

The influence of overseas study and work experience on corporate environmental disclosures: evidence from Vietnam

Corporate
environmental
disclosures

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Abstract

Purpose – Drawing from Upper-Echelons Theory (UET), this paper aims to examine whether an increasing number of board members studying and working overseas, especially in Anglo countries, provides some impetus for increased corporate environmental disclosures (CED) in Vietnam.

Design/methodology/approach – This study used quantitative data collection and analysis. The data collection involved a content analysis of annual, sustainability and integrated reports to capture the quality and quantity of CED. The authors subsequently developed ordered probit models to quantitatively test the hypotheses.

Findings – The authors find that board members studying in Anglo countries positively impact firms' levels of CED in emerging economies. However, overseas work experience is found to be an insignificant explanatory variable. Further, the findings suggest that, in Vietnam, Chairs appear to be more influential than chief executive officers in affecting CED levels.

Practical implications – Despite the positive influence of overseas study, the authors find overall levels of CED in Vietnam remain relatively low. This suggests the necessity of dialogue about potential reform in CED policies, which could involve the introduction of mandatory reporting requirements. In addition, to enhance sustainability disclosures, shareholders should appoint board members who possess international qualifications.

Originality/value – This study adds to the literature exploring the impacts of Anglo cultural traits of board members on CED levels, within an economy transitioning from a communist ideology to a market-oriented system context. The connection between international study and cultural norms, beliefs and traditions in these countries and their positive influence on directors' values and attitudes towards CED have not yet been studied. The study also extends UET by examining the potential positive influence of different national contexts on board members' education levels.

Keywords Corporate governance, Transitional economy, Board backgrounds, Corporate environmental disclosures, Overseas study, Overseas work experience, Upper-Echelons theory

Paper type Research paper



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1. Introduction

As business activities are significant contributors to global climate change and global warming, it is evident companies should place greater focus on corporate environmental disclosures (CED) (Lee, 2017; Lewis *et al.*, 2014). Many stakeholders expect information about how firm activities affect the environment (Rupley *et al.*, 2012). Further, firms gain a competitive advantage when information about corporate environmental performance is disclosed, as this may lessen stakeholder uncertainty about the company (Simmnett *et al.*, 2009).

Despite the well-documented positive value of CED [1], levels of CED in emerging countries remain low when compared to developed countries (Cui *et al.*, 2020; Welbeck, 2017). A reason for this gap may be that many emerging countries possess weak corporate governance (CG) mechanisms, leading to adverse outcomes, such as low disclosure levels (Mahmood *et al.*, 2019; Seibert and Macagnan, 2019). Moreover, environmental regulations in emerging countries are often deficient or weakly enforced (Mahmood *et al.*, 2019). Public awareness of environmental impacts is also relatively low in these countries (Lu and Abeyssekera, 2015; Situ and Tilt, 2018). Consequently, studies into the drivers of CED are essential to understanding the distinct context of emerging countries and ultimately to increase their levels of transparency.

The influence of culture, as a set of societal values explaining and determining differences in cross-national accounting and disclosure practices, has been subjected to a wealth of research (Khelif *et al.*, 2015). Similarly, the importance of the level of education amongst the board of directors (BoDs) has received some attention (Katmon *et al.*, 2017; Kipngetich *et al.*, 2019). However, there is little evidence around the cultural traits of board members (such as a Confucian orientation) and the impact they may have on sustainability reporting (Brochet *et al.*, 2019; Cui *et al.*, 2020). According to Upper-Echelons Theory (UET), board member qualifications are indicators of top management's personal and cognitive values and influence strategic choices (Hambrick and Mason, 1984). Cultural norms, beliefs and traditions may intertwine with overseas study to influence directors' attitudes towards CED.

This paper, therefore, aims to examine whether increasing numbers of board members studying and working overseas, especially in Anglo countries [2], provide the impetus for increased CED in Vietnam. In doing so, this study uses quantitative data collection and analysis, which involves a content analysis of annual, sustainability and integrated reports to capture the quality and quantity of CED. Ordered probit models are used to test the potential impacts of board members' overseas study (*B MOS*) and work experience (*B MOW*) on CED. The level of CED is measured through a set of environmental items based on Global Reporting Initiative (GRI) guidelines in the context of Vietnam.

Our study makes seven noteworthy contributions to theory and the literature. Firstly, our research extends UET by examining an overseas study and work experience; two potential contributors to board members' personal and cognitive values. Prior UET studies that have examined educational background have focussed on the type of education such as possession of an Master of Business Administration (MBA) or an accounting/finance or law degree (Bamber *et al.*, 2010; Ge *et al.*, 2011) or level of education such as possession of a Bachelors or Masters degree (Qi *et al.*, 2018). These studies examine accounting choices and none have considered the *source* of that education. Moreover, there has been a dearth of studies to date that have examined the potential impact of backgrounds on non-financial strategic choices such as environmental issues. Where environmental issues have been analysed, researchers such as Aguilera *et al.* (2007) and Jackson and Apostolakou (2010) have mainly focussed on environmental practices and performance. Studies into factors driving environmental disclosures (Clarkson *et al.*, 2008; Lewis *et al.*, 2014) have not

examined the source of education of firms' leadership. Given that exposure to another country that is culturally distant may potentially alter a leader's field of vision, selective perception and interpretation of environmental concerns, this gap is worthy of investigation.

Secondly, there are few studies on environmental issues using non-US samples. An exception is [Katmon *et al.* \(2017\)](#), who examined the relationship between board diversity and corporate social responsibility (CSR) quality in Malaysia but they used a resource-based view theory of the firm rather than a UET lens. As the heterogeneity of firm leadership differs globally, it is not clear that UET predictions are globally valid. Western leadership usually possesses a large amount of discretion encouraged by risk-taking investors, strong societal beliefs in individualism and correspondingly relaxed institutional environments ([Hambrick, 2007](#)). Countries such as Vietnam place greater weight on the importance of collectivism and businesses face heavy government intervention and oversight into their affairs. These environmental differences underscore the importance of extending the scope of analysis of UET in voluntary reporting beyond US borders.

Thirdly, our research contributes to the literature by highlighting the value of exposure to Anglo cultural influences on board members' awareness of CED, especially in the unique context of a country transitioning from a communist or socialist ideology system to a market-oriented system. Fourthly, extending prior studies such as [Liao *et al.* \(2020\)](#), [Xixiong *et al.* \(2018\)](#) and [Slater and Dixon-Fowler \(2009\)](#), our study further investigates the cultural traits of board members at multiple levels. This includes boards in aggregate and comparing the chief executive officer (CEOs') influence with that of Chairs on CED levels. Fifthly, in contrast to prior studies that found a global standardisation (e.g. GRI) of sustainability reporting ([Abeydeera *et al.*, 2016](#); [Ismaeel and Zakaria, 2019](#); [Welbeck, 2017](#)), we found the significant influence on CED of exposure to regional cultures through overseas education. Sixthly, by demonstrating the distinct characteristics of board members' overseas education, our research also extends prior studies, such as [Ismaeel and Zakaria \(2019\)](#), [Abeydeera *et al.* \(2016\)](#); [Khalil and O'Sullivan \(2017\)](#) and [Welbeck \(2017\)](#), to State-led transition economies, such as Vietnam. Seventhly, our study addressed a major criticism of Hofstede's cultural dimensions by previous studies such as [Khlif \(2016\)](#) and [López-Duarte *et al.* \(2016\)](#) by using 10 regional cultural clusters as defined by [House \(2004\)](#) based on cultural values, country economic development and linguistic nations across administrative borders.

This paper proceeds as follows: Section 2 explains the Vietnamese research context, including the increasing numbers of Vietnamese people studying overseas and a rising cultural influence from Anglo countries, which are two significant outcomes resulting from Vietnam's economic reforms and its colonial past. Section 3 reviews prior studies and describes the theoretical framework for this study and then proposes research hypotheses linked to the key research questions. Section 4 provides the research methodology and Section 5 presents the results of the study, discussion and possible explanations for the findings. Finally, Section 6 provides the conclusion, including research contributions, the potential implications of these findings, study limitations and avenues for future research.

2. Institutional setting

Vietnam provides a unique context for the present study because of its distinct historical and cultural characteristics. Over the modern era, Vietnam has been characterised by a weak CG environment, low public awareness of environmental impacts and significant environmental challenges ([Dao and Ofori, 2010](#)). Although Vietnam has some regulations regarding corporate environmental activities, such as Circular 25/2019/TT-BTNMT [3],

Decree 40/2019/ND-CP [4] and Decree 155 [5], these regulations seem to be fewer in comparison with developed countries and also less effective in general (Chu, 2018; Clarke and Vu, 2021; Hoang *et al.*, 2015). In Vietnam, the impact of environmental laws on changing corporate behaviours, in terms of environmental protection and reporting, has been limited (Hoang *et al.*, 2015). Moreover, it should be noted that until now, environmental disclosures in Vietnam have been voluntary, although guidelines have been issued. The GRI guidelines are also voluntary in Vietnam.

Meanwhile, in Anglo countries, a combination of voluntary and mandatory reporting of CED occurs. For example, in Australia, heavy emitters of carbon dioxide are required to annually report their emissions to the government regulator under the National Greenhouse and Energy Reporting (NGER) Act (NGER, 2019) [6]. No such requirements currently exist within Vietnam. Moreover, Vietnam's political system, economy and culture are starkly different from other emerging countries because of its communist and colonial history (Logevall, 2012). Vietnam is the largest socialist country in Southeast Asia and this socialist influence may affect CED given the central government's tendency to oversee most aspects of corporate operations (Benedict, 2019).

Since major economic reforms in 1986, the Communist Party of Vietnam has enacted an "open-door policy" to the international economy. However, two conflicting ideas have emerged around the value of Vietnam undertaking economic reforms. The first view came from Vietnamese people who were influenced by Anglo culture via their overseas exposure. This group argued that economic reforms were necessary because international organisations such as the World Bank and the World Trade Organisation (WTO) enhanced economic, legal and institutional reforms, and therefore, created new positive influences, particularly for the private sector (Michalopoulos, 1999). In contrast, the second view, that economic reforms were unnecessary, tended to be held by many traditional Vietnamese people who had not been exposed to the outside world and so were sceptical of the potential opportunities afforded to Vietnam by opening up its economy and joining the WTO (Pham, 2013). These insiders also thought Vietnam's reforms were a consequence of crises, including the collapse of the centrally-planned economy in 1980, the Asian financial crisis in the 1990s and ineffective economic management (Pham, 2013). These conflicting views around reform provided significant issues for Vietnamese international alumni returning home and working in sectors or institutions dominated by Vietnamese conservatives (Pham, 2019c). These conflicts led to a number of challenges that occurred in the movement from a controlled economy to a market model with a communist political system and one-party rule. For example, conservatives, particularly in state-owned enterprises, who were struggling to compete in a market economy, resisted moves towards economic liberalism (Ashwill and Thai, 2005; Pham, 2013).

Two significant outcomes that resulted from Vietnam's economic reforms and its colonial past are the increasing numbers of Vietnamese people studying overseas and a rising cultural influence from Anglo countries (Oliver and Nguyen, 2010). Further, immense immigration waves of Vietnamese people fleeing Communist rule to developed nations, such as the USA, Canada, Australia and the UK from 1975 to 1995, contributed to a significant Western impact on the education of Vietnam's people and economy. Over the past 20 years or so, these immigrants have also acted as a base for their Vietnamese relatives to "come across" and study in Anglo countries (Hoang, 2010; Parsons and Vézina, 2018). Thus, the increasing numbers of Vietnamese people studying overseas, especially in Anglo countries, provide an impetus for increased CED when they return to their homeland.

