

## Risk Disclosures and Cultural Values: A Research Note

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### Abstract

Despite a significant increase in accounting research on risk disclosures that has emerged over the last two decades, there is paucity of cross-country evidence from non-financial sectors. This research note analyzes how country-specific cultural values are linked to the level of risk disclosure. We hypothesize a positive association between the level of risk disclosure and each of Hofstede's (2001) cultural values: Power distance, uncertainty avoidance, individualism, masculinity, and long-term orientation. For a sample of manufacturing firms from four countries, our results support the hypothesis, except for masculinity, after controlling for a country's legal system. This pattern holds for several types of risk disclosures. Our findings extend those of Elshandidy, Fraser and Hussainey (2015), contribute to cross-country disclosure research on the role of cultural values, and are relevant to current efforts to harmonize risk disclosures internationally.

**Keywords:** Cross-country research; Cultural values; Risk disclosures

### 1. Introduction

While a considerable body of empirical research on risk disclosures has emerged over the last two decades, cross-country studies remain scarce and limited. Most cross-country studies in the field focus on particular financial types of risk disclosures (Probohudono, Tower & Rusmin, 2013; Adam-Müller & Erkens, 2014), on risk disclosures by financial institutions (Linsley, Shrives & Crumpton, 2006; Horing & Gründl, 2011; Abdallah, Hassan & McClelland, 2015; Fiechter & Zhou, 2016), or on a combination of both (Woods, Dowd & Humphrey, 2008; Bischof, 2009; Barakat & Hussainey, 2013; Al-Hadi, Hasan & Habib, 2016). Beyond this focus, there is very limited direct evidence on the cross-country variation in the level of risk disclosure in annual reports. Two major exceptions, that address risk disclosures of non-financial firms in more than two countries, are the studies by Dobler, Lajili and Zéghal (2011) (hereafter: DLZ) and by Elshandidy, Fraser and Hussainey (2015) (hereafter: EFH) [*Note 1*]. Both studies reveal that the level of risk disclosure is associated with firm-specific risk characteristics and country characteristics.

DLZ analyze corporate risk disclosures across the US, Canada, the UK, and Germany. The study is based on detailed hand-collected data from annual reports of a matched sample of 160 listed firms in the manufacturing sector. DLZ find that the levels of total and individual types of risk disclosures differ across the four countries and that cross-country variation in risk disclosures can only partly be linked to differences in risk disclosure regulation. The findings suggest a significant role of risk disclosure incentives that seem to differ across countries.

EFH investigate the levels of mandatory and voluntary risk disclosure across the US, the UK, and Germany. The study is based on computerized textual analysis of annual reports of more than 700 listed non-financial firms. EFH find significant cross-country variation in the levels of risk disclosure and show that country characteristics, represented by legal systems and cultural values, explain the variation in the level of risk disclosure, either mandatory or voluntary, beyond firm-specific risk characteristics.

The results of EFH regarding the influence of country characteristics on the level of risk disclosure deserve particular interest since they are highly relevant to the current efforts of international risk disclosure harmonization (e.g., IASB, 2010). While DLZ rely on a sequence of country dummy variables, EFH employ a dummy variable on the legal system (common law versus code law) and Hofstede's (2001) cultural values (separately one at a time) to capture country characteristics. The approach chosen by EFH is consistent with prior disclosure studies (Zarzeski, 1996; Archambault & Archambault, 2003; Dong & Stettler, 2011; Adam-Müller & Erkens, 2014). In a three-country setting with two common law countries and one code law country as the one used by EFH, however, the approach allows for very limited inferences to be drawn on the particular role of cultural values. EFH find significant associations between the levels of mandatory and voluntary risk disclosure and each cultural value after controlling for the legal system. The directions of these associations, however, neither show a consistent pattern, nor are they addressed in detail. The latter may be because EFH are interested in *whether or not* country characteristics matter. For research and harmonization purposes, thus, it is important to enhance the understanding of *whether and how* cultural differences matter in international risk disclosure practice beyond the

scope of EFH.

