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International variations in ESG disclosure
- Do cross-listed companies care more?

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We study the ESG disclosure of 1,963 large-cap companies headquartered in 49 countries. In this paper, a firm's environmental, social and governance (ESG) transparency is measured as the quantity of ESG data disclosed to the public. Using the Bloomberg ESG disclosure score as the measure of transparency, we find that firm characteristics explain most of the variation in ESG transparency, whereas variations in country factors such as corruption and political rights explain less. We empirically examine and extend the theoretical framework of the liabilities of foreignness in capital markets. Our results support the notion that cross-listed firms disclose more ESG data than those only listed in their home market to mitigate the liability of foreignness in external capital markets. We also find that an increased percentage of foreign ownership does not augment ESG disclosure. Companies which opt to increase foreign equity ownership at home do not encounter the challenges of foreignness. Our findings also suggest that cross-listed status is likely to reduce the importance of country factors for variations in ESG transparency.

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1. Introduction

This paper studies the variation of ESG transparency across firms in different countries. We aim to understand the importance of ESG disclosure for multinational companies. As more investors follow the responsible investment approach, the quantity and quality of ESG disclosure becomes more important. In this study, we examine firms' ESG transparency, which is defined as the quantity of ESG disclosure. The previous ESG literature only emphasises best practice for each aspect of environmental, social, or governance separately (Ruf et al., 1998; King and Lenox, 2000; Margolis and Walsh, 2003; Aggarwal and Dow, 2011; Del Bosco and Misani, 2016). However, there is little research on the disclosure of these three aspects as a whole. Our study intends to fill that gap in the ESG literature. We investigate the determinants of the quantity of a firm's ESG disclosure, rather than a firm's actual performance on ESG issues. The lack of a global governing body to ensure the accuracy of reported ESG information is a challenge, allowing firms to disclose their favourable ESG data or opt-out entirely. Currently, firms disclose their ESG data to their relevant stakeholders by following mandatory and voluntary disclosure instruments set by the governments across countries. KPMG (2016), one of the big four auditors, suggest that mandatory disclosure instruments at present dominates (two-thirds of disclosure instruments are mandatory), but the growth in voluntary disclosure is strong. Although the rating agencies (e.g., Ceres) and financial information providers (e.g., Bloomberg) also start reporting ESG data, the critical challenge of current ESG disclosure is still the reliance on firms' self-reported ESG data. These challenges in ESG disclosure motivate us to examine why the levels of ESG transparency vary across firms in different countries, and question whether cross-listed firms are more transparent in disclosing ESG data compared with those that are not cross-listed. We aim to make several contributions to the ESG literature.

We start by examining the possible determinants of a firm's ESG transparency. Our sample companies are selected from the MSCI All Country World Index (ACWI). We analyse the ESG disclosure of more than 1,900 large-cap companies headquartered in 49 countries and territories in the period of 2012-2016 when such ESG disclosure grew

substantially. To measure a firm's transparency in ESG issues, we adopt the Bloomberg ESG disclosure, which ranges from 0.1 to 100. A maximum score of 100 means that a firm discloses data on every criterion collected by Bloomberg. A higher disclosure score signifies greater transparency and more quantity of disclosure on ESG issues, irrespective of whether the disclosure reflects positively or negatively on the firm. The Bloomberg ESG disclosure matrix contains a large number of variables for each dimension. For example, environmental dimension includes total greenhouse gas emissions, total energy consumption and total water use; the social dimension comprises employee turnover, percentage of women in the workforce and community spending; and the governance dimension incorporates board tenure and political donations.

We also highlight the role of cross-listing in influencing large-cap firm's ESG transparency. Our empirical study complements the theoretical framework of the liabilities of foreignness in foreign capital markets (CALOF) developed by Bell et al. (2012). In this study, our view goes beyond the CALOF framework, which emphasises only governance factors. By extending the original theoretical framework of CALOF, we suggest that an investor would expect to receive signals covering all three ESG aspects because environmental, social and governance issues are interconnected in the holistic view of responsible investment. Our findings provide empirical support for the modified hypothesis that cross-listed firms disclose more ESG information to signal their quality to investors in foreign countries and thereby alleviate the adverse effect of CALOF. We also find that rising foreign ownership is not positively associated with greater ESG disclosure. Firms which opt to broaden their investor base via increasing foreign equity ownership at home will not encounter the challenges of foreignness.