3. Literature review and hypothesis development

3.1 Qualifications [7], work experience and corporate environmental disclosures

A wealth of knowledge exists on the influence of top management characteristics, such as independence, duality, gender, ownership and international influences, on disclosures (Ben-Amar *et al.*, 2017; Cui *et al.*, 2020; Ismaeel and Zakaria, 2019; Xiao and Yuan, 2007). As more studies of CED are conducted, a greater range of new board features and different outcomes are explored (Ismaeel and Zakaria, 2019; Muttakin *et al.*, 2018). However, to date, very little research has examined the association between top management cultural-oriented characteristics and disclosures (Brochet *et al.*, 2019; Zrnić *et al.*, 2020, for a review). Specifically, there has been a lack of studies analysing how overseas education and work experience may influence executive decision-making, especially regarding sustainability reporting. Exposure to different countries and perspectives may be critical to executives' attitudes towards non-financial disclosures.

Although the overseas study is more likely to be significant because of Vietnamese economic reforms and historical characteristics (Oliver and Nguyen, 2010), its impacts on CED have not yet been examined. Zrnić *et al.* (2020) suggest that future research should analyse the influence of directors' education levels on sustainability reporting. Previous studies, for example, Katmon *et al.* (2017), Lewis *et al.* (2014), Ma *et al.* (2019) and Kipngetich *et al.* (2019), limited their examinations to local education levels of board members. Meanwhile, several studies, such as Liao *et al.* (2020), Xixiong *et al.* (2018) and Slater and Dixon-Fowler (2009), found a positive relationship between executives' international backgrounds and CSR performance but did not examine board members' education levels or examine sustainability reporting. This research gap is significant as, in a global context, overseas qualifications and work experience obtained by board members are viewed as a valuable form of an intangible asset (Barney, 1992; Carpenter *et al.*, 2001). Top managers with overseas backgrounds may generate significant value for their firms through their distinctive management strategies leading to better firm performance (Slater and Dixon-Fowler, 2009).

The present study uses UET (Hambrick and Mason, 1984) to provide a comprehensive explanation for the influence of board members' overseas qualifications and work experience on environmental reporting. UET provides important insight into the effects of directors' characteristics on firms' strategic choices to innovate, which, in turn, impact firm outcomes (Hambrick, 2007; Hambrick and Mason, 1984). Hambrick (2007) explains that UET has two interconnected parts:

- (1) Executives act on the basis of their personalised interpretations of the strategic situations they face.
- (2) These personalised understandings are influenced by executives' experiences, values and personalities.

This theory posits that to understand the motivation behind firms' actions requires us to consider the biases and dispositions of firms' leadership. Hambrick (2007) argues that a focus on the characteristics of the top management team will provide more robust explanations of firm outcomes than will a focus on individuals (e.g. CEO) as leadership is a shared activity. He also contends that the demographic characteristics of leaders can be used as valid, albeit incomplete and imprecise, proxies of their cognitive frames. Specifically, researchers can reliably use the information on executives' functional backgrounds, industry and firm tenures, educational credentials and affiliations to develop predictions of strategic actions and performance outcomes.

Hambrick and Mason (1984) proposed that executives' experiences, values and personalities affect their:

- *field of vision* (the directions they look and listen);
- *selective perception* (what they actually see and hear); and
- *interpretation* (how they attach meaning to what they see and hear).

The present study uses UET (Hambrick and Mason, 1984) to provide a comprehensive explanation for the influence of board members' overseas qualifications and work experience on environmental reporting. This is because board members' field of vision, selective perception and interpretation are all likely to be affected by these overseas exposures, especially where it has taken place in culturally distant countries.

Prior studies (Bamber *et al.*, 2010; Ge *et al.*, 2011; Buchholz *et al.*, 2018; Plöckinger *et al.*, 2016; Qi *et al.*, 2018) have widely used UET to explain the impact of CEOs or Chief Financial Officers (CFOs) characteristics on financial reporting. For example, drawing on UET, Bamber *et al.* (2010) found that managers with accounting and finance backgrounds tend to disclose fewer but more precise actual earnings, those with legal backgrounds provided less financial disclosures due to their sensitivity to litigation risk and those born before World War II were more conservative in their disclosures (e.g. more reluctant to forecast). Ge *et al.* (2011) found that accounting choices (e.g. financial reporting) were influenced by CFOs' characteristics; for instance, older CFOs were conservative in accounting choices, whilst those with MBA degrees made less aggressive reporting choices. Expanding the prior literature, our study uses UET to investigate the influences of overseas qualifications and work experience on environmental reporting. Our study, therefore, adds to the understanding of UET by examining the major impact of exposure to the different social, economic and cultural backgrounds through an overseas study on board member attitudes and decision-making towards CED. We, therefore, test the following two hypotheses:

- H1a.* Companies whose board members earned overseas qualifications have a higher probability of disclosing environmental information than those companies whose board members held only local qualifications.
- H1b.* Companies whose board members undertook overseas work experience have a higher probability of disclosing environmental information than those companies whose board members did not undertake overseas work experience.

These two hypotheses examine whether companies whose board members earned overseas qualifications (*H1a*) or overseas work experience (*H1b*) impact CED. The next three hypotheses test whether different regions where BoDs studied overseas impact CED.

3.2 *The impact of overseas study in Anglo and Confucian countries*

According to House (2004), Anglo countries share the same ethnicity, language and migration patterns originating centuries ago from regions now identified as Northern Europe (House, 2004). These countries share important characteristics, including English being their national language and being former members of the British Empire, and therefore, heavily influenced by English traditions, such as the use of common law and a parliamentary system of government. Anglo nations also share a high standard of living and quality of life, with high Human Development Index scores (Ashkanasy *et al.*, 2002). Anglo countries also tend to focus on performance and care for the future. People in Anglo countries have less reliance on formal rules and procedures and a greater human orientation,

more equal power distribution and more equality for women than those in other regions (Ashkanasy *et al.*, 2002; House, 2004).

In Anglo countries, high levels of economic development, regulatory pressure and the presence of external board members (outside directors), financial analysts, the press and the media are all key factors in inducing top managers to engage in CSR activities (Pucheta-Martinez *et al.*, 2019). Yu *et al.* (2018) argue that Anglo countries focus on stakeholders, who are active in exerting pressure on companies to operate in an ethical manner. Prior studies, such as Jackson and Apostolakou (2010) and Yu *et al.* (2018), found higher CSR performance levels in Anglo countries than in those countries with coordinated market economies. In addition, education in Anglo countries is likely to promote sustainable development as reflected in the United Nations' Sustainable Development Goals – Target 4.7 (United Nations, 2015).

Expanding the prior literature, our study uses UET to provide a comprehensive explanation for the influences of Anglo cultural traits of board members (in terms of overseas qualifications) on environmental reporting. More specifically, we examine whether these relationships appear to be more pronounced because an overseas study has occurred in Anglo nations, which are culturally distant from a transitional economy such as Vietnam. Our findings, therefore, add to the understanding of UET by demonstrating the major impact of exposure to the different social, economic and cultural backgrounds through an overseas study on board member attitudes and decision-making towards CED. Our study extends prior studies (Post *et al.*, 2011; Pham, 2019a) to investigate the impact of returnees from Anglo countries on the levels of CED in Vietnam, by testing the following two hypotheses:

H2a. Companies whose board members gained qualifications in Anglo Cluster regions have a higher probability of disclosing environmental information than companies with board members who held local qualifications.

H2b. Companies whose board members gained qualifications in Anglo Cluster regions have a higher probability of disclosing environmental information than companies with board members who held overseas qualifications in other regions.

It is also interesting to explore whether education earned in Confucian regions [8] impacts the environmental reporting of the home country. Confucian countries are settled predominantly by the Chinese (Welch, 2010). Wang and Juslin (2009) argued that due to the influence of Confucianist and Taoist principles, modern Chinese enterprises were supposed to carry on their business harmoniously to become “superior” companies, leading to enhanced CSR activities. However, in practice, various stakeholder groups are dissatisfied with the relatively low level of CED in Confucian countries such as China (Lu and Abeysekera, 2017). Given that there are no prior-related studies that report a significant positive relationship between study in Confucian countries and levels of environmental disclosures, we have stated this hypothesis in the null form:

H2c. There is no relationship between the probability of disclosing environmental information and whether board members gained qualifications in Confucian regions or locally.

3.3 Level of education and corporate environmental disclosures

Regarding educational background, it is documented that people who are more educated (i.e. have a higher level of qualifications) should have deeper and broader views and greater

levels of moral development than those with less education (Rest and Narváez, 1994). Elm *et al.* (2001) found that graduate students had higher levels of moral reasoning than undergraduates. This ethical perspective should lead to a greater emphasis on sustainability issues including CED. The importance of level of education (e.g. PhD, Masters and Bachelor's degree) has been explored in prior research (Katmon *et al.*, 2017; Kipngetich *et al.*, 2019), although these studies have tended to focus on local qualifications. Expanding on prior literature that examined the level of local study, we have advanced *H1a* to *H3*, to investigate whether the level of overseas degree (*HIE*) affects CED:

- H3.* Companies whose board members obtained overseas-based higher education have a higher probability of disclosing environmental information than companies whose board members do not hold overseas-based higher qualifications.

3.4 Chief executive officer versus chair influences on corporate environmental disclosures

Muttakin *et al.* (2018) argued that the influence of the Chair and CEO may be stronger in patriarchal-dominated family companies in emerging countries than elsewhere. Everaert *et al.* (2019) reported that CEOs' ethical ideology and perceived importance of CSR was positively associated with corporate social and environment disclosure (CSD) in Belgian companies. CEO power was found to positively impact CSD in US-listed national commercial banks (Jizi *et al.*, 2014) and in the UK (Li *et al.*, 2018). Moreover, Giannarakis (2014) and Xiao and Yuan (2007) found a significant influence of Chair/CEO duality on CSD. Given the substantial power and influence of CEOs and Chairs in emerging countries (Muttakin *et al.*, 2018; Xiao and Yuan, 2007), the following hypotheses are proposed:

- H4a.* Companies whose CEOs earned overseas qualifications have a higher probability of disclosing environmental information than those companies whose CEOs did not earn overseas qualifications.
- H4b.* Companies whose Chairs earned overseas qualifications have a higher probability of disclosing environmental information than those companies whose Chairs did not earn overseas qualifications.

4. Research design and methodology

4.1 Sample

Our study uses quantitative data collection and analysis. This involves a content analysis of annual, sustainability and integrated reports to capture the quantity of CED and the utilisation of ordered probit models to test our hypotheses. The population of 306 Vietnamese listed firms (VLFs) on the Ho Chi Minh Stock Exchange (HOSE) is investigated, as this had been a trading platform for large-listed firms [9]. The focus on large firms is because of the fact that larger companies are likely to report more information regarding social and environmental activities than others (Cheng *et al.*, 2017; Khalil and O'Sullivan, 2017).

Our study examines the impact of BoDs' overseas study and work experience on CED from 2013 to 2016. In early 2013, the International Financial Corporation (IFC), World Bank Group and State Securities Commission of Vietnam (SSC) jointly issued the first guideline on environmental and social (E&S) reporting for Vietnamese Companies [10], which was based on the GRI framework – G3 (IFC and SSC 2013). This guideline was not binding for Vietnamese firms and was effective from 2013 to 2016. Since December 2016, SSC and IFC

released the second version of guidelines, the E&S Disclosure Guide [11], which was based on G4 and effective from 2017. Companies that were de-listed during the period and listed after the start of 2013 are not included in our study. In addition, companies for which four years' worth of annual reports (2013-2016) could not be located are omitted. This process resulted in 264 companies from 10 sectors [12] being selected for data analysis.