This research note is the first attempt to focus on the impact of cultural differences on the level of risk disclosure of non-financial firms. It aims to contribute in the following ways. First, we develop directional hypotheses on the association between levels of risk disclosure and each of Hofstede's (2001) cultural values and employ DLZ data (provided by the authors) to test them. Second, by employing DLZ data we cover four countries, including Canada besides the US, the UK, and Germany. Although the number of countries is still small, adding one more country helps to mitigate the limitations inherent in the setting used by EFH. Third, DLZ data enables us to test our hypotheses for the level of total risk disclosure and levels of disjunct types of risk disclosures. Particularly, we choose (i) financial versus non-financial risk disclosures and (ii) disclosures on risk sources versus disclosures on risk management. These are types of risk disclosures that should be difficult to separate using computerized textual analysis. Neither the level of total risk disclosure nor the levels of the types of risk disclosure investigated in this paper are addressed by EFH.

Key findings reveal the hypothesized positive association between the level of risk disclosure and each of Hofstede's cultural values, except for masculinity, after controlling for a country's legal system. This pattern holds for several types of risk disclosures. Our findings extend those of EFH, contribute to cross-country disclosure research in regard to cultural values and have implications for current efforts of harmonizing risk disclosures internationally.

The remainder of this research note is organized as follows. The next section discusses the background and develops our hypothesis. Section 3 presents the research data and empirical model. The results and robustness tests are reported in Section 4, and Section 5 concludes the paper.

## 2. Background and hypothesis development

As a specific part of a firm's disclosure package, risk disclosures are intended to inform "of any opportunity or prospect, or of any hazard, danger, harm, threat or exposure, that has already impacted upon the company or may impact upon the company in the future or of the management of any such opportunity, prospect, hazard, harm, threat or exposure" (Linsley & Shrivies, 2006, p. 389). As such, risk disclosures are typically subjective and partly non-verifiable. Traditionally, risk disclosure regulation takes either a rather rules-based approach focusing on specific risk-related items (such as under IFRS, US GAAP or Canadian GAAP) or a principles-based approach as in Germany where standards on comprehensive risk reporting have been in place since 2001 (Dobler, 2005; Lajili & Zéghal, 2005; Maingot, Quon & Zéghal, 2013). Either approach allows for considerable discretion. Based on discretionary disclosure and cheap talk models, Dobler (2006; 2008) argues that disclosure incentives play a vivid role in determining risk disclosures even in (partly) regulated environments.

Empirical research indicates that the volume and scope of risk disclosures are affected by changes in risk disclosure regulation (Kajüter, 2004; Greco, 2012; Hernández-Madrugal, Blanco-Dopico & Aibar-Guzmán, 2012; Miihkinen, 2012). Even in (partly) regulated environments, however, risk disclosures are found to be associated with firm-specific incentives to provide such disclosures. Firm size and firm risk are among the explanatory variables typically investigated. Across a number of domestic settings, studies find that risk disclosures are associated with firm size and firm risk (for review Onoja & Agada, 2015; Khelif & Hussainey, 2016). DLZ find that cross-country differences in risk disclosures can only partly be linked to differences in the regulation of risk disclosures. This finding is consistent with Dobler (2006; 2008) and suggests that cultural differences matter in determining cross-country variation in the level of risk disclosure.

International accounting research has been investigating the role of cultural differences based on Hofstede (2001) in various contexts (Doupnik & Tsakumis, 2004; Glaum et al., 2013; Cieslewicz, 2014; Dobler & Knospe, 2016). Hofstede (2001) identifies five cultural dimensions: Power distance (PDI) as the extent to which the members of a society accept authority and unequal distribution of power; uncertainty avoidance (UAI) as the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity; individualism (IDV) as the degree to which members of a society base their actions on self-interest (as opposed to the interests of a group); masculinity (MAS) as the degree to which a society prefers high achievement, assertiveness and material success (as opposed to human relations and quality of life); and long-term orientation (LTO) as the extent to which a society respects traditional and forward-looking thinking.