Our study contributes to the literature by providing empirical evidence on the relative importance of firm characteristics, country factors, and cross-listing in determining the levels of ESG transparency. We find that cross-listed status exerts a more significant influence on ESG transparency than country factors. We suggest that cross-listed companies raise their capital from host countries, possibly reducing the influence of the institutions of their home

countries. We also find that firm characteristics explain most of the variation in ESG transparency, whereas variations in country factors such as corruption and political rights explain less. Specifically, variations in firm characteristics such as insider holdings, the board size, and a firm's R&D intensity can explain most of the variation in ESG transparency across firms in different countries.

2. RESEARCH DESIGN AND HYPOTHESES

We now move on to identifying the gap in the literature that our paper fills. We start by presenting a model of ESG transparency. We make the following two assumptions: (a) all firms are concerned with maximising firm value, and (b) corporate managers are rational, so they aim to balance the disclosure benefits against disclosure costs by selecting the optimal disclosure level of ESG transparency for their firms.

We review prior literature that compares disclosure benefits and costs. For example, Leuz et al. (2009) show that foreign investors tend to invest less in firms with poor governance standards and less reliable disclosure information. Moreover, Serafeim and Grewal (2017) suggest that non-financial information (ESG data) can be used to predict the financial performance of firms. In a similar vein, Czerwińska and Kaźmierkiewicz (2015) find that greater transparency of Polish companies in disclosing non-financial data (ESG data) results in lower volatility of stock return. Previous studies also document that firms with better ratings in ESG factors enjoy a lower cost of capital. For instance, He (2011) documents a positive association between transparency disclosure of governance issues and the efficiency of capital allocation in declining industries. Cheng et al. (2014) demonstrate that firms with better CSR performance-related scores can benefit from lower capital constraints. However, some studies also provide conflicting empirical evidence that greater disclosure of ESG data by firms can incur significant disclosure cost (Mattoo et al., 2009; Aggarwal and Dow, 2011; Hainmueller and Hiscox, 2015). Mattoo et al. (2009) document that some

companies try to reduce that cost by seeking out less onerous climate change regulation regimes.

The discussion above leads to the development of our model. We now discuss the possible determinants of ESG transparency by considering country factors, firm characteristics, and cross-listed status.

3.1 Firm characteristics and ESG transparency

Many scholars (Dahya et al. 2007; Lee et al. 2008; Lee and Lee 2009; Liu et al. 2015; Cuadrado-Ballesteros et al. 2015) suggest that an effective governance mechanism (i.e. share of institutional investors, number of independent board directors, percentage of insider holdings, etc.) can reduce the agency costs resulting from the separation of ownership and control. For instance, Cuadrado-Ballesteros et al. (2015) find that the proportion of independent directors is positively associated with the level of a firm's disclosure of corporate social responsibility issues. However, others provide different views (Trucost, 2009; Aggarwal and Dow, 2011; Adams and Jiang, 2016). Trucost (2009) documents that carbon exposure is not viewed as a key factor by institutional investors when making investment decisions.

The findings of the previous governance literature leads to Hypothesis 1. In this hypothesis, we predict that a firm with a more effective governance framework is more ESG-transparent to reduce the agency costs associated with the separation of ownership and control. In investigating the relationship between firm characteristics and ESG firm disclosure, we also employ a firm's R&D intensity as a control variable in our model. R&D intensity is seen as an indicator of agency and monitoring costs for firms that are difficult to monitor (Himmelberg et al. 1999; Yu et al., 2018).

Hypothesis 1: (a) An increased share of institutional ownership exerts a positive effect on ESG disclosure (b) An increased share of independent directors has a positive effect on ESG disclosure (c) A larger board size is positively associated with a firm's ESG disclosure. (d) An increased share of insider holdings has a negative impact on ESG

3.2 Country factors and ESG transparency

We also examine whether country factors such as the absence of corruption, the lack of civil liberty and political rights may influence the cost of ESG transparency through activities such as lobbying or bribery (Cuervo-Cazurra, 2006; Cooper et al., 2010; Ioannou and Serafeim, 2012). For instance, Ioannou and Serafeim (2012) suggest that since corruption is higher in Japan than in Germany, Japanese firms have less pressure to take on investments to enhance their CSR image. Furthermore, Cooper et al. (2010) argue that people in a society with stronger civil liberties and political rights are more likely to express their concerns through non-governmental organisations and the media freely. Campbell (2007) suggests that strong state regulations compel firms to behave in socially more responsible ways. Prior research (De Soto, 1989; Husted, 2005) finds that economic development is an important factor for environmental sustainability. For example, Gnyawali (1996) suggests that consumers and investors in affluent countries are better informed and therefore demand better environmental and socially responsible performance from firms.