After handling missing data [13], the final number of VLFs examined is 260 across 10 industries in 4 years (2013-2016), yielding a total of 1,040 firm-year observations. We examined 260 company websites, 1,040 annual reports, 60 sustainability reports and 15 integrated reports available across the 4 years (2013-2016). Prior studies have relied on a limited set of disclosure sources, such as company annual reports, sustainability reports (Muttakin *et al.*, 2018; Haque and Deegan, 2010) or have used simple iterative measures of CED such as monetary versus non-monetary disclosures (Rao *et al.*, 2012). Our study is more comprehensive than these prior works as it uses multiple sources of data, such as annual, sustainability and integrated reports and website disclosures and analyses both the quantity and quality of firm CED disclosures. Table 1 shows the breakdown of the sample broken into 10 industries. It indicates that the Industrial and Material sectors represented the biggest proportion of the sample, representing 28.9% and 16.5%, respectively.

4.2 Dependent variable: Corporate environmental disclosures

In our study, the level of CED was measured based on a set of 30 environmental items presented in the first sustainable reporting guidelines for VLFs produced by IFC and SSC (2013) and based on the GRI framework (Appendix 3). GRI and its environmental indicators are universally recognised and are widely used in the CED literature (Akrouf and Ben Othman, 2016; Kipngetch *et al.*, 2019; Lee, 2017; Marshall and Brown, 2003). For the scoring of CED, four scales were used, with scores ranging from zero to three (Alipour *et al.*, 2019; Meng *et al.*, 2013; Wang *et al.*, 2019; Wiseman, 1982; Zeng *et al.*, 2012). If no disclosure was

Industry	Company ^a	VLFs satisfying criterion for four years observation	% (satisfying criterion for four years observation)	VLFs (after handling missing data)	% (after handling missing data)
Information technology	7	6	2.27	6	2.31
Health care	9	9	3.41	9	3.46
Energy	10	10	3.79	10	3.85
Utilities	18	16	6.06	16	6.15
Financial	19	15	5.68	15	5.77
Consumer discretionary	34	30	11.36	30	11.54
Real estate	35	27	10.23	27	10.38
Consumer staples	35	29	10.98	29	11.15
Materials	52	43	16.29	43	16.54
Industrial	87	79	29.92	75	28.85
Total	306	264	100	260	100

Notes: ^aThe population of Vietnamese listed firms (VLFs) on the Ho Chi Minh Stock Exchange (HOSE), which is a trading platform for large listed firms. The criteria for large firms are based on Regulation of issuing securities listed at the HOSE (Decision 10/QĐ-SGDHCM dated 13 January 2014 by Ministry of Finance). A company is defined as "large" for a financial year and is listed at the HOSE if it satisfies at least two of the following criteria: the value of equity at the time of listing registration is at least \$6m (US\$); and the minimum of Return on equity (ROE) is 5% for the past two years

Table 1.
Sample description
classified according
to industry

provided on an item, then a score of zero was given. One point was assigned if the disclosure did not include any quantitative information and two points were assigned if the disclosure included quantitative information (numbers or percentages provided or charts or tables given or monetary information). The three-point score was awarded if environmental items were reported in both quantitative and non-quantitative information. Accordingly, a higher score means a higher level of disclosure or more transparency. The maximum achievable score for a company is 90 (30 environmental items, by 3).

Although there have been disagreements about the best ways to measure disclosure levels (Hooks and van Staden, 2011; Lee, 2017; Unerman, 2000), the coding approach applied in our study is consistent with Alipour *et al.* (2019) and Lee (2017), who combined the coding technique by Wiseman (1982) with the GRI framework to evaluate voluntary disclosures in terms of both quantity and quality. As it is necessary to distinguish between poor and better disclosure of each item (Lee, 2017), the coding technique with a score from zero to three for each environmental item allows us to capture a comprehensive picture of CED by evaluating not only how many environmental items were disclosed but also how much detail on each item was reported (Alipour *et al.*, 2019; Lee, 2017).

Our study used each “environmental item” as our unit of analysis. As the presence or absence of particular environmental items was the focus, the “frequency of disclosure” approach was used (Cowen *et al.*, 1987; Haque and Deegan, 2010; Kamal and Deegan, 2013; Ness and Mirza, 1991). To eliminate subjectivity and ensure the reliability of coding, data validation was carried out as follows. Four people were engaged in the score-checking procedure, in which three markers separately calculated CED scores and the fourth reconciled all coding disagreements between the three coders. This process included cross-checking with the scores of the three markers to ensure consistency of CED scores, consistent with Hoang *et al.* (2018) and Sagar and Singh (2017). Where different scores were found for given firms, the scorers discussed the differences until an agreement was reached on an appropriate score. We also computed Cronbach’s alpha (0.966) for the three coders, revealing the variance between them to be quite small. The result of Cronbach’s alpha suggests a high level of intercoder reliability (Weber, 1990).

It should be noted that to ensure the internal validity of the content analysis, different methods were carried out to ensure the reliability of CED measurement, consistent with Masanet-Llodra (2006) and Passetti *et al.* (2018). The scales of 30 environmental items were also pre-tested using expert opinion [14] (Bachmann *et al.*, 2013).

To improve external validity, we follow the procedure applied by Shima and Fung (2019) to first measure CED by VLFs in one industry in one year, and then extend this to the whole population of VLFs across four years. Moreover, to enhance the generalisation of the research, we follow the approaches of Rivière-Giordano *et al.* (2018) and Shima and Fung (2019) to control for other potential explanatory variables for CED, such as industry, year, firm size or leverage. We also conduct several robustness tests and further analyses to confirm our findings and conclusions (Subsections 4.3 and 4.4).

Although the current GRI framework has developed to be applicable to all industries, there might be some “not applicable” disclosure items for some industries (GRI, 2020). Accordingly, GRI Sector Programme 2020–2022 has been developing industry-specific set of guidelines for 40 sectors; however, to date, GRI G4 Sector Disclosures have been proposed for only 10 prioritised sectors (e.g. Mining and Metals, Oil and Gas and Food Processing) (GRI-Sector, 2020). We observe that to address the issue of not applicable items, some companies discuss their indirect impact of their performance related to some disclosure items, such as EN12, if the disclosure is not directly related to company performance. For example, Bao Viet Holdings, the largest Vietnamese insurance company and Vietnam’s

seventh-largest listed company by market capitalisation, disclosed general information related to EN12 items in its sustainability reports (2013–2016). In addition, we expect a different level of disclosure from sensitive industries. It is argued that sensitive industries (e.g. Pulp and Paper, Chemicals, Oil and Gas, Metals and Mining and Utilities) (Patten, 2002; Radhouane *et al.*, 2020) were likely to report more environmental information than less sensitive industries (Cheng *et al.*, 2017). Further, larger companies were more likely to disclose more information related to environmental activities than others (Brammer and Pavelin, 2006; Cheng *et al.*, 2017; Khalil and O'Sullivan, 2017). We, thus, control industry (Cheng *et al.*, 2017; Muttakin *et al.*, 2016) and firm size (Cuadrado-Ballesteros *et al.*, 2015) in our research model.

4.3 Independent variables

Personal data of 7,314 board members and CG of 1,040 firm-years were collected from annual reports, HOSE websites and LinkedIn, then summarised on an Excel worksheet. Unlike in developed countries, data of board attributes and CG in Vietnam are not available on the Thomson Reuters DataStream, Osiris Bureau van Dijk and Bloomberg databases. Thus, hand collection of these data was carried out.

The first two independent variables are *BMOS* and *BMOW*, measured as the proportion of board members who studied internationally and worked internationally, respectively, over the total board members of the firm, based on Liao *et al.* (2020) and Ma *et al.* (2019). Other independent variables are the proportion of board members with *HIE*, overseas MBA (*BMBA*)/law (*BLAW*)/accounting (*BACC*) degrees, international qualifications in Anglo Cluster regions (*BSA*); and overseas degrees in Confucian Asian regions (*BSC*). We used this measurement to ensure the consistency with the control variables in our model, such as the proportion of independent directors on a board (Cui *et al.*, 2020; Liao *et al.*, 2015; Rao *et al.*, 2012) and woman directors on a board (Bear, 2010) and the percentage of board members with multiple directorships over the total board members of the firm (Rupley *et al.*, 2012; Sun *et al.*, 2019). However, *BMOS* or *BMOW* can be computed as continuous variables based on the number of years that board members studied or worked overseas (Carpenter *et al.*, 2001; Sambharya, 1996; Sullivan, 1994), as the influence of international experience could be greater where the exposure was for a longer period of time. Thus, we also used years of overseas study/work experience in our robustness check as different measurements of independent variables to confirm the impact of *BMOS/BMOW* on CED. Separate from *BMOS/BMOW*, *CHAS* and *CEOS* were measured as dichotomous variables as a firm has only one Chair and one CEO but many board members.

Our study used 10 regional cultural clusters, based on House (2004) and cited by Karaibrahimoglu and Cangarli (2016, p. 73), to classify regions where board members studied. These cultural clusters, as defined by House (2004), are based on cultural values, country economic development and linguistic nations across administrative borders. As such, this cultural cluster approach addresses some of the main criticisms to Hofstede's framework. Hofstede's cultural dimensions were criticised by previous studies such as Baskerville (2003), Khlif (2016), as they ignored multicultural countries, for example, Anglo (Australia, Canada, England, Ireland, New Zealand and the USA) or Confucian regions (China, Hong Kong and South Korea). Thus, Hofstede's model is likely to be inapplicable to all countries (Khlif, 2016; López-Duarte *et al.*, 2016). In particular, in transitional countries such as Vietnam where society has witnessed significant changes compared to 30 years ago (Orij, 2010), Hofstede's cultural model is not useful in explaining accounting phenomena, and thus, shows methodological weaknesses (Baskerville, 2003).

4.4 Research model

A regression model was run where *CED* was the dependent variable and *BMOS*, *BMOW*, *HIE*, *BMBA*, *BLAW*, *BACC*, *BSA*, *BSC*, *CEOS* and *CHAS* were independent variables. Three types of control variables were used in the study, namely, board characteristics (Ismail and Latiff, 2019; Ma *et al.*, 2019; Rao and Tilt, 2016), ownership types (Hoang *et al.*, 2018; Xiao and Yuan, 2007) and firm features (Cheng *et al.*, 2017; Muttakin *et al.*, 2018), which are defined in our research model. Specifically, *SO*, *FO*, *BSO*, *MDIR*, *BIND*, *BAGE*, *BGEN*, *EPS*, *EPW* and firm features (i.e. *FSIZE*, *FAGE*, *IND*, *YEA*, *LEV*) were the control variables:

$$\begin{aligned}
 CED_{ij} = & \beta_0 + \beta_1 BMOS_{ij} + \beta_2 BMOW_{ij} + \beta_3 HIE_{ij} + \beta_4 BMBA_{ij} + \beta_5 BLAW_{ij} \\
 & + \beta_6 BACC_{ij} + \beta_7 BSA_{ij} + \beta_8 BSC_{ij} + \beta_9 CHAS_{ij} + \beta_{10} CEOS_{ij} \\
 & + \beta_{11} MDIR_{ij} + \beta_{12} SO_{ij} + \beta_{13} FO_{ij} + \beta_{14} BSO_{ij} + \beta_{15} BIND_{ij} \\
 & + \beta_{16} BAGE_{ij} + \beta_{17} BGEN_{ij} + \beta_{18} EPS_{ij} + \beta_{19} EPW_{ij} + \beta_{20} FSIZE_{ij} \\
 & + \beta_{21} FAGE_{ij} + \beta_{22} IND_{ij} + \beta_{23} YEA_{ij} + \beta_{24} LEV_{ij} + \varepsilon_{ij}
 \end{aligned}$$