Despite some critique, Hofstede's (2001) cultural dimensions have been widely used in disclosure research (Doupnik & Tsakumis, 2004; Heidhues & Patel, 2011). Cross-country disclosure studies typically follow Gray (1988) in hypothesizing that the level of disclosure is negatively (positively) associated with country scores on PDI and UAI (IDV and MAS). More recent disclosure research includes LTO and expects a positive association between the level of disclosure and LTO. Empirical evidence to date is inconclusive (Salter & Niswander, 1995; Zarzeski, 1996; Jaggi & Low, 2000; Archambault & Archambault, 2003; Hope, 2003; Dong & Stettler, 2011). When focusing on particular types of disclosures, such as risk disclosures, the association between the level of disclosure and Hofstede's cultural values should be reconsidered in the specific context (Santema et al., 2005; Cieslewicz, 2014). This leads us to depart from predictions of general disclosure research in regard to the

association between the level of risk disclosure and two of Hofstede's (2001) cultural values, namely PDI and UAI.

First, disclosure literature generally argues that high PDI societies have fostered businesses, which discourage information sharing thus suggesting a negative association between the level of disclosure and PDI (Zarzeski, 1996; Hope, 2003). In turn, it can be argued that high PDI relates to strong enforcement and reliance on formal rules (Adam-Müller & Erkens, 2014). For example, the US is assigned a high level of PDI equal to 40 and has advanced risk disclosure regulation in place, which implies high levels of risk disclosure in the US. More generally, it is argued here that high PDI is likely to be associated with a high demand of risk-related information by investors. Given a high demand for risk-related information, managers are likely to satisfy the information needs by providing high levels of risk disclosure to avoid unfavorable consequences of non-disclosure. This argument suggests a positive association between the level of risk disclosure and PDI. Zarzeski (1996) and Hope (2003), among others, find that the level of disclosure is positively associated to PDI. Against this background, we expect a positive association between the level of risk disclosure and PDI.

Second, it comes naturally to expect a specific role of UAI in explaining differences in the level of risk disclosure. Unlike argued in general disclosure literature based on Gray (1988), high UAI countries can be assumed to exhibit high levels of risk disclosure in response to public concerns related to uncertainty. It is argued here that a society's high level of UAI is reflected in high levels of demand for risk-related information in order to reduce uncertainty. As a consequence, managers in high UAI countries are likely to satisfy the information needs by providing high levels of risk disclosure to avoid unfavorable consequences of non-disclosure, such as increased cost of capital or stakeholder intervention (Santema et al., 2005). Notably, Adam-Müller and Erkens (2014) find a positive association between risk-related disclosures on financial instruments and UAI. Thus, we expect a positive association between the level of risk disclosure and UAI.

Following the arguments put forward by Gray (1988) and referred to by a number of disclosure studies, such as Santema et al. (2005), we expect a positive association between the level of risk disclosure and the remaining three cultural variables (IDV, MAS, LTO). Individualistic countries tend to have a more competitive and less secretive environment in which individuals rather care for themselves. This suggests a positive association with risk disclosures (Jaggi & Low, 2000; Hooghiemstra, Hermes & Emanuels, 2015). High masculinity countries are often assumed to have a more business-oriented environment in which individuals value the achievement of goals suggesting a positive association with risk disclosures. However, literature considers MAS to be less important than the other cultural values in explaining cross-country variation in disclosure (Gray, 1988; Hope, 2003). Finally, long-term oriented countries have an environment in which building relationships and market position based on long-term thought and virtues (Hofstede, 2001; Santema et al., 2005). Going concern, sustainability and future economic growth, thus, are of key interest, suggesting a positive association between the level of risk disclosure and LTO. Against this background, we state the following hypothesis:

*H1:* There is a positive association between the level of risk disclosure and a country's level of power distance (*H1a*), uncertainty avoidance (*H1b*), individualism (*H1c*), masculinity (*H1d*), and long-term orientation (*H1e*).

### 3. Research data and empirical model

In order to test our hypothesis, we employ cross-country data used by DLZ and supplement it by country scores on the legal system and on cultural values identified by Hofstede (2001). DLZ data include the total and per-category number of risk-related sentences collected from annual reports as well as financial variables for a matched sample of 153 manufacturing firms from the US, Canada, the UK, and Germany in 2005 [Note 2]. Our empirical model regresses the level of risk disclosure on firm-specific and country-specific variables:

$$LRD = \beta_0 + \beta_1 SIZ + \sum_{j=2,3,4} \beta_j RISK_j + \beta_5 LEG + \beta_k CULTURE_k + \varepsilon \quad (1)$$

where firm subscripts are suppressed. Table 1 summarizes the variable definitions, sources, and descriptive statistics. Detailed descriptive statistics on the dependent and firm-specific variables are shown in DLZ.