However, other researchers (Chapple and Moon, 2005; Ioannou and Serafeim, 2012) document that economic development is not the only factor explaining the international variation of corporate social performance. Given the evidence from the literature, we assess whether the absence of corruption, the lack of civil liberty, and the absence of political rights affect the cost of investing in ESG transparency. This leads to Hypothesis 2.

Hypothesis 2: (a) ESG disclosure is high in countries if the lack of corruption is high. (b) ESG disclosure is low in countries with a lack of civil liberties. (c) ESG disclosure is low in countries with a lack of political rights.

3.3 Cross-listing and ESG transparency

We also explore the potential effects that greater global integration in capital markets may have on the firm's ESG transparency by examining the relationship between cross-listing and ESG transparency. Cross-listing means that a company's equity shares are not only listed on its home country stock exchange, but also on one or more foreign exchanges. Such cross-listed firms are required to meet the securities regulations of their home country as well as the regulations of the host countries in which they are cross-listed.

In Hypothesis 3, we argue that cross-listing could impact on firm's ESG transparency through the theoretical framework of liabilities of foreignness in capital markets (CALOF). The theoretical framework of CALOF developed by Bell et al. (2012) explains how companies encounter additional costs when raising equity capital outside their home market. Bell et al. (2012) did not provide empirical evidence for their theory. In this study, we examine their theoretical framework empirically. Rather than focusing on governance factors only, we study their theory in the light of ESG transparency.

We predict that cross-listed firms provide greater ESG disclosure as they are keen to reduce the liabilities of foreignness in external capital markets. They do so by adopting any of the following three strategic responses suggested by Bell et al. (2012). The three strategies are bonding, signalling, and endorsements by reputable third parties. Firstly, under the

bonding hypothesis (Coffee, 1999; Dahya et al. 2002; Dahya et al., 2007; Henderson et al., 2006; Hail and Leuz, 2009), firms have to cross-list their equities in a foreign exchange that requires stricter regulations, higher standards of governance, and better quality of disclosure. Consequently, cross-listing into countries with better investor protection and stricter information disclosure requirements may be a signal to investors that better corporate governance is forthcoming. The second strategy employed by firms to reduce the cost of liabilities of foreignness in capital markets (CALOF) is signalling. Signals can overcome the investors' lack of information about a company, so a company can also alleviate negative effects of CALOF by signalling its quality to investors, even in less regulated markets. The importance of signals has long been recognised (Merton, 1987; Kang and Stulz, 1997; Filatotchev & Bishop, 2002). For instance, Merton (1987) argues that investors tend not to invest in securities with which they do not feel familiar. The third strategy is endorsements by reputable third parties, which can occur through certification by information intermediaries. For example, Lang et al. (2003) find that foreign companies that cross-list on U.S. exchanges benefit from greater analyst coverage and higher forecasting accuracy for firms' future earnings and thus have higher valuations. This is a good example showing that a powerful endorsement for an unfamiliar foreign firm can reduce the degree of uncertainty and the potential CALOF.

We go beyond one of the propositions of Bell et al. (2012), which state that a foreign firm can differentiate itself from other firms by signalling its value through good corporate governance factors. In our Hypothesis 3, we extend Bell et al.'s proposition by suggesting that a responsible investor would expect to receive signals covering all three ESG aspects (environmental, social, and governance). We argue that environmental, social, and governance issues are interconnected in the holistic view of the responsible investment approach. If investors aim to maximize their financial returns, they have to incorporate all relevant ESG factors in their investment assessment of risk and return. Cross-listed firms have greater incentives to be more transparent in ESG issues than those who stay in the home market, as cross-listed firms intend to reduce their liabilities of foreignness in external capital markets. Furthermore, we employ foreign ownership as a control variable for Hypothesis 3. We argue that firms will not encounter CALOF if they opt to increase their investor base by

allowing greater foreign equity ownership at home. [3] Consequently, we hypothesise that these firms do not have incentives to be more transparent in ESG issues. Our discussion on cross-listing and foreign ownership leads to Hypothesis 3.