where CED_{ij} is the total score of *CED* for firm i (i is the Vietnamese listed company and j is the year of observation ($j = 1,2,3,4$)); *BMOS* is the proportion of board members with overseas qualifications over the total board members of the firm; *BMOW* is the proportion of board members with overseas work experience over the total board members of the firm (Herrmann and Datta, 2005; Zhuang *et al.*, 2018); *HIE* is the proportion of board members with overseas higher education over the total board members of the firm; *BMBA* or *BLAW* are the proportion of board members with overseas MBA or law degrees over the total board members of the firm; *BSA* is the proportion of board members with international qualifications in Anglo Cluster regions over the total board members of the firm; *BSC* is the proportion of board members with international qualifications in Confucian Asia regions over the total board members of the firm; *CHAS* = 1 if Chair studied overseas and 0 otherwise; and *CEOS* = 1 if CEO studied overseas and 0 otherwise. *SO* is the percentage of shareholding owned by the State over the total issued shares of the company (Hoang *et al.*, 2018); *FO* is foreign ownership measured by the percentage of shareholding held by foreign investors (Xiao and Yuan, 2007); *BSO* is the percentage of shares owned by each board member over the total issued shares (the same measurement has been used by Eng and Mak (2003), Ghazali (2007) and Khan *et al.* (2013)); *BIND* is the proportion of independent directors on a board, which is also consistent with many prior studies (Cui *et al.*, 2020; Liao *et al.*, 2015; Rao *et al.*, 2012); *BAGE* is mean board age (Ismail and Latiff, 2019; Ma *et al.*, 2019); *BGEN* is the proportion of female directors over the total directors of the firm (Rao and Tilt, 2016); *MDIR* is the proportion of board members with multiple directorships over the total board members of the firm (Rupley *et al.*, 2012; Sun *et al.*, 2019); *FSIZE* is a logarithm of firm's sales; *FAGE* is the natural log of the number of the year, which firms listed; *IND* is industry; *YEA* is the year of observation; *LEV* is leverage of the listed firm (Cheng *et al.*, 2017; Muttakin *et al.*, 2018); and ε_{ij} is an error term.

The environmental performance index (EPI) of countries where boards studied (*EPS*) and of countries where boards worked (*EPW*) are also control variables. The reason for controlling these variables is that corporate environmental performance has been found to be associated with countries' commitment to environmental policy and law (Clarkson *et al.*, 2008; De Villiers and Marques, 2016; Iatridis, 2013). We treated *EPS* and *EPW* as two

separate variables, as countries where board members studied overseas were sometimes different from those where board members worked overseas. *EPS* and *EPW* were computed by the average of the EPI of countries where boards studied and worked, respectively. EPI has covered more than 180 countries and is released every second year (CIESIN, 2018). For the period of study (2013–2016), EPI 2014 and EPI 2016 were available on the database by Hsu (2016) and Yale University (2014). EPI was created by The Yale Centre for Environmental Law and Policy and the Centre for International Earth Science Information Network at Columbia University (CIESIN, 2018). The index can range from 0 to 100; with higher values indicating countries that strongly engage in environmental schemes (CIESIN, 2018).

Hypotheses were tested by running panel data to determine whether overseas study and work experiences earned by board members could impact on CED in the period from 2013 to 2016. The models were tested using STATA Release 15 with different estimation techniques (Cameron and Trivedi, 2009).

5. Results and discussion

5.1 Descriptive statistics

Based on the results of pairwise correlation statistics, reported in Appendix 1, it is concluded that multicollinearity did not appear to influence the empirical models in our research (Darnall *et al.*, 2010; Hair *et al.*, 2011). A summary of descriptive statistics for CED, board and firm characteristics in Vietnam for the period of 2013–2016 are reported in Table 2. Results in Table 2 reveal that the average CED level was low in Vietnam, as CED scores ranged from 0 to 73, with a mean of only 3.65.

The finding of low CED in Vietnam is consistent with multinational studies by Pucheta-Martinez *et al.* (2019) and Cui *et al.* (2020), which documented companies located in emerging nations possess lower levels of CED than those in liberal and developed countries. However, the level of CED in Vietnam appears to be even lower than that found in other emerging countries, such as China [15]; Iran [16] and India [17] (Alipour *et al.*, 2019; Cheng *et al.*, 2017; Garg and Kumar, 2018).

Table 2 shows that *BMOS* had a mean of 15%, whilst *BMOW* had a mean of 8%. This indicates for VLF, 15% of their board, on average, studied overseas and an even lower percentage of those undertook international work experience (8%). This reveals that a minority of board members have had the opportunity to study or work overseas. We calculated *BMOS* and *BMOW* for the top 10 most transparent VLFs as voted by Forbes (2016) and compared them to those of the whole population. Results in Table 2 indicate that amongst this top 10, on average, 63% of board members studied overseas, whilst 39% undertook international work experience. This is much higher than for the rest of the sample where, on average, 15% of BoDs studied overseas and 8% worked overseas.

Closer inspection of *BMOS* and *BMOW* reveals that the highest proportion of directors studied and worked overseas in Anglo Cluster regions (about 43%), with the US being the leading country, followed by Australia and England (Appendix 2). This descriptive finding reflects the historical circumstances of Vietnam. Sponsorship programmes of Australian, US and European Governments targeted to developing countries have resulted in considerable growth in international education amongst Vietnamese people (Auletta, 2000; Rosenau, 2007). These initiatives have enabled many Vietnamese citizens to study in the West rather than in other regions. Our results in Table 2 also indicate that, on average, the number of board members who obtained qualifications in Anglo Cluster regions (5%) was five times than those who gained degrees in Confucian Asia (1%). Interestingly, the percentage of Chairs or CEOs studying overseas was only 1%, indicating that VLFs were more likely to possess Chairs or CEOs with local qualifications. The impacts of these variables are tested and reported in the next section.

MEDAR

Variable	Obs	Mean	SD	Minimum	Maximum
<i>Dependent variable</i>					
CED	1,040	3.65	8.09	0.00	73.00
<i>Independent variables</i>					
BMOS (%)	1,040	15.00*	23.00	0.00	100
BMOW (%)	1,040	8.00*	13.00	0.00	63
BSA (%)	1,040	5.00	12.00	0.00	100
BSC (%)	1,040	1.00	10.00	0.00	100
HIE (%)	1,040	8.00	15.00	0.00	100
BMBA (%)	1,040	4.00	10.00	0.00	80
BACC (%)	1,040	1.00	4.00	0.00	29
BLAW (%)	1,040	1.00	3.00	0.00	25
CHAS**	1,040	1.00	11.00	0.00	100
CEOS	1,040	1.00	12.00	0.00	100
Type of directors			Chair		(%)
Independence			88		8.46
EXE			685		65.87
NON-EXE			267		25.67
Total			1,040		100
<i>Share ownership (SHO) (%)</i>					
0			233		22.40
>0			807		77.60
>10			235		22.60
>30			49		4.72
>50 ^a			13		1.25
<i>Duality</i>					
Separate			747		71.83
Chair = CEO			293		28.17
Total			1,040		100

Notes: Dependent Variable. CED is the total score of CED for the firm; where CED was categorised into four groups as follows: Group 1 (50% of the total sample) with a score of 0, called “non-disclosures”; Group 2 with values from 1–4 (25% of the total sample), named “minimum disclosures”; Group 3 with scores from 5–11 (15% of the total sample), called “medium disclosures”; and Group 4 with scores above 11 (10% of the total sample), called “high disclosures”. Independent Variables. BMOS is the proportion of board members with overseas qualifications over the total board members of the firm; BMOW is the proportion of board members with overseas work experience over the total board members of the firm; HIE is the proportion of board members with overseas higher education over the total board members of the firm; BMBA/BLAW/BACC is the proportion of board members with overseas MBA/Law/Accounting degrees over the total board members of the firm; BSA is the proportion of board members with international qualifications in Anglo Cluster regions over the total board members of the firm; BSC is the proportion of board members with international qualifications in Confucian Asia regions over the total board members of the firm; CHAS = 1 if Chairman studied overseas and 0 otherwise; and CEOS = 1 if Chief executive officer (CEO) studied overseas and 0 otherwise. *BMOS and BMOW in the high disclosure group (10% of the highest CED scores in the population) were 27% and 10%, respectively. In the top 10 most transparent VLFs as voted by [Forbes \(2016\)](#), BMOS and BMOW were 63% and 39%, respectively. ****Further analysis of Chairs in VLFs.** ^aThe highest percentage was 64.74%

Table 2.
Descriptive statistics

5.2 Order probit results

The dependent variable, CED, was heavily, positively skewed with many scores of zero. Although many forms of transformations of this variable were attempted ([Becker et al., 2018](#); [Osborne, 2010](#)), all results indicated that the dependent variable was heavily positively skewed, and therefore, non-normally distributed. We, therefore, decided to use the approach

of Clark *et al.* (2001) to group our dependent variable into four proportional groups. Given the ordered nature of our dependent variable, we decided to run an ordered probit estimation consistent with studies such as Gray *et al.* (2006) and Srivastava *et al.* (2017). The use of such a model and grouping of the dependent variable were consistent with prior studies of corporate disclosures where researchers faced similar issues of extreme skewness (Acquisti *et al.*, 2012; Kim and Lyon, 2011).

Results of the four ordered probit models are reported in Table 3. All models were significant (Prob > Chi(2) = 0.000). Model 4 was finally chosen as it showed the highest log-likelihood of 411.78 and Pseudo R^2 of 25.29% [18] (Table 3). Next, Table 4 reports the results of the original ordered probit Model 4 with marginal effects. The first column of Table 4 repeats the results of Model 4, which are presented in Table 3. The next columns of Table 4 (e.g. from Columns 2 to 5) report the results of marginal effects in which coefficients were computed and analysed whilst the outcomes changed across four different categories of CED from the “non-disclosures” group to the “high disclosures” group. Results of marginal effects exhibit positive coefficients for *BMOS*, *BSA* and *BMBA*, which means an increase in