As dependent variable (LRD), we use the natural logarithm of risk disclosure sentences in total (LRD\_TOT) and split into disjunct types of risk disclosures along two dimensions. As in DLZ, we first distinguish between financial risk disclosures (LRD\_FIN) and non-financial risk disclosures (LRD\_NFIN). The latter cover market, nature, operational, and regulatory risk. Second, we distinguish between disclosures on risk sources (LRD\_RS) and disclosures on risk management (LRD\_RM). Neither of the five dependent variables is addressed by EFH who focus on mandatory and voluntary risk disclosures.

Firm-specific independent variables include firm size (SIZ) and three firm risk variables (RISK<sub>j</sub>). The three firm risk variables are the beta factor (BET) as a proxy for systematic risk, leverage (LEV) as a proxy for financial risk, and the share of foreign revenue (SFR) as a proxy for non-financial risk. Consistent with DLZ and EFH, we expect a positive association between the level of risk disclosure and each of the firm-specific variables.

To test our hypothesis on the association between the level of risk disclosure and cultural values, we acknowledge prior research implying the importance to control for a country's legal system (Jaggi & Low, 2000; Hope, 2003). Consistent with EFH and based on La Porta et al. (1998), we include a dummy variable LEG.

Consistent with EFH, we separately include each of Hofstede's (2001) cultural variables ( $CULTURE_k$ ) in order to avoid econometric issues of including all or several cultural values in the regression model at one time (Jaggi & Low, 2000; Adam-Müller & Erkens, 2014). Positive coefficients  $\beta_k$  on each individual cultural value would be consistent with our hypothesis.

Panel C of Table 1 shows that – as in EFH – Germany is the only code law country in our sample ( $LEG = 0$ ). For each of Hofstede's cultural values, we observe different country ranks. Notably, Germany is assigned high values on UAI, MAS, and LTO, but low values on PDI and IDV. The US is assigned the highest values on PDI and IDV. Even across the common law countries included in our sample ( $LEG = 1$ ), the country ranks of cultural values differ from each other with the exception of IDV and LTO where we observe the same ranks but different values across the US, Canada, and the UK. Overall, there is sufficient variation in cultural values across our four sample countries offering a worthwhile setting to investigate the association between the level of risk disclosure and cultural values.

**Table 1.** Summary of variable definitions, sources, and descriptive statistics

<b>Panel A.</b> Dependent variables (Source: DLZ; N = 153; 36 US, 37 Canadian, 40 UK, and 40 German firms)					
<i>Variable</i>	<i>Definition</i>	<i>Mean</i>	<i>St. deviation</i>		
LRD_TOT	Level of total risk disclosure, measured by the natural logarithm of the number of sentences coded	5.179	0.513		
LRD_FIN	Level of risk disclosure on financial risk, measured by the natural logarithm of sentences coded	4.402	0.506		
LRD_NFIN	Level of risk disclosure on non-financial risk, measured by the natural logarithm of sentences coded	4.498	0.659		
LRD_RS	Level of risk disclosure sources, measured by the natural logarithm of sentences coded	4.599	0.618		
LRD_RM	Level of risk disclosure on risk management, measured by the natural logarithm of sentences coded	4.276	0.528		
<b>Panel B.</b> Firm-specific independent variables (Source: DLZ; N = 153; 36 US, 37 Canadian, 40 UK, and 40 German firms)					
<i>Variable</i>	<i>Definition</i>	<i>Mean</i>	<i>St. deviation</i>		
SIZ	Firm size, measured by natural logarithm of total assets	19.074	1.556		
BET	Beta factor as a proxy for a firm's systematic risk	1.022	0.739		
LEV	Leverage, measured by the ratio of total debt to total assets as proxy for a firm's financial risk	0.474	0.224		
SFR	Share of foreign revenues, measured by the ratio of foreign revenues to total revenues as a proxy for a firm's non-financial risk	0.449	0.305		
<b>Panel C.</b> Country-specific independent variables (Sources: La Porta et al., 1998; Hofstede, 2001)					
<i>Variable</i>	<i>Definition and source</i>	<i>US</i>	<i>Canad</i>	<i>UK</i>	<i>Germany</i>
LEG	Legal system taking the value 1 for common law countries, and 0 otherwise	1	1	1	0
PDI	Power distance, which is the extent to which the members of a society accept authority and unequal distribution of power	40	39	35	35
UAI	Uncertainty avoidance, which is the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity	46	48	35	65
IDV	Individualism, which is the degree to which members of a society base their actions on self-interest, as opposed to the interests of a group	91	80	89	67
MAS	Masculinity, which is the degree to which a society prefers high achievement, assertiveness and material success, as opposed to human relations and quality of life	62	52	66	66
LTO	Long-term orientation, which is the extent to which a society respects traditional, forward thinking	29	23	25	31