Hypothesis 3: (a) Cross-listed status enhances a firm's ESG disclosure. (b) An increased percentage of foreign ownership has no positive impact on ESG disclosure.

Having surveyed the relevant literature, we develop the panel regression in Equation (1) below to examine the possible determinants of a firm's ESG transparency across sample firms from all countries.

$$ESG_{jkt} = \delta_0 + \delta_1 X_{jt} + \delta_2 X_{kt} + \varepsilon_{jkt}$$

Eq(1)

Where:

Our key variables

ESG_{jkt} is the ESG transparency of company j of country k in year t. A firm's ESG

transparency is (Bloomberg ESG disclosure score/100)

X_{jt} is a vector of firm characteristics in year t, including (a) share of institutional owners (b) share of independent directors, and (c) log (board size), and (d) share of inside holdings.

X_{kt} is a vector of country factors in year t, including (a) the lack of corruption, and (b) the lack of civil liberties, and (c) the lack of political rights.

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[3] In practice, local governments sometimes impose restrictions on the maximum percentage ownership of local firms by foreigners. For example, in Malaysia, foreigners can own at most 49 percent of the shares outstanding of any firm in the sector of oil services, which are considered strategically important to national interests (2017, https://www.export.gov/article?id=Malaysia-1-Openness-to-Restriction-upon-Foreign-Investment).

Cross-listing: The status of cross-listing equals one if a company's equity shares are not only listed on its home country stock exchange but also on one or more foreign exchanges. Zero otherwise.

Percentage of foreign ownership: This is the percentage of total equity held by foreign investors at the end of each year.

We also include **a vector of control variables**:

(a)   A firm's R&D intensity: This variable is measured as the sum of R&D costs divided by sales for the prior three years. Innovation activities often take time to influence a firm's performance.
(b)   Log (asset firm size): This variable is estimated by the book value of assets.
(c)   Liquidity: We adopt the quick ratio and the current ratio.
(d)   Leverage: A firm's leverage ratio is estimated as the debt/total asset ratio.
(e)   Operating firm performance indicators: We use return on asset (ROA) with other two alternative company performance indicators: the average return on equity for the last three years and the average return on equity for the last five years.
(f)   Log (GDP per capita): The value of GDP per capita converted to U.S. dollar at purchasing power parity (PPP) exchange rates.

3.   DATA SOURCES

There is an emerging consensus that the three aspects of environmental, social and governance are interconnected and should be viewed holistically (Goldman Sachs 2007; Richardson 2009; Galbreath 2013; Tamimi and Sebastianelli, 2017). To measure a company's transparency in its ESG dimensions holistically, we employ the Bloomberg ESG disclosure score in this study. The Bloomberg ESG disclosure score can be viewed as the quantity of ESG information a firm discloses to the public, a reflection of this firm's voluntary and mandatory disclosures available to all relevant parties. The higher the ESG disclosure score, the more non-financial information is disclosed. The disclosure scores are able to help shareholders and stakeholders assess a company's level of transparency in ESG issues. The Bloomberg ESG transparency score starts with 0.1 for companies that release a minimum quantity of environmental, social and governance data to 100 for those that release every data item gathered by Bloomberg. Bloomberg compiles ESG information on listed

companies globally, including published disclosure and news items and turns it into one number. Each data point is weighted regarding the importance for the company's respective sector (i.e., the variable of greenhouse gas emissions is more important than other disclosure data for the materials sector, which is not the case for the real estate sector).

Our dataset is comprised of 1963 large-cap firms, which are selected from the MSCI All Country World Index (ACWI) across 49 developed and emerging countries and territories with a sample period of 2012-2016. Our sample firms make up 85% of the global investable equity opportunity set in terms of market capitalisation. We exclude firms headquartered in tax havens such as Jersey and Bermuda since we consider the impact of country factors in this study. Table 1 presents the average level of ESG disclosure score for each sample country. We observe that the levels of ESG transparency vary widely across firms in different countries over our sample period. For instance, firms in Finland have high average ESG disclosure scores (54.59), whereas the average ESG transparency is around 7 in Qatar and UAE (see Table 1). We also observe that differences in stage of economic development do not explain variations in firms' ESG transparency. For example, Table 1 indicates that firms in developing countries, such as South Korea, have better ESG disclosure score (47.05) than those from developed countries, such as the U.S. (28.59) and Japan (35.43). Moreover, there are also considerable variations in ESG transparency among emerging countries.