Variables	Expected signs	Model 1 (add <i>BMOS</i> and <i>BMOW</i>)	Model 2 (add <i>HIE</i> , <i>BMBA</i> , <i>BLAW</i>)	Model 3 (add regions of study)	Model 4 (add <i>CHAS</i> , <i>CEOS</i>)
<i>CED</i>					
<i>BMOS</i>	+	0.33** (0.14)	0.28** (0.14)	1.07*** (0.33)	0.84** (0.41)
<i>BMOW</i>	+	-0.02 (0.11)	-0.01 (0.13)	0.04 (0.11)	0.01 (0.02)
<i>HIE</i>	+		0.05 (0.06)	-0.02 (0.04)	-0.02 (0.04)
<i>BMBA</i>	+		2.06* (0.12)	2.03* (0.03)	3.03* (0.05)
<i>BLAW</i>	-		-6.62** (0.05)	-7.78** (0.60)	-8.79** (0.59)
<i>BACC</i>	+		-1.40 (0.29)	-1.01 (0.51)	-1.47 (0.36)
<i>BSA</i>	+			0.37*** (0.16)	1.48*** (0.66)
<i>BSC</i>	-			-0.33 (0.27)	-0.28 (0.88)
<i>CHAS</i>	+				0.57*** (0.19)
<i>CEOS</i>	+				-2.46 (0.38)
<i>Control variables</i>					
<i>SO</i>	±	-0.001 (0.00)	0.01 (0.01)	0.01 (0.01)	0.01 (0.00)
<i>FO</i>	±	0.02** (0.01)	0.03*** (0.01)	0.03*** (0.01)	0.03*** (0.01)
<i>BAGE</i>	+	-0.001 (0.00)	0.23 (0.00)	0.01 (0.00)	0.01 (0.00)
<i>BSO</i>	±	-0.01** (0.01)	-0.01** (0.01)	-0.01* (0.01)	-0.11*** (0.01)
<i>BGEN</i>	±	0.005 (0.10)	0.17 (0.26)	0.05 (0.27)	0.02 (0.30)
<i>BIND</i>	+	-0.02 (0.03)	-0.01 (0.03)	-0.01 (0.03)	-0.03 (0.03)
<i>MDIR</i>	+	0.05* (0.10)	0.47* (0.06)	0.58* (0.07)	0.66* (0.14)
<i>EPS</i>	+	-0.02 (0.05)	-0.04 (0.01)	-0.03 (0.06)	-0.05 (0.07)
<i>EPW</i>	+	-0.03 (0.04)	-0.07 (0.03)	-0.05 (0.02)	-0.06 (0.05)
<i>FSIZE</i>	+	0.15*** (0.05)	0.18*** (0.05)	0.14** (0.06)	0.12** (0.06)
<i>FAGE</i>	+	0.18 (0.15)	0.19 (0.18)	0.14 (0.18)	0.03 (0.18)
<i>LEV</i>	-	-0.01*** (0.04)	-1.26*** (0.33)	-1.34*** (0.32)	-1.33*** (0.32)
Industry		Yes	Yes	Yes	Yes
Year dummy		Yes	Yes	Yes	Yes
Observations		1,040	1,040	1,040	1,040
Log likelihood		-604.57	-445.13	-439.7	-411.78
Pseudo R^2		16.24%	17.48%	20.66%	25.29%

Notes: * ** and *** denote significance at the 0.10, 0.05 and 0.01 levels, respectively. Standard errors in parentheses

Table 3.
Results of ordered
probit models

<i>Variables</i>	Expected signs	(1) CED	(2) Pr(Non-disclosure)	(3) Pr(Minimum disclosure)	(4) Pr(Medium disclosure)	(5) Pr(High disclosure)
<i>BMOS</i>	+	0.84** (0.41)	-0.192* (0.11)	0.040* (0.02)	0.072* (0.04)	0.079* (0.04)
<i>BMOW</i>	+	0.01 (0.02)	0.12 (0.03)	0.14 (0.05)	0.07 (0.12)	0.18 (0.01)
<i>BSA</i>	+	1.48*** (0.66)	-0.517*** (0.19)	0.109** (0.04)	0.195** (0.08)	0.213*** (0.08)
<i>BSC</i>	-	-0.28 (0.88)	0.007 (0.26)	-0.001 (0.05)	-0.003 (0.10)	-0.003 (0.11)
<i>HIE</i>	+	-0.02 (0.04)	0.004 (0.01)	-0.001 (0.00)	-0.002 (0.00)	-0.002 (0.01)
<i>BMBA</i>	+	2.06* (0.12)	-0.64* (0.34)	0.14* (0.08)	0.22* (0.11)	0.28* (0.16)
<i>BLAW</i>	-	-8.79** (0.59)	2.74*** (0.78)	-0.61** (0.18)	-0.95** (0.29)	-1.18** (0.37)
<i>BACC</i>	+	-1.47 (0.36)	0.48 (0.44)	-0.12 (0.11)	-0.17 (0.15)	-0.18 (0.17)
<i>CHAS</i>	+	0.57*** (0.19)	-0.18*** (0.06)	0.036** (0.01)	0.067*** (0.02)	0.077*** (0.03)
<i>CEOS</i>		-2.46 (0.38)	0.79 (0.36)	-0.21 (0.35)	-0.28 (0.35)	-0.3 (-0.34)

Table 4.
Results of ordered
probit Model 4 with
marginal effects

Notes: Standard errors in parentheses. *, ** and *** denote significance at the 0.10, 0.05 and 0.01 levels, respectively

BMOS, *BSA* and *BMBA*, certainly decrease the probability of being in the lowest category (i.e. non-disclosure group) and increase the probability of being in the highest category (i.e. high disclosure group) (Cameron and Trivedi, 2009, p. 477).

5.2.1 *The impact of overseas study and work experience on corporate environmental disclosures.* Results in Tables 3 and 4 support *H1a*, which states that the probability of companies disclosing environmental information whose board members earned overseas qualifications was higher than for those without overseas qualifications. This finding highlights that exposure to overseas qualifications makes these individuals more aware of the importance of improving CED. Giannetti *et al.* (2012) suggested that directors with overseas education are likely to be more focussed on improving their CG through higher disclosure levels; in turn, better-governed firms are likely to be more transparent for their stakeholders.

However, the results in Tables 3 and 4 did not support *H1b* in that the overseas work experience of board members did not significantly impact on CED in Vietnam. This finding is inconsistent with prior studies, for example, Carpenter *et al.* (2001) and Zhuang *et al.* (2018), that reported a positive relationship between overseas work experience and sustainability performance. This finding also implies that the effect of overseas education appears to be more important in influencing levels of CED in Vietnam than does overseas work experience. This unexpected result reflects the historical circumstances of Vietnam. Vietnam's economic reforms since 1986 and a colonial past (e.g. 20 years under the control of the USA) have led to a significant increase in the numbers of Vietnamese studying overseas (Oliver and Nguyen, 2010). Further, all sponsorship programmes [19] targeted to developing countries (e.g. Vietnam) require awardees to return to their home country and use their overseas skills to contribute to Vietnam's development (Auletta, 2000; Rosenau, 2007). This requirement has enabled many Vietnamese to study overseas rather than undertake overseas work experience, leading to a low number of board members working overseas (6.2% of the board population). In addition, this small proportion of board members undertaking international work experience may result in "brain drain" in Vietnam, whereby Vietnamese nationals who secure employment overseas are unlikely to return to work in Vietnam (Docquier and Rapoport, 2012; Nguyen, 2014).

5.2.2 The impact of overseas study in Anglo and Confucian countries. Given that the same measurement approach and scale were applied for two variables (e.g. *BSA* and *BMOS*) in all four disclosure groups of CED, the coefficients of *BSA* (51.7%; 10.9%; 19.5%; 21.3%) were higher than those of *BMOS* (19.2%; 4%; 7.2%; 7.9%). The interpretation of these results means that, for example, firms whose board members studied in Anglo Cluster regions were 21.3% more likely to be a member of the high disclosure group than firms whose board members studied locally. Meanwhile, the probability that a firm would be a member of the high disclosure group when its board members studied overseas in other regions was only 7.9% more likely than a firm whose board members studied locally. Thus, firms with BoDs studying in Anglo Cluster regions were more likely to report higher levels of environmental information than those with board members studying overseas in other regions. Results from [Tables 3](#) and [4](#) support *H2a* and *H2b*, indicating that the probability of companies disclosing environmental information whose board members gained qualifications in Anglo Cluster regions was higher than for those with board members studying locally and studying overseas in other regions. These findings are consistent with prior studies ([Cui et al., 2020](#); [Jackson and Apostolakou, 2010](#); [Pucheta-Martinez et al., 2019](#)), which found higher social and environmental commitments in Anglo Cluster nations. However, unlike these previous studies, our study contributes to the literature by showing a significantly positive link between *BSA* and environmental reporting in the transitional country of Vietnam. This result suggests that managers' favourable attitudes towards environmental issues are also influenced by their cultural background ([Bechtel et al., 1999](#); [Schwartz and Bardi, 2001](#)). Our study highlights the value of Anglo education in terms of enhancing CED in transitional countries, where different attitudes towards environmental issues seem to exist ([Pham, 2019a](#); [VanDonkelaar, 2013](#)).

Results in [Tables 3](#) and [4](#) indicate that we are not able to statistically reject the null Hypothesis *H2c*. More specifically, there is not enough evidence to support that possession of board members who studied in the Confucian Asia regions would significantly influence the CED level in Vietnam. This finding builds on prior studies, for example, [Lu and Abeyssekera \(2017\)](#) and [Situ and Tilt \(2018\)](#), which found low sustainability disclosures in China. In addition, this expected outcome does not agree with [Wang and Juslin \(2009\)](#), who argued that the moral standards of traditional Chinese wisdom (e.g. the influence of Confucianism and Taoism principles) could enhance CSR activities. One possible justification for this result is that Confucian countries (e.g. China and Hong Kong) are settled predominantly by the Chinese, who are likely to possess the same cultural values as Vietnamese populations ([Welch, 2010](#)). Another possible explanation for this finding is that Vietnam and China possess similar educational systems, which makes returnees from China unlikely to change their views of CED. A notable characteristic of Vietnam's education system was a long history of Chinese Confucian influences, which commenced when the Chinese first established their control in Vietnam and continued to develop as an official ideology under the Vietnamese Kingdoms ([Shao-hui, 2009](#)). In addition, Vietnam shares similar political (e.g. Communist party) and economic systems (e.g. transitional economy) to China ([Elliott, 2016](#)). Vietnam and China used to perform "a traditional model of socialist accounting", which came from the Soviet Union ([Adams and Do, 2003](#), p. 44). This finding of *BSC* implies that socialist accounting systems are less likely to consider sustainability reporting as critical.

5.2.3 Level of education and corporate environmental disclosures. A finding worthy of attention is that the level of overseas degrees (e.g. PhD, Master's and Bachelor's degree) did not significantly impact the levels of CED in Vietnam. This result did not support *H3* as no statistically significant relationship between *HIE* and CED was found ([Tables 3](#) and [4](#)). This

outcome is consistent with Post *et al.* (2011), who also found that firms in the USA with directors with higher degrees were unlikely to show higher levels of CSR. Our finding of an insignificant effect of *HIE* on CED is inconsistent with prior studies in emerging countries, such as Katmon *et al.* (2017) and Kipngetich *et al.* (2019), which found a significantly positive relationship between board members' education levels and CED in Malaysia and CED in Kenya, respectively. However, it is worth noting that these two studies examined local education rather than overseas degrees obtained by board members. The inconsistent result for *HIE* in Vietnam reflects a different context because of the distinct characteristics of directors' overseas education. It should be noted that board members with overseas bachelor's degrees tend to stay overseas longer (e.g. four years) than those with international master's degrees (one or two years). VLFs' BoDs primarily held overseas master's degrees (49.57%) whilst 36.77% of directors earned international bachelor's degrees (Appendix 2). In addition, findings related to overseas study in our research might be different from findings related to local education by Katmon *et al.* (2017) and Kipngetich *et al.* (2019). The effects of overseas higher education on CED may depend on how long BoDs lived overseas in terms of their ability to gain a broader perspective and different patterns of thinking or be affected by the culture of the country in which they studied (Carpenter *et al.*, 2001; Sambharya, 1996).

5.2.4 Chief executive officer versus chair influences on corporate environmental disclosures. Results in Tables 3 and 4 reveal that *H4a* was not statistically supported; thus, having a CEO who gained international qualifications insignificantly influenced CED. This unexpected finding is contrary to prior studies (Muttakin *et al.*, 2018; Everaert *et al.*, 2019; Li *et al.*, 2018), which reported CEOs' impacts on CED levels. However, results in Tables 3 and 4 support *H4b*, and indicate that having a Chair who studied overseas significantly impacted CED in Vietnam. This finding implies that Chairs in Vietnam tend to have more influence on sustainability reporting than in other Asian countries, such as Bangladesh (Muttakin *et al.*, 2018), where CEO power was found to be dominant.