*Note to Table 1:*  $CULTURE_k$  denotes one of Hofstede's (2001) cultural variables, i.e., PDI, UAI, IDV, MAS or LTO, respectively.

**Table 2.** Regression results on the level of total risk disclosure

<i>CULTURE<sub>k</sub> included</i>	<i>PDI</i>	<i>UAI</i>	<i>IDV</i>	<i>MAS</i>	<i>LTO</i>
Intercept	-1.063 (0.164)	0.684 (0.294)	0.091 (0.896)	1.865*** (0.003)	-1.060* (0.078)
SIZ	0.145*** (<0.001)	0.147*** (<0.001)	0.138*** (<0.001)	0.144*** (<0.001)	0.132*** (<0.001)
BET	0.151*** (0.001)	0.178*** (<0.001)	0.134*** 0.007	0.179*** (<0.001)	0.077* (0.088)
LEV	0.251 (0.107)	0.199 (0.223)	0.064 (0.686)	0.088 (0.599)	0.146 (0.306)
SFR	0.043 (0.701)	-0.002 (0.987)	0.078 (0.508)	0.002 (0.989)	0.171 (0.112)
LEG	-0.295*** (0.001)	0.454** (0.012)	-0.696*** (<0.001)	-0.008 (0.931)	0.597*** (<0.001)
PDI	0.092*** (<0.001)				
UAI		0.022*** (0.002)			
IDV			0.034*** (<0.001)		
MAS				0.006 (0.447)	
LTO					0.113*** (<0.001)
Adjusted R <sup>2</sup>	0.373	0.308	0.328	0.264	0.452
F	16.049***	12.250***	13.345***	10.083***	21.907***
Maximum VIF	1.553	5.114	5.976	1.344	2.683

*Notes to Table 2:* This table presents the results of our regression model using LRD\_TOT as dependent variable (N = 153). It shows the regression coefficients on the independent variables and (in parentheses) the corresponding p values. \*\*\* / \*\* / \* indicate significance at 1% / 5% / 10% level, respectively. All variables are defined in Table 1.

#### 4. Results

##### 4.1 Regression results on total risk disclosures

In Table 2 we present the regression results using the level of total risk disclosure (LRD\_TOT) as dependent variable. Across the board we find a positive and significant association between LRD\_TOT and (i) firm size (SIZ) as well as (i) firm-level systematic risk (BET). The coefficients on the remaining firm-specific risk variables are mostly positive but always insignificant. These findings are largely consistent with prior results, including those provided by DLZ and EFH.

While controlling for LEG (which is significantly associated with LRD\_TOT with the exception of the MAS specification), we obtain positive and significant coefficients on PDI, UAI, IDV, and LTO. These findings are consistent with our hypothesis apart from H1(d). As predicted, the results indicate positive associations between LRD\_TOT and PDI, UAI, IDV, and LTO that are significant at 1%. The association between LRD\_TOT and MAS is positive but insignificant. The latter finding can be seen in line with prior literature questioning the link between the level of disclosure and a country's level of masculinity (Gray, 1988; Hope, 2003).

Maximum VIFs reported in Table 2 suggest that multicollinearity is not a severe issue. Adjusted R<sup>2</sup> values range from 0.264 to 0.452, indicating a sound model fit. Apart from MAS (related to H1d), we conclude that the results support our hypothesis.