[Insert Table 1]

We obtain other data from a variety of sources. In order to make a meaningful international comparison of economic development, we collect GDP per capita measured at purchasing power parity exchange rates from the International Monetary Fund's World Economic Outlook Database. We also employ the annual "absence of corruption index" from Transparency International. Transparency International ranks countries on a scale from zero (highly corrupt countries) to 100 (highly clean countries). Finally, we collect two indicators for "lack of civil liberties" and "lack of political rights" from the World Report of Freedom House for the sample period of 2012-2016. For both indexes, each country is rated on a scale

from 1 (the highest level of civil liberties or political rights) to 7 (the lowest level). Overall, we find that country factors exhibit significant variations. In Table 1, we show that corruption is high in Russia (28.2), India (37.6), and China (38.4). On the other hand, Denmark (90.8) is the "cleanest" country, followed by New Zealand (90) and Finland (89.4).

Table 2 displays the distribution of sample firms and their average ESG disclosure scores across the ten GICS sectors, which are consumer discretionary, consumer staples, energy, healthcare, industrials, information technology, materials, real estate, telecommunication services, and utilities. In this study, firms from the financial services sector are excluded from the dataset, because we concern that financial and banking regulations may have influenced a firm's disclosure in ESG issues. We observe that the materials sector has the highest ESG average disclosure score of 42, while the the health care sector (29) and the real estate sector (25) have ESG disclosure scores below the average of 33.

[Insert Table 2]

Furthermore, to proxy for a firm's degree of globalisation, we adopt the following two variables: (a) the percentage of a firm's foreign ownership, and (b) whether a company is cross-listed. We measure foreign ownership as the percentage of total equity held by foreign investors at the end of each sample year. We find that approximately 73.97% of firms in our sample are listed in more than one capital market. Data on firm characteristics are collected from Datastream and Bloomberg. Appendix Table A1 presents descriptive statistics of all key variables used in this study and their correlation matrix. No correlation coefficients among our variables are greater than 0.8, which implies that multicollinearity is not a significant problem.

[Insert Appendix Table A1]

4. EMPIRICAL RESULTS

We investigate why levels of ESG transparency vary across large-cap firms in different countries. In this section, we report and interpret our empirical results and suggest how ESG transparency can be influenced by the factors proposed in our hypotheses.

5.1 Empirical results for firm characteristics

In this study, we use a firm's R&D intensity as a proxy for firms' agency and monitoring costs. We find that a firm's R&D intensity has a statistically significant positive impact on a firm's ESG transparency (refer to Models 1 to 4 in Table 3 and Table 4). Our regression results also show that firms with a larger board size and fewer insider holdings have better ESG transparency. For example, using Model (4) shown in Table 3, a one-standard-deviation increase in insider holdings will reduce ESG transparency by around 7.4%. Our result is consistent with Serafeim and Grewal (2017), who suggest that firms that are less closely held are more inclined to disclose more non-financial information relating to climate change, children's rights, and water.

[Insert Table 3]

[Insert Table 4]

However, our results also suggest that the relationship between ESG transparency and the share of institutional ownership is ambiguous (see Models 1 to 3 in Table 3 and Table 4, where we do not consider the influence of globalisation: neither cross-listing nor foreign ownership). In a similar vein, Trucost (2009) documents that institutional investors may not consider carbon exposure to be an essential criterion in firms' resource allocation decision.

After we add country factors and both globalisation factors (the state of cross-listing and the share of foreign ownership) to Equation (1), both institutional ownership and independent directors change from an ambiguous to a statistically significant positive effect on ESG transparency (refer to Model 4 in Table 3 and Table 4). Our finding is consistent with the literature (Miller and Reisel, 2012; Zhu and Kai, 2014), which documents that cross-listed firms may have better corporate governance than those which are not cross-listed. Moreover, more stringent accounting disclosure requirements are also likely to decrease information asymmetry between the principal and the agent (Dahya et al., 2002; Henderson et al., 2006; Hail and Leuz, 2009; Bell et al. 2012).