To examine the power of Chairs in Vietnam, further analysis of share ownership in Table 2 demonstrates that 77.6% of the Chairs owned shares in their listed firms, with 22.6% of them holding more than 10% of shares and 5% of them owning more than 30%. Some Chairs held as much as 64.74% of their companies' shares. These results suggest that Chairs in Vietnam have high percentages of ownership in their listed companies; thus, they are likely to seek to exercise more influence over decision-making. Moreover, regarding the types of directors shown in Table 2, nearly 92% of Chairs were not independent (66% of them were executives and 26% were non-executive directors). Amongst the 66% of Chairs who were executive directors, 28% were CEOs; the rest were managers or were involved in management. The high duality in VLFs is different from good CG practice in developed countries [20], which highlights that a Chair should not also be a CEO of the listed company. In contrast, the *Vietnamese Law on Enterprises 2014* [21] permits this practice.

CEO duality was then added to test its impact on CED, whilst *BSO* was one of the control variables in the model (Barako *et al.*, 2006; Xiao and Yuan, 2007). The result for CEO duality was statistically insignificant, whilst *BSO* negatively influenced CED. The outcome of duality in Vietnam is inconsistent with previous research in the USA by Giannarakis (2014) and in China by Xiao and Yuan (2007), which showed a negative influence of CEO duality on CSD. However, this finding of duality in Vietnam is consistent with prior studies in Hong Kong by Ho and Wong (2001) and in Kenya by Barako *et al.* (2006), which documented that duality did not statistically or significantly influence voluntary disclosures. A possible reason for the insignificant effect of CEO duality on CED in Vietnam is that a Chair who served as CEO of a listed firm was often also a substantial shareholder, as previously discussed. The same situation was found for VLFs, where 77.6% of the Chairs were

shareholders and many held substantial numbers of shares. Therefore, it does not matter whether the two positions are separated (Ho and Wong, 2001). Further, the result of a negative effect of *BSO* on CED emphasises that the power of the Chairs in Vietnam is more likely to stem from their high ownership in VLFs, which made them less independent.

5.2.5 Additional analysis. We further analysed the influence of different fields of overseas study on CED. The results presented in Tables 3 and 4 indicate that the proportion of board members with overseas MBA degrees significantly positively impacted CED. In contrast, the percentage of directors with overseas legal degrees negatively influenced CED levels. These results related to overseas study in the fields of MBA and law are consistent with Lewis *et al.* (2014); however, this prior study investigated the impacts of local education on CED. BoDs with MBA degrees are trained to make strategic decisions and be aware of the need for improved CSR (Bertrand and Schoar, 2003). Meanwhile, top managers with legal qualifications are concerned about the potential costs of CED and are, therefore, reluctant to voluntarily report environmental information (Lewis *et al.*, 2014). Further, given that accounting programmes include the topics of social and environmental reporting (Deegan, 2012), accounting students are more likely to understand the value of CED and GRI guidelines than other students. However, our results in Tables 3 and 4 reveal an insignificant impact of accounting studies on CED.

5.2.6 Testing for the endogeneity problem and robustness checks. An endogeneity problem might occur in the relationship between board diversity and CED because of omitted variable bias or reverse causality (Ben-Amar *et al.*, 2017; Katmon *et al.*, 2017). A Hausman test including two stages was performed to examine whether CED and *BMOS/BMOW* were endogenous (Gul and Leung, 2004; Sundaramurthy *et al.*, 2014). Firstly, the regression of *BMOS/BMOW*[22] on all exogenous variables and an instrument variable (IV) was performed to obtain a predicted residual. The IV was the international integration year in Vietnam (i.e. 1995 when the formal normalisation of US-Vietnam diplomatic relations took place). The selection criteria for this IV was based on Zhang *et al.* (2018), Udalov *et al.* (2017) and Katmon *et al.* (2017), as this variable highly correlated with *BMOS/BMOW* but not with CED. An additional check confirmed whether the international integration year is a good IV by comparing R^2 values and F -statistics in the first-stage regression without IV and with IV (Papies *et al.*, 2017; Ullah *et al.*, 2020). Results in Table 5 indicate that R^2 values and F -statistics in the first-stage regression with IV increased significantly. In particular, F -statistics increased 38% compared to the model without IV (from 359.33 to 494.91). Another reason for choosing this IV is because formal normalisation of US-Vietnam exogenously changed the supply of potential directors with overseas experience for VLFs. A change in

	Without IV	With IV
<i>First stage: Checking for a good instrumental variable (IV)</i>		
R^2	90.11%	90.63%
F -statistics	359.33	494.91
Coef.	0.05***	
<i>Second stage: Results of the residuals</i>		
	BMOS	BMOW
p -value	0.515	0.505
Coefficient	0.0586	-0.056
Number of observations	1,040	1,040

Note: ***denote significance at the 0.01 level

Table 5.
Testing for the
endogeneity problem –
results of the
Hausman test and
Durbin Wu-Hausman
test

US-Vietnam diplomatic relations marked a significant rise in studying and working overseas when Vietnam achieved substantial economic growth through international integration (Oliver and Nguyen, 2010). This IV is a dummy variable that equals one if a board member studied/worked overseas after 1995 and equals zero otherwise. Our sample indicates that most board members studied/worked overseas after 1995.

Secondly, the residual of *BMOS/BMOW* retrieved from this first regression was used as an additional regressor in the next model where CED was the dependent variable, whilst *BMOS/BMOW* and the residual of *BMOS/BMOW* were independent variables; other board characteristics (i.e. *BAGE*, *BIND*, *BGEN* and *BSO*) were control variables. In this second stage, the model was estimated using the user-written Conditional Mixed Process Command in Stata, which was developed by Roodman (2018) for an ordered probit model. Results in Table 5 show that the residuals of *BMOS/BMOW* were statistically insignificant (p -values were 0.515 and 0.505, respectively) whilst the coefficient of residuals *BMOS* and *BMOW* were not significantly different from zero (0.0586 and -0.056 , respectively). Based on Papies *et al.* (2017) and Ullah *et al.* (2020), these findings show that an endogeneity issue did not exist in our model. Further, we ran the Durbin Wu-Hausman tests for endogeneity by using STATA command “estat endogenous” based on Ullah *et al.* (2020) and the same results were found.

Various robustness checks [23] focussing on estimating the effects of CED were undertaken. Results of robustness tests in Table 6 are consistent with our preliminary results presented in Tables 3 and 4. Moreover, we run a nonparametric test (i.e. Mann-Whitney U Test) to further investigate whether the group of BoDs with overseas work experience had a lower or higher score of CED than those with the overseas study. The results of Mann-Whitney U Test in Table 6 indicate that the mean CED for the two groups were significantly different (p -value = $0.000 < 0.05$) with it being much higher for the overseas study group. Further, the group of board members with overseas work experience had a significantly lower mean score for CED (0.90) than those with overseas study (1.06). Thus, the effect of overseas education appears to be more important in influencing levels of CED in Vietnam than does overseas work experience. Another Mann-Whitney U test was performed as a robust test for the impacts of CEO and Chair on CED (Table 6). Given an absence of endogeneity in our model and results of robustness tests, the ordered probit estimation results in Table 3 and marginal effects in Table 4 satisfactorily explain the impacts of overseas study on CED.

We also ran an additional robustness test using Hofstede’s model. Instead of using 10 regional cultural clusters, based on House (2004), we used two of Hofstede’s cultural dimensions, namely, individualism and long-term orientation, as they are linked to sustainability behaviour, according to Orij (2010) and Khlif *et al.* (2015). Results of Model 6 (long-term orientation) and Model 7 (individualism) in Table 6 reveal that the Pseudo R^2 of Models 6 and 7 (13.3%) that used Hofstede’s cultural dimensions were much lower than those of the first five models (from 18.25% to 21.55%), which used regional cultural clusters, based on House (2004). Given that Pseudo R^2 measures the goodness of fit, the higher Pseudo R^2 indicates better fit and predictability (Ben-Amar *et al.*, 2017; Hagle and Mitchell, 1992). The results of *BMOS/BMOW* and Hofstede’s cultural dimensions in Models 6 and 7 were different from those found in the first five models. This indicates that House (2004) is a better fit for our study than Hofstede.

6. Conclusion

Our study empirically examined the influence of boards’ overseas qualifications and work experience on CED in state-led transition economies, such as Vietnam. Using ordered probit models, we found that exposure to overseas perspectives, especially from the Anglo nations,

<i>Variables</i>	Model 1 (change variables)	Model 2 (change variables)	Model 3 (change variables)	Model 4 (change measurements)	Model 5 (change measurements)	Model 6 Hofstede's model	Model 7 Hofstede's model
<i>BMOS</i>	0.401* (0.24)	0.405* (0.49)	0.39** (0.15)	0.604* (0.49)	0.17* (0.24)	0.48 (0.39)	0.48 (0.39)
<i>BMOW</i>	0.008 (0.05)	0.044 (0.25)		0.038 (0.25)	0.303 (0.07)	0.76 (0.5)	0.78 (0.5)
<i>BSA</i>	1.404*** (0.68)	0.238* (0.22)	0.238* (0.27)	0.0038*** (0.22)	0.005*** (0.67)		
<i>BSC</i>	-0.0007 (0.14)	0.035 (0.20)		-0.12 (0.20)	0.303 (0.07)		
<i>LTO</i>						0.01 (0.01)	
<i>IDV</i>							0.01 (0.01)
<i>HIE</i>	-0.007 (0.86)	0.044 (0.06)	0.009 (0.06)		-0.019 (0.04)	-0.35 (0.75)	-0.36 (0.76)
<i>B MBA</i>	1.08* (0.13)	0.64* (0.07)	0.86* (0.18)		1.32* (0.15)	1.46 (1.04)	1.46 (1.04)
<i>BLAW</i>	-3.56*** (0.04)	-2.76** (0.06)	-1.98** (0.14)		-4.21** (0.08)	-3.79 (2.05)	-3.81 (2.06)
<i>BACC</i>	-1.43 (0.25)	-1.10 (0.32)	-1.53 (0.26)	0.33 (1.45)	1.08 (0.97)	-1.13 (1.31)	-1.12 (1.3)
<i>CHAS</i>	0.48*** (0.18)	0.48** (0.16)	0.40*** (0.17)	0.42* (0.18)	0.37*** (0.19)		
Pseudo <i>R</i> ²	18.25%	20.94%	19.01%	21.55%	21.29%	13.31%	13.32%
<i>Results of Mann-Whitney U test (comparing mean CED of overseas study (OS)/overseas work experience (OW))</i>							
Mean difference			OS			OW	%
<i>p</i> -value			1.06			0.90	18
			0.000			0.0000	
<i>Results of Mann-Whitney U Test (comparing mean CED of CEO/Chair studied overseas (CEOS)/(CHAS)</i>							
Mean difference			CEO			Chair	%
<i>p</i> -value			1.56			2.89	85
			0.118			0.0001	

Notes: Standard errors in parenthesis. *, ** and ***denote significance at the 0.10, 0.05 and 0.01 levels, respectively

Table 6.
Robustness testing

had a profound positive influence on attitudes towards CED. In addition, Chairs in Vietnam tend to be more influential than CEOs *vis-a-vis* CED, suggesting the power of Chairs in VLFs because of their high ownership, which made them less independent. Overseas work experience, however, was not significant. Our findings underline the value-add of overseas education in forming human capital, which can make positive contributions to sustainability reporting.

Our study makes seven noteworthy contributions to theory and the literature. Firstly, regarding theoretical contributions, Hambrick (2007) argued that a leader's field of vision, selective perception and interpretation are heavily influenced by executives' experiences, values and personalities. We add to UET by examining the source of education of firms' leadership and demonstrating that exposure to overseas education in culturally distant countries does positively alter strategic choice (in this case firm's propensity towards CED disclosures). This finding indicates that leaders' fields of vision, perceptions and interpretations towards environmental issues have been shaped by their overseas experiences. Something that may not otherwise have been at the forefront of their thinking (field of vision) is given priority because of this enlightening educational experience.

