary alternative SD is significantly and positively related to their market value (US CASD = 2734.428; $p < 0.05$ and South Africa CASD = 3022.752; $p < 0.1$). These results agreed with Gödker and Mertins (2017) that only a part of the SED is value relevant to investors. These results agree and complete Carnevale et al. (2012) results that the SD is differently institutionalized and integrated on the stock prices depending on the country's institutional context. The authors found that SD has a negative effect on firms' share prices in Portugal, Austria, and France, a positive effect in Italy, Ireland, Germany, and Spain, and no effect in Belgium, Finland, Greece, Luxembourg, and the Netherlands.

5. Conclusion

This study finds evidence that the expected SED can be relevant depending on the firms' institutional context. Institutions matters to market actors as they determine what information is included in the stock prices and how investors perceive SED. The objective of this study is to examine the value relevance of the expected SED. This study finds that stock markets anticipate the disclosure of social and environmental topics based on the institutions affecting both the SED requests and the firms' behavior in response to those requests. However, some markets, such as Mexico and Canada, do not value the fact of producing the SED in response to institutional demands. Assuming that markets are efficient at least in their semi-strong form, these results can be explained by a mismatching between the market logic and the institutional logic that drive firms' SED.

In the case of Chilean, South African, and American firms, only one part of the SD is value relevant. The isomorphic SD of Chilean firms is positively related to their market value, while for South African and American firms, it is the complementary alternative SD, which is positively related to their market value. Results agree that additional efforts need to be made to integrate the SED, especially the ED, into the share prices (Gödker & Mertins, 2017). One possible solution is to ensure the congruency of institutional pressures. For example, Negash and Lemma (2020) find that instructional contradictions between regulative and normative pressures in South Africa led firms to decouple their ED.

This study contributes to the research on SED value relevance by differentiating the effect of the isomorphic and complementary alternative SEDs on firms' market value within a given institutional context. The utilization of multiple and sometimes contradictory institutional logic to guide firms' SED choices result in different valuations of the SED components. Specifically, the value relevance of Chinese firms' expected SED must be decomposed to avoid biased results. Also, by analyzing the value relevance of the expected SED, this paper completes Cahan's et al. (2016) study regarding the value relevance of unexpected SED as based on North (2010), the unexpected behaviors are the residual of these that can be explained by the institutions' existence.

Results support the institutional logics perspective postulate of multiple institutional logics in action within a society. Their contradictions allow firms' SED decoupling (Scott, 2014). This decoupled SED must be perceived as non-value relevant by market actors. Results also support the NIT view that each societal institution

determines what is valued and the rules by which this value is calibrated and distributed (Friedland & Alford, 1991). The stock market can perceive a firm's SED behaviors as adequate to respond to the country's institutional pressures as the isomorphic SED of Chinese firms, or it can be perceived as a suboptimal use of the shareholders' wealth because the Chinese firms could have chosen not to disclose this information.

This study contributes to a better understanding of the NIT's isomorphism postulate by showing that firms do not become entirely isomorphic to their institutional environment. The isomorphism can arise from institutional demands, but it is not the most extensive behavior within a country, at least concerning the SED. It provides an element toward answering a fundamental question posed by Boxenbaum and Jonsson (2017), whether isomorphism is a useful and distinct theoretical concept. Even in a world of fragmented institutional contexts composed of multiple concurrent institutional logic, the isomorphic behaviors remain a base that contributes to each society's stability. The results show that meeting institutional expectations and making social consensus, like laws, norms, regulations, and beliefs shared within a country, is positively perceived by investors.

Results are subject to some limitations. First, the interest variables are constructed using an existing coding grid based on international SED standards. Using an open coding strategy could allow the identification of some additional shared SED topics by country. However, this did not prevent the refutation of the null hypothesis according to which the expected SED based on the existing institutions is irrelevant to the capital markets. Second, the author chose the firms by dividing 100 by the number of pages of the total public firms from the Mergent Online database. Then the author took this number of firms on each page in alphabetical order. However, for Chinese firms, the author has substituted nine firms that disclose their information only in Chinese with the following firms disclosing in English. Third, this study groups the complementary alternatives SED in one measure. Since these alternatives come from different and competing institutional logic, the author recognizes that they are not homogenous. Future research can analyze how firms respond to these different institutional SED requests and their specific effect on market values. This study focuses on the country context to compare the firms' SED patterns. An objective for future research could be the analysis of these patterns by industry.

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Appendix A

Social disclosure coding grid

A.   Labor practices and decent work

•   Employment: categories, creation, social advantages

•   Working conditions and social protection

•   Employee–management relations: workers' rights, union, representation (board committees)

•   Health and safety: injuries, professional illnesses, lost days, absenteeism, ILO code

•   Human Capital Development

•   Training and education

•   Equity Programs

•   Social activities

•   Diversity and equal opportunities: gender; cultural; corporate governance

B.   Human Rights

•   Management: investments; procurement practices; Supply Chain

•   Social rights: risks; violation; discrimination; promotion

•   Freedom of association and collective bargaining

•   Abolition of child labor: ILO code

•   Prevention of forced or compulsory labor

•   Complaints and Grievance Practices

•   Security practices

•   Aboriginal rights

•   Civil and political rights

C.   Society

•   Regional, educational, and cultural development

•   Donations, sponsorships, and philanthropy

•   Bribery and corruption

•   Wealth and income creation

•   Respect for property rights

- Public policy: political lobbying and contributions
- Business ethics and anti-competitive behavior
- Promotion of social responsibility in their sphere of influence
- Community: involvement; development; investment representation (board committees)

D. Consumer and products responsibility

- Purchases of goods and services
- Customer health and safety, complaints, code compliance
- Product-related incidents
- Product development and environment: access to essential services, sustainable consumption
- Customer service, assistance, and dispute resolution
- Labeling of product information: complaints; consumer satisfaction
- Marketing communication (advertising): standards and codes
- Education and awareness
- Customer confidentiality

Appendix B

Environmental disclosure coding grid

A. Expenses and risks

- Investments
- Operating costs
- Projected investments
- Projected operating costs
- Financing investments
- Environmental liabilities
- Provisions for risks
- Provisions for litigation
- Provision for future expenses

B. Laws and regulations

- Present and potential litigation
- Fines
- Order to comply
- Corrective actions
- Incidents
- Future legislation and regulations

C. Pollution abatement

- Air pollutant emission
- Water discharge
- Waste management
- Control of installations and processes
- Compliance with standards
- Noise and odors
- Energy consumption and conservation

D. Sustainable development

*   Conservation of natural resources

*   Recycling

*   Wildlife protection/life cycle information

E. Site remediation

*   Sites

*   Rehabilitation efforts

*   Potential debt related to restoration and remediation

*   Present debt related to restoration and remediation

*   Spills (number, nature, reduction efforts)

F. Environmental management

*   Environmental policies or concern for the environment

*   Environmental Management System

*   Environmental audits

*   Goals and targets

*   Awards for environmental protection

*   Department, group, service assigned to the environment

*   ISO 14000

*   Firm involvement in the development of environmental standards

*   Participation in environmental organizations (e.g., sectoral committees)

*   Joint projects with other firms in environmental management