All in all, our empirical results in Tables 3 and 4 offer support for previous findings in the literature (Dahya et al., 2002; Henderson et al., 2006; Dahya et al., 2007; Hail and Leuz, 2009; Bebchuk and Weisback, 2010; Bell et al. 2012; Liu et al., 2015; Zhu and Kai, 2014; Palmberg, 2015) which document that bundles of corporate governance mechanisms at the firm level can complement each other to reduce the costs from information asymmetry. In our study, these three governance mechanisms at the firm level - (a) a greater share of independent directors, (b) a greater share of institutional investors, and (c) a greater board size all can have a positive influence on a firm's disclosure of quantity of ESG data.

5.2 Empirical results for country factors

To control for the differences in economic development across our sample countries, we employ the variable of GDP per capita converted to U.S. dollar at purchasing power parity exchange rates. Our empirical results show that firms in countries with less corruption are associated with better ESG transparency (see Models 1, 2 and 4 in Table 3 and Table 4). The coefficients of "absence of corruption" are consistently positive and statistically significant. Therefore, large-cap firms which operate in less corrupt countries are more likely to disclose

more ESG data to the public. Our result is mostly consistent with the previous finding of Cuervo-Cazurra (2006), who suggests a negative relation between corruption and information transparency.

Surprisingly, the coefficients for "lack of political rights" are positive and statistically significant (refer to Models 3 and 4 in Table 3 and Table 4). Our finding contradicts the notion that extensive political rights empower people to voice their concerns freely, allowing them to pressure large-cap firms to provide more ESG data. However, if we consider country factors only (dropping out all firm-level factors from Equation 1), we find that the lack of political rights has a negative influence in ESG transparency, as predicted (see Model 2 in Table 6 shown in section 5.4). In other words, without the interactions from the firm-level factors, our empirical result supports the hypothesis that people with more political rights will push large firms towards better ESG transparency.

Finally, our regression results show that the lack of civil liberties does not have a significant influence on ESG transparency (see Models 3 and 4 shown in both Table 3 and Table 4). We also find that economic development, which is proxied by GDP per capita, has an unclear effect on ESG transparency (see all models in both Table 3 and Table 4). This result is similar to previous studies (Chapple and Moon, 2005; Ioannou and Serafeim, 2012) which document that differences in stage of economic development cannot account for variations in firms' corporate social performance across countries.

5.3 Empirical results for cross-listing

Cross-listed companies have their equity shares listed on one or more foreign exchanges, in addition to their home market. Among our sample firms, 944 non-US firms (out of 1441) are cross-listed in the United States, while 498 US firms (out of 522 US) opt for Germany as the first foreign exchange to list their equities on. Consequently, the non-US firms,who choose to be cross-listed in the U.S. must obey the reporting and disclosure regulations set by

the U.S. Securities and Exchange Commission. Similarly, US firms, who decide to be cross-listed in Germany, also must meet the disclosure and reporting requirements of the German Stock Exchange.

Our empirical results support the hypothesis that a cross-listed firm is more likely to disclose a greater quantity of ESG data to the public (see Models 2, 3, and 4 in Table 3 and Table 4). We obtain consistent empirical results on our robustness checks where our operating performance indicator, return on asset (ROA), has been replaced with two alternative firm performance indicators, average return on equity for the last three years (ROE3Y) and average return on equity for the last five years (ROE5Y). The empirical results of ROE3Y are reported in Table 4 (refer to Models 2, 3, and 4). As an additional robustness check, we also estimate equation (1) with non-US firms only. The results for non-US firms displayed in Table 5 are consistent with our earlier empirical findings, indicating that cross-listed firms tend to be more transparent on ESG disclosure. Based on Tables 3-5, we can see that the impact of cross-listing on ESG transparency is consistently positive and statistically significant at 1%.

[Insert Table 5]

Overall, our empirical findings show that cross-listing is associated with greater ESG transparency. If a company's equity shares are listed on more than its home country stock exchange, the cross-listed status will exert a positive influence on the firm's ESG disclosure. Our regression results in Tables 3-5 provide empirical support for the theoretical framework of liabilities of foreignness in capital markets (CALOF) developed by Bell et al. (2012). Our empirical findings also go beyond Bell et al's original theoretical framework of CALOF. We find that cross-listed firms are inclined to disclose more information covering environmental, social and governance aspects (rather than focus only on the governance dimension proposed by CALOF) to signal its quality to investors in foreign capital markets. By disclosing a greater quantity of ESG data to their foreign investors and relevant stakeholders (i.e. foreign

regulators and governments in these host countries), cross-listed firms can alleviate the adverse effect of CALOF when they issue equities outside their home country.