**Table 3.** Regression results on the level of types of risk disclosures

$CULTURE_k$ included	<i>PDI</i>	<i>UAI</i>	<i>IDV</i>	<i>MAS</i>	<i>LTO</i>
<b>Panel A.</b> Dependent variable: LRD_FIN					
$CULTURE_k$	0.081*** (<0.001)	0.022*** (0.002)	0.021** (0.025)	-0.001 (0.907)	0.082*** (<0.001)
Adjusted R <sup>2</sup>	0.332	0.288	0.267	0.242	0.346
F	13.570***	11.262***	10.249***	9.085***	14.427***
<b>Panel B.</b> Dependent variable = LRD_NFIN					
$CULTURE_k$	0.103*** (0.001)	0.023** (0.020)	0.047*** (<0.001)	0.012 (0.238)	0.142*** (<0.001)
Adjusted R <sup>2</sup>	0.279	0.224	0.277	0.202	0.379
F	10.791***	8.295***	10.370***	7.397***	16.349***
<b>Panel C.</b> Dependent variable = LRD_RS					
$CULTURE_k$	0.176*** (<0.001)	0.052*** (<0.001)	0.027** (0.022)	-0.013 (0.162)	0.144*** (<0.001)
Adjusted R <sup>2</sup>	0.457	0.348	0.203	0.185	0.391
F	22.312***	14.540***	7.453***	6.745***	17.238***
<b>Panel D.</b> Dependent variable = LRD_RM					
$CULTURE_k$	-0.020 (0.288)	-0.016** (0.024)	0.040*** (<0.001)	0.026*** (<0.001)	0.081*** (<0.001)
Adjusted R <sup>2</sup>	0.335	0.353	0.410	0.397	0.383
F	13.747***	14.796***	18.635***	17.655***	16.752***

*Notes to Table 3:* This table presents the results of our regression model using LRD\_FIN, LRD\_NFIN, LRD\_RS or LRD\_RM, respectively, as dependent variable (N = 153). It shows the regression coefficients on  $CULTURE_k$  and (in parentheses) the corresponding p values. \*\*\* / \*\* / \* indicate significance at 1% / 5% / 10% level, respectively. All variables are defined in Table 1. In all Panels, maximum VIFs are equal to those reported in Table 2.

#### 4.2 Regression results on types of risk disclosures

We present in Table 3 the regression results on the association between the level of the four types of risk disclosures and each of Hofstede's (2001) cultural values. For sake of brevity, Panels A to D of Table 3 focus on the coefficients on the cultural values as independent country variables ( $CULTURE_k$ ).

When splitting financial and non-financial risk disclosures, we observe almost the same patterns of associations between the levels of risk disclosure and cultural values as reported in Table 2. Panels A and B of Table 3 indicate that LRD\_FIN and LRD\_NFIN are both positively and significantly associated with PDI, UAI, IDV, and LTO as predicted by our hypothesis. Yet, neither LRD\_FIN nor LRD\_NFIN is significantly associated with MAS. These findings suggest that a cultural value has a similar impact on the levels of financial and non-financial risk disclosure in our sample.

When splitting risk disclosures on risk sources and on risk management, however, we observe different patterns. As reported in Panel C of Table 3, LRD\_RS is again positively and significantly associated with PDI, UAI, IDV, and LTO, while there is no significant association between LRD\_RS and MAS. These results are similar to those reported above. In contrast, Panel D of Table 3 indicates (i) no association between LRD\_RM and PDI, (ii) a negative association between LRD\_RM and UAI, and (iii) a positive association between LRD\_RM and MAS. While the latter finding is consistent with our hypothesis, the former two are not. The findings seem to suggest that in high PDI or high UAI countries (high MAS countries) disclosures on how risks are managed are relatively less (more) pronounced than disclosures on the risks per se. More generally, our findings indicate that cultural values can have differential impacts on specific types of risk disclosures.

#### 4.3 Robustness tests

Cultural values and legal systems are known to be interrelated [Note 3]. In order to address the incremental explanatory power of cultural values, the regression model used in our main analyses controls for a country's legal system by including the dummy variable LEG. Thus, the results are conditional on the legal system. While this approach is consistent with recent disclosure literature (including EFH), we have to assess whether our results hold unconditionally on the legal system.