A second contribution is that the overwhelming majority of empirical UET studies have used US samples. Hambrick (2007) contends that this may have stacked the deck in favour of significant results given the autonomy possessed by their firm leadership. Our finding shows that background and experiences are also critical for firm leadership in shaping their strategic choices, such as voluntary disclosures on environmental matters. We indicate that even in a regimented system faced by firm leaders in Vietnam, UET still seems to hold.

The third contribution to UET is that the influence on firm leadership's values can be profound in the context of transitional economies such as Vietnam because of exposure to different cultural views, especially those emanating from Anglo countries. Pucheta-Martinez *et al.* (2019), Cui *et al.* (2020), Post *et al.* (2011) and Jackson and Apostolakou (2010) found higher social and environmental commitment in Anglo Cluster nations. It follows that education exposure to these nations is likely to influence Vietnamese views and focus on CED. Moreover, previous studies (Katmon *et al.*, 2017 and Lewis *et al.*, 2014) have been limited to investigating the effects of local qualifications on sustainability reporting.

Fourthly, extending prior studies such as Liao *et al.* (2020), Xixiong *et al.* (2018) and Slater and Dixon-Fowler (2009), our study further investigates the cultural traits of board members at multiple levels, including boards in aggregate, as well as comparing the CEOs' influence with that of Chairs on CED levels. Fifthly, in contrast to prior studies (Abeydeera *et al.*, 2016; Ismaeel and Zakaria, 2019; Welbeck, 2017) that found a global standardisation (e.g. GRI) of sustainability reporting, our study draws special attention to the significant impact on CED of exposure to regional cultures through overseas education. Sixthly, we extend prior studies such as Ismaeel and Zakaria (2019), Abeydeera *et al.* (2016); Khalil and O'Sullivan (2017) and Welbeck (2017), to State-led transition economies, such as Vietnam by reflecting the distinct characteristics of board members' overseas education. Seventhly, our study addressed a major criticism of Hofstede's cultural dimensions by previous studies such as Khlif (2016) that it fails to adjust for multicultural countries, by using 10 regional cultural clusters as defined by House (2004). Cultural clusters were defined by House (2004) based on cultural values, country economic development and linguistic nations across administrative borders. Much prior research into voluntary disclosures tends to rely on Hofstede's cultural dimensions (Khlif, 2016; López-Duarte *et al.*, 2016). We avoided some of the pitfalls of Hofstede through the use of House's (2004) regions.

This study is subject to three major limitations. Firstly, although we controlled industry (Cheng *et al.*, 2017; Muttakin *et al.*, 2016) and firm size (Cuadrado-Ballesteros *et al.*, 2015) in

our research model, our study did not distinguish “not applicable” disclosure item from “non-disclosure” (zero score) when a company had not disclosed that item. Secondly, we did not control for monetary versus non-monetary information in our research model. Thirdly, this study focussed on one transitional country across a relatively small period of four years. This may limit the generalisability of the findings to other countries.

Fruitful avenues for future research are to observe the impacts of CG factors on CED inside the organisation (e.g. board members) and relationships between the inside-outside perspective, for example, the links between BoDs and stakeholders (e.g. the media, non-government organisations (NGOs), investors and employees) through qualitative studies that venture into the field and use case studies or interviews (Ismael and Zakaria, 2019; Neely *et al.*, 2020; Rao and Tilt, 2016). Interviews with board members would provide detailed insights into the reasons behind low levels of CED in Vietnam and the influences of overseas education on CED. Interviews with other stakeholders, such as investors, NGOs or regulators, could be another avenue for future research to explain their impacts on disclosure behaviours in countries where most investment is locally sourced or sourced from Eastern rather than Anglo nations [24]. Further, our study used traditional media sources (e.g. annual, sustainability and integrated reports and company websites) to capture the quality and quantity of CED. Future studies could include the use of social media means of communication with stakeholders such as Facebook, LinkedIn and Twitter. Moreover, a suggestion for future research of CED is to use the GRI G4 Sector Disclosures Standard, in which an industry-specific set of guidelines for 40 different sectors will be developed up to 2022 (GRI-Sector, 2020).

A final avenue for future research is to investigate whether a large gap exists between environmental activities/performance and environmental disclosures in Vietnam. The association between environmental performance and reporting has attracted considerable debate. Some studies (Al-Tuwaijri *et al.*, 2004; Clarkson *et al.*, 2008; Dawkins and Fraas, 2011; Iatridis, 2013) suggested a positive relationship between corporate environmental performance and CED existed. Others, such as Patten (2002) and Cho *et al.* (2012), argued a negative relationship existed.

This study has valuable implications for policy and practice. The result for CED implies that disclosures to broader stakeholders appear to be an “alien” concept in Vietnam, as accounting reports have been traditionally used for central planning purposes (Vu and Buranatrakul, 2017). This also suggests that sustainability reporting is not effective in transitional economies and needs to be mandatory in countries where low stakeholder orientation and a weak regulatory environment exist, as has been the case in some other developing countries such as India (Gatti *et al.*, 2019). In addition, the insights gained from this study suggest that shareholders should appoint board members who possess international qualifications to enhance sustainability disclosures. Although our research uses Vietnam as an example, the findings of this study may apply to other transitional countries (e.g. China) that share similar cultures or close institutional infrastructures and CG regimes (Mahmood *et al.*, 2019; Situ and Tilt, 2018).

Notes

1. Three similar terms are used in the literature to explain company disclosures concerning the environment: CED is defined as “the set of information items relating to a company’s past, current and future environmental management activities and performance” (Berthelot *et al.*, 2003, p. 2). CED has also been called corporate environmental reporting or corporate environmental information disclosure (CEID) (Cheng *et al.*, 2017). Another related term is “CSD”, which reflects elements of social and environmental accounting (Deegan, 2016). A final related term is “CSR”,

which relates to elements, such as corporate responsibility, corporate citizenship, sustainability and corporate social performance (Freeman and Hasnaoui, 2011). For the purposes of our study, we will use CED, as our focus is on environmental disclosures.

2. Australia, Canada, England, Ireland, New Zealand, the USA in the Global Leadership and Organisational Behaviour Effectiveness Research Programme (GLOBE) study of 62 societies. GLOBE was funded in October 1993 and recruited GLOBE country co-investigators to collect data (House, 2004).
3. Circular No. 25/2019/TT-BTNMT dated 31 December 2019 of the Ministry of Natural Resources and Environment, available at: <https://english.luatvietnam.vn/ircular-no-25-2019-tt-btnmt-dated-december-31-2019-of-the-ministry-of-natural-resources-and-environment-detailing-the-implementation-of-a-number-of-180055-Doc1.html> (Accessed: 12 October 2020).
4. Decree No. 40/2019/ND-CP dated 13 May 2019 on amending and supplementing a number of articles of the decrees detailing and guiding the implementation of the Law on Environmental Protection, available at: <https://english.luatvietnam.vn/ecree-no-40-2019-nd-cp-dated-may-13-2019-of-the-governing-on-amending-and-supplementing-to-decrees-guiding-the-implementation-of-the-law-on-enviro-172760-Doc1.html> (Accessed: 12 October 2020).
5. Decree 155/2016/NĐ-CP dated 18 November 2016 on penalties for administrative violations against regulations on environmental protection, available at: <https://vanbanphapluat.co/decree-155-2016-nd-cp-penalties-administrative-violations-against-regulations-on-environmental-protection> (Accessed: 12 October 2020).
6. This is a compilation of the *National Greenhouse and Energy Reporting Act 2007* that shows the text of the law as amended and in force on 30 August 2019.
7. The term “qualifications” used in our paper is defined as education or degrees earned by students (e.g. tertiary and higher degrees) based on Brooks *et al.* (2012) and Parasnis *et al.* (2008). Given the context of our research was in Vietnam, the terms “overseas qualification” or “foreign qualifications” means foreign education or degrees that board members obtained outside Vietnam, as adopted in Pham (2019b) and Ho *et al.* (2016).
8. China, Hong Kong, South Korea in the GLOBE study (House, 2004).
9. The criteria for large firms are based on Regulation of issuing securities listed at the HOSE (Decision No. 10/QĐ-SGDHCM dated 13 January 2014 by Ministry of Finance (MOF)). A company is defined as “large” for a financial year and is listed at the HOSE if it satisfies at least two of the following criteria, namely, the value of equity at the time of listing registration is at least \$6m (US \$); and the minimum *return on equity* (ROE) is 5% for the past two years.
10. IFC, World Bank Group (IFC), 2013. *Sustainability reporting handbook for Vietnamese companies: IFC advisory services in East Asia and the Pacific (English)*, available at: <http://documents.worldbank.org/curated/en/179691468328537687/Sustainability-reporting-handbook-for-Vietnamese-companies-IFC-advisory-services-in-East-Asia-and-the-Pacific> Accessed 24 October 2016.
11. IFC, S 2016, *E&S Disclosure Guide*, available at: https://sseinitiative.org/wp-content/uploads/2014/08/20161212_ES-Disclosure-Guideline-ENGLISH.pdf Accessed 6 April 2017.
12. In total, 10 sectors have been classified according to the Global Industry Classification Standard (HOSE, 2016).
13. Results showed that only six missing values were found, which fell in only four VLFs in the Industrial sector and these also fell in two missing variables, which were not the main variables in the model. The study applied listwise deletion by Peugh and Enders (2004) to discard these four companies. Furthermore, Enders (2010) pointed out that listwise deletion may only produce biased estimation when deleting cases with a large number of variables, which can lead to a considerable reduction in the total sample size. In our study, only four firms out of the total of 264 were deleted, which accounted for a small proportion (only 1.5%) of the sample size.

14. Six experts (including two reporting specialists from HOSE, one Professor of Accounting from Da Nang University, one Senior Auditor from Deloitte Vietnam and two Senior Consultants from Vietnam MOF agreed that, as CED is voluntary in Vietnam and MOF has not issued any regulations for VLFs to report their environmental performance, the indicators extracted from the GRI framework in the context of Vietnam were optimal in the circumstances.
15. For instance, the average level of CED in Vietnam (3.65 out of 90 points) was much lower than that reported in China (10 out of 30 points; Wang *et al.* (2019), p. 10); and 9.7 out of 27 (Cheng *et al.* (2017), p. 216).
16. Iran [16 out of 34 (Alipour *et al.*, 2019, p. 590)].
17. Nearly half (49%) of VLFs reported environmental information, compared to India, where Garg and Kumar (2018) found that 62% of companies disclosed information regarding environmental agendas.
18. A Pseudo R^2 of 25.29% is higher than that reported in Liang *et al.* (2012) (20.8%) and Ben-Amar *et al.* (2017) (20.2%) with acceptable predictability.
19. (e.g. Australian Colombo programme, US Pacification Plan, European Region Action Scheme for the Mobility of University Students, Bologna Process and the European Union Commission).
20. (e.g. Recommendation 2.5 in Australia by ASX (2019)).
21. Vietnamese Law on Enterprises 2014, Article 152, Clause 1, available at: <https://thukyluat.vn/vb/luat-doanh-nghiep-2014-3f692.html> (Accessed: 28 June 2020). This states that the Chair can be the CEO or manager except for listed companies with state-ownerships that are more than 50%.
22. It is noted that *BMOS/BMOW* were checked for normal distribution and results indicate that these two variables had skewness ($|\gamma_1| < 3.0$) and kurtosis ($|\gamma_2| < 10.0$), which satisfied the thresholds by Kline (2016, p. 76) to perform a Hausman test.
23. The first robustness check was sensitivity analysis by changing different variables in the model whilst holding the seven variables of interest (*BMOS*, *BMOW*, *BSA*, *BSC*, *HIE*, *BMBA* and *LAW*) constant (Cameron and Trivedi, 2005; Srivastava *et al.*, 2017). For example, see Models 1 to 3 in Table 6. The second technique used different measurements of variables (e.g. Models 4 and 5). In Model 4, *BMOS* and *BMOW* were measured as dichotomous variables instead of the proportion of board members who studied or worked internationally, which were in the optimal model. This means that *BMOS* or *BMOW* was equal to one if a board member studied or worked overseas, respectively, and zero otherwise. Similar measurements were made for *BSA* and *BSC*. Model 5 did not measure *BMOS*, *BMOW*, *BSA* or *BSC* as a proportion of board members who, respectively: studied internationally, worked internationally, studied in Anglo Cluster regions or studied in Confucian Asia regions – all of which were over the total board members of the firm. Rather, these variables were computed as continuous variables based on the number of years that they studied or worked overseas or in a given region. This adjustment was made because the influence of international experience could be greater where the exposure was for a longer period of time (Carpenter *et al.*, 2001; Sambharya, 1996; Sullivan, 1994).
24. It is worth noting that in Vietnam, when foreign investment occurred, it was reported to have come from other Asian countries, such as Taiwan, South Korea, Hong Kong, Singapore and China (Hays, 2008; Samuel, 2019). Also, results from our descriptive statistics reveal that a comparatively low percentage of shareholdings were held by foreign investors (5.33%).