[Insert Table 5]

We carry out one more test of the theoretical framework of CALOF in the environmental, social, and governance dimensions. In order to compare the influence from the state of cross-listing on a firm's ESG disclosure, we also include "the percentage of foreign ownership" as an explanatory the variable in Equation (1). We find that rising foreign ownership does not have a positive impact on ESG disclosure (see Model 2, 3, and 4 in Table 3, Table 4, and Table 5). Our empirical findings show that foreign investors operating in a firm's home market care little about disclosure of ESG data. This finding is consistent with our hypothesis that companies choosing to increase their foreign equity ownership at home will not encounter the challenges of foreignness. Consequently, without facing the liabilities of foreignness, these firms do not have incentives to disclose more ESG data. Therefore, the CALOF framework can explain why an increased percentage of foreign ownership has no positive impact on ESG disclosure.

5.4 Relative importance of cross-listing, country factors, and firm characteristics for ESG transparency

In this section, we discuss the relative importance of cross-listing, country factors, and firm characteristics on a firm's ESG transparency.

[Insert Table 6]

In Model (1) of Table 6, we assess firm characteristics only. We only include country factors in Model (2) of Table 6. The empirical results from both regressions show that 21.96% of the total variation in overall transparency in ESG issues are accounted for by firm characteristics, compared to country factors which account for only 6.37%. Our findings show that a company features play a more influential role than country factors for a firm's ESG disclosure. Our finding is consistent with previous studies in the field of corporate social responsibility (Chapple and Moon, 2005; Chen et al., 2009; Ioannou and Serafeim, 2012; Galbreath, 2013).

Next, we include all firm characteristics, the cross-listing status, and foreign ownership altogether in Model (3) of Table 6. We find that 31.01% of the total variation in ESG transparency can be accounted for by these three factors. This finding indicates that a firm's cross-listing status exerts a more significant and positive influence on ESG transparency (31.01% - 21.96% = 9.05%) than country factors (6.37%). In particular, the cross-listing variable accounts for at least 9.05% of the total variation in ESG transparency, which shows that cross-listed firms care more about ESG transparency than those that are not cross-listed. Our empirical findings support the notion that the cross-listing status can reduce the impact of home country factors on ESG transparency (Doidge et al., 2007). Overall, our empirical results suggest that a firm's firm-level features can produce the most significant and positive influence on firm's ESG disclosure to the public.

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5. CONCLUSION

This paper studies the variation of ESG transparency across firms in different countries. We make several contributions to the ESG literature. Our findings highlight the role of cross-listing in influencing a firm's ESG disclosure. We empirically examine the theoretical framework of the liabilities of foreignness in capital markets (CALOF) developed by Bell et al. (2012) and also extend their suggestions. Our empirical evidence indicates that cross-listed firms tend to be transparent in ESG issues in order to reduce the liabilities of foreignness. As an extension to the original theoretical framework of CALOF, we suggest that an investor would expect to receive signals covering all three ESG aspects, rather than only focusing on good governance factors. Our results also suggest that an increased percentage of foreign ownership does not boost ESG disclosure. Companies which choose to increase greater foreign equity ownership at home will not encounter the challenges of the liabilities of foreignness in capital markets (CALOF). In this regard, we can conclude that cross-listed firms care more about to be ESG transparent than the non-cross-listed ones because of CALOF.

We also contribute to the literature by providing empirical evidence on the relative importance of firm characteristics, country factors, and cross-listing in determining the levels of ESG transparency. Our findings suggest that cross-listed status is likely to reduce the importance of country factors for variations in ESG transparency. We also find that firm characteristics are the most essential variables in explaining variations in ESG transparency, whereas variations in country factors such as corruption and political rights explain less. Our analysis indicates that firms with larger board size, fewer insider holdings, and greater percentages of independent directors and institutional investors are more transparent in ESG disclosures. With regard to country factors, we find less corrupt countries have a positive influence on firms' ESG transparency.

One of the limitations of our study is that the dataset included only large listed firms selected from the MSCI All Country World Index (ACWI). In our view, limited resources

may play an important role in determining ESG disclosure for smaller firms. Therefore, we only examine large-cap firms' ESG disclosure in our study. However, the inclusion of small and medium-sized firms may yield different results, which we leave for future research.

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