First, we replicate our regression analyses excluding LEG from the model. At large, the results on the associations between LRD and  $CULTURE_k$  are qualitatively unchanged compared to our main analyses. As a key exception, we consistently find that neither level of risk disclosure is significantly associated with IDV [Note 4]. This finding seems to be related to German firms that have high LRD on average. As the only code law country

in our sample, however, Germany is assigned the lowest value on IDV.

Second, we exclude firms from Germany in order to assess whether our results hold for the subsample of firms from common law countries ( $LEG = 1$ ;  $N = 113$ ). The results on the association between  $LRD$  and  $CULTURE_k$  are virtually the same as in our main analyses (Tables 2 and 3). Our findings, thus, do not support Jaggi and Low (2000) who suggest that cultural values will not explain levels of disclosure once the legal system is considered.

## 5. Conclusions

This paper is the first to analyze how country-specific cultural values are linked to the level of risk disclosure in non-financial sectors in a four-country setting. We derive directional hypotheses and provide evidence based on enhanced DLZ data for total and disjunct types of risk disclosures. Our results reveal an overall positive association between the level of total risk disclosure and Hofstede's (2001) cultural values, except for masculinity. The impact of cultural values, however, seems to differ between types of risk disclosures. Our findings extend those of EFH and have implications for current efforts of harmonizing risk disclosures internationally.

Consistent with arguments in Dobler (2006; 2008) our findings indicate that the level of risk disclosure is a function of firm-level and country-level characteristics, where cultural values matter. Cultural values seem to have a directional impact on the level of risk disclosure, once the legal system is controlled for. The role of cultural values should, thus, be considered in harmonizing risk disclosures, e.g., based on IFRS and IASB (2010).

This research note presents an attempt to enhance our understanding of international differences in risk disclosures and to further stimulate cross-country research on risk disclosures. Despite its novel contributions, the paper is subject to a number of limitations, which in turn suggests further research opportunities. Notably, our study is limited to four countries with advanced risk disclosure regulation. A more diverse setting would be warranted to test our initial findings. Future research could include more countries in general and countries with less developed regulation in particular. Studies could also focus on countries with similar regulation to assess the role of culture (and other country characteristics) in determining risk disclosures in the presence of harmonized risk disclosure regulation. Furthermore, our study is limited to one period. Future research could use longitudinal approaches in a cross-country setting, e.g. to assess to what extent international differences in risk disclosures prevail and how these differences are associated with country characteristics. Such research would be warranted to assess the de facto harmonization of risk disclosures and could further contribute to the regulatory debate. In order to cover large samples in research on risk disclosures, computerized textual analysis of annual reports (or parts thereof) is likely to become increasingly important. Yet, sophisticated techniques are needed to distinguish and measure the level of different types of risk disclosures in a valid and reliable way.

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### Notes

- [Note 1] Elshandidy and Neri (2015) find that corporate governance attributes have differential impact on mandatory and voluntary risk disclosures in the UK and Italy. Moumen, Othman and Hussainey (2015) provide evidence on the value relevance of risk disclosures in Middle Eastern and North African emerging markets. The two studies use cross-country samples of non-financial firms, but do not focus on country characteristics per se.
- [Note 2] DLZ collect risk disclosures from annual reports of a matched sample of 160 firms from four countries. In their regression analyses, three US and four Canadian firms are excluded because data on the independent variables are unavailable. As a consequence, the sample used in this research note includes 153 firms (37 US, 36 Canadian, 40 UK, and 40 German firms). See Dobler, Lajili and Zéghal (2011) for details of the coding procedures and further descriptive statistics.
- [Note 3] Hope (2003) and related disclosure literature argue that cultural values are conditional on the legal origin and find that culture as incremental explanatory power on levels of disclosure after controlling for the legal origin. Jaggi and Low (2000) conclude that cultural values will have no incremental explanatory power once the legal origin is considered.
- [Note 4] LRD\_RM is now negatively associated with PDI ( $p = 0.026$ ) and insignificantly associated with UAI ( $p = 0.232$ ). This finding again suggests that cultural values can have differential impact on different types of risk disclosures.

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