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	CED	EMOS	EMOW	HIE	BMBA	BLAW	BACC	BSA	BSC	MDIR	CHAS	CEOS	BAGE
CED	1.00												
BMOS	0.10	1.00											
BMOW	0.06	0.39	1.00										
HIE	0.09	0.35	0.36	1.00									
BMBA	0.06	0.52	0.31	0.54	1.00								
BLAW	-0.02	0.28	0.33	0.34	0.19	1.00							
BACC	0.07	0.19	0.29	0.01	0.09	0.01	1.00						
BSA	0.16	0.36	0.14	0.43	0.27	0.28	0.17	1.00					
BSC	0.09	0.27	0.04	0.10	0.08	-0.02	0.09	-0.04	1.00				
MDIR	0.05	0.26	0.19	0.20	0.19	-0.12	-0.09	0.11	0.07	1.00			
CHAS	0.05	0.28	0.08	0.25	0.25	0.07	0.10	0.08	0.10	-0.02	1.00		
CEOS	0.06	0.46	0.25	-0.03	0.50	0.50	0.21	0.11	0.34	0.43	-0.15	1.00	
BAGE	0.03	0.00	0.04	-0.02	0.02	0.02	0.04	-0.01	-0.03	0.03	0.05	0.01	1.00
DUA	-0.01	0.06	0.02	0.06	0.05	-0.13	0.10	-0.12	0.14	-0.01	0.02	0.06	-0.02
BGEN	0.03	0.03	0.04	-0.24	0.01	-0.03	0.01	-0.08	0.06	0.04	0.03	-0.03	-0.04
BSO	-0.05	-0.02	-0.04	-0.04	-0.00	-0.05	-0.01	-0.04	0.02	0.03	0.09	-0.03	0.11
BIND	-0.01	-0.07	-0.02	-0.06	-0.02	-0.05	0.08	0.02	0.03	-0.02	-0.03	0.02	-0.21
EPS	0.17	0.47	0.52	-0.04	0.47	0.39	0.23	0.51	0.44	-0.29	0.47	0.46	0.04
EPW	0.13	0.52	0.31	-0.11	0.39	0.32	0.31	0.32	0.23	-0.22	0.22	0.32	0.12
FO	0.08	0.10	0.09	0.40	0.12	0.18	0.11	0.19	-0.05	0.00	0.04	0.06	0.03
SO	-0.08	0.01	-0.01	0.36	0.04	0.02	-0.04	0.06	-0.07	0.00	0.02	0.03	-0.03
FAGE	0.23	0.03	0.01	-0.02	0.00	0.04	0.03	0.11	0.00	-0.01	-0.01	0.02	0.08
FSIZE	0.16	0.23	0.18	0.39	0.22	0.26	0.18	0.41	-0.04	0.05	0.04	0.14	0.05
LEV	-0.03	-0.02	0.00	0.08	-0.01	-0.003	0.00	0.00	-0.02	-0.01	-0.01	-0.02	0.00
IND	-0.17	-0.05	0.00	0.12	-0.01	-0.03	-0.03	-0.02	-0.15	-0.03	-0.03	-0.05	-0.03

Notes: CED is the total score of CED for the firm; BMOS is the proportion of board members with overseas qualifications over the total board members of the firm; BMOW is the proportion of board members with overseas work experience over the total board members of the firm; HIE is the proportion of board members with overseas higher education over the total board members of the firm; BMBA/BLAW/BACC is the proportion of board members with overseas MBA/Law/Accounting degrees over the total board members of the firm; BSA is the proportion of board members with international qualifications in Anglo Cluster regions over the total board members of the firm; BSC is the proportion of board members with international qualifications in Confucian Asia regions over the total board members of the firm; MDIR is the proportion of board members with multiple directorships over the total board members of the firm; CHAS = 1 if Chairman studied overseas, and 0 otherwise; CEOS = 1 if Chief executive officer (CEO) studied overseas, and 0 otherwise; BAGE is mean board age; DUA = 1 if a Chair serves as a CEO of a listed firm, and 0 otherwise; BGEN is the proportion of female directors over the total directors of the firm; BSO is the percentage of shares owned by each board member over the total issued shares; BIND is the proportion of independent directors on a board; EPS/EPW is the environmental performance index of countries where boards studied/worked; FO is foreign ownership measured by the percentage of shareholding held by foreign investors; SO is the percentage of shareholding owned by the State over the total issued shares of the company; FAGE is the natural log of the number of the year which firms listed; FSIZE is a logarithm of firm's sales; LEV is leverage of the listed firm; IND is industry

(continued)

Table A1.
Pairwise correlations

Table A1.

	DUA	BGEN	BSO	BIND	EPS	EPW	FO	SO	FAGE	FSIZE	LEV	IND	YEA
CED													
BMOS													
BMOW													
HIE													
BMB-A													
BLAW													
BACC													
BSA													
BSC													
MDIR													
CHAS													
CEOS													
BAGE													
DUA	1.00												
BGEN	0.08	1.00											
BSO	0.17	-0.01	1.00										
BIND	-0.06	-0.11	-0.05	1.00									
EPS	-0.04	0.01	0.12	0.29	1.00								
EPW	-0.11	-0.02	0.13	0.34	0.54	1.00							
FO	-0.05	-0.35	-0.03	0.06	0.03	-0.04	1.00						
SO	-0.01	-0.12	-0.01	0.05	0.18	0.33	0.33	1.00					
FAGE	-0.06	0.01	-0.03	-0.02	0.05	0.02	-0.04	-0.20	1.00				
FSIZE	-0.08	-0.16	0.00	0.06	0.40	0.37	0.37	0.21	0.07	1.00			
LEV	0.00	-0.01	0.01	-0.02	-0.03	-0.02	-0.02	-0.02	-0.01	0.00	1.00		
IND	0.00	-0.17	-0.01	-0.01	-0.06	-0.04	0.25	0.47	-0.16	0.03	0.02	1.00	

Appendix 2

Corporate
environmental
disclosures

Anglo countries	Study overseas		Work overseas	
	Board members	(%)	Board members	(%)
Australia	86	8.92	35	7.16
Canada	6	0.62	10	2.04
England	68	7.05	38	7.77
Ireland	0	0.00	0	0.00
New Zealand	0	0.00	10	2.04
USA	251	26.04	131	26.79
Total	411	42.63	224	45.80
<i>Field of study</i>				
Accounting	42	4.35		
Finance	138	14.29		
MBA	435	45.17		
Economics	85	8.84		
Engineering	64	6.67		
Architect	32	3.27		
IT	43	4.49		
Chemistry	30	3.13		
Law	60	6.26		
Foreign language	24	2.45		
Other	11	1.09		
Total	964	100.00		
<i>Level of study</i>				
Diploma	5	0.50		
Bachelor's	354	36.77		
Certificate after university	5	0.50		
Master's	478	49.57		
PhD	122	12.67		
Total	964	100.00		

Table A2.
List of Anglo
countries where
BoDs studied/worked
overseas and fields/
levels of overseas
study

Code	Environmental items	Obs	Mean	SD	Minimum	Maximum
EN1 ^a	Materials used by weight or volume	1,040	0.277	0.67	0	3
EN2	Percentage of materials used that are recycled input materials	1,040	0.160	0.50	0	3
EN3	Direct energy consumption by primary energy source	1,040	0.347	0.79	0	3
EN4	Indirect energy consumption by primary source	1,040	0.145	0.51	0	3
EN5	Energy saved due to conservation and efficiency improvements	1,040	0.338	0.72	0	3
EN6	Initiatives to provide energy-efficient or renewable energy-based products and services and reductions in energy requirements as a result of these initiatives	1,040	0.290	0.68	0	3
EN7	Initiatives to reduce indirect energy consumption and achieved reductions	1,040	0.175	0.56	0	3
EN8	Total water withdrawal by source	1,040	0.122	0.50	0	3
EN9	Water sources significantly affected by withdrawal of water (the total number of significantly affected water sources by type)	1,040	0.032	0.27	0	3
EN10	Percentage and total volume of water recycled and reused	1,040	0.117	0.44	0	3
EN11	Location and size of land owned, leased, managed in or adjacent to, protected areas and areas of high biodiversity value outside protected areas	1,040	0.027	0.15	0	2
EN12	Description of significant impacts of activities, products and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	1,040	0.018	0.13	0	2
EN13	Habitats protected or restored	1,040	0.043	0.20	0	2
EN14	Strategies, current actions and future plans for managing impacts on biodiversity	1,040	0.041	0.22	0	2
EN15	Number of IU CN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	1,040	0.012	0.13	0	2
EN16	Total direct and indirect greenhouse gas emissions by weight	1,040	0.113	0.46	0	3
EN17	Other relevant indirect greenhouse gas emissions by weight	1,040	0.057	0.37	0	3
EN18	Initiatives to reduce greenhouse gas emissions and achieved reductions	1,040	0.175	0.52	0	3
EN19	Emissions of ozone-depleting substances by weight	1,040	0.004	0.07	0	1
EN20	NOx, SOx and other significant air emissions by type and weight	1,040	0.063	0.38	0	3
EN21	Total water discharge by quality and destination	1,040	0.257	0.63	0	3
EN22	Total weight of waste by type and disposal method	1,040	0.235	0.61	0	3
EN23	Total number and volume of significant spills	1,040	0.094	0.48	0	3
EN24	Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III and VIII and percentage of transported waste shipped internationally	1,040	0.020	0.23	0	3
EN25	Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the reporting organisation's discharges of water and runoff	1,040	0.005	0.07	0	1
EN26	Initiatives to mitigate environmental impacts of products and services and extent of impact mitigation	1,040	0.287	0.64	0	3
EN27	Percentage of products sold and their packaging materials that are reclaimed by category	1,040	0.110	0.45	0	3
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	1,040	0.088	0.36	0	3
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organisation's operations and transporting members of the workforce	1,040	0.085	0.38	0	3
EN30	Total environmental protection expenditure and investments by type	1,040	0.084	0.44	0	3
CED	Sum(EN1:EN30)					

Table A3.

Details of 30 environmental items

Note: ^aEN: Environmental items

Source: Definition of each environmental items was retrieved from IFC and SSC (2013)