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# **Determinants of Risk Reporting by Portuguese and Spanish Non-finance Companies**

## **Abstract**

**Purpose** – The paper seeks to assess the risk reporting practices across two European Latin countries (Portugal and Spain). Moreover, drawn on elements of agency, legitimacy, resources-based perspectives, and institutional theory this study also intends to assess if the influence of corporate governance mechanisms on risk reporting is mediated by strategic/institutional legitimacy interests.

**Design/methodology/approach** – From a sample of 60 non-finance Portuguese and Spanish companies with securities traded on the Euronext Lisbon stock exchange market and on the Madrid stock exchange market, respectively, at December, 2011, the Corporate Governance reports and the “risk/risk management” sections of the Management reports included on consolidated annual reports for 2011 were manually content analyzed, according to prior literature. Further, multiple linear regressions were used to assess the potential relationships between corporate governance mechanisms and risk reporting.

**Findings** – Results indicate that visible companies, operating in a country with a weaker legal environment, and during periods of financial distress disclose more discretionary RRD, basically to contextualize their negative outcomes. Some corporate governance mechanisms were crucial to improve risk information.

**Originality** – The paper goes beyond prior literature work and assesses if the theoretical framework grounded on agency, legitimacy, resources-based perspective, and institutional theory is suitable in explaining RRD in an under-researched setting (European Latin countries, such as Portugal and Spain with low agency costs and different corporate governance models). Moreover, the analysis embraces a wider and homogeneous range of internal and external corporate governance mechanisms and uses a period in which both countries were severely affected by a sovereign debt crisis with negative impacts on company’s liquidity and financial risks. A research setting like this has not been studied hitherto.

**Keywords** – Risk reporting, corporate governance, agency theory, legitimacy theory, resources-based perspectives, institutional theory

**Paper type** – Research paper

## **Introduction**

Some of the main attributes of risk-related disclosures (RRD) are its ability in reducing information asymmetries (Lajili and Zéghal, 2005; Dobler et al., 2011; Greco, 2012), in providing insights on companies' risk exposures and risk management policies (Linsley and Shrives, 2006; Dobler, 2008), and in assessing company's risk profile and future performance (Dobler et al., 2011; Greco, 2012). Lower levels of RRD may be associated with disclosure costs (Linsley and Shrives, 2006), its commercial sensitiveness (Dobler, 2008), and potential litigation costs (ICAEW, 1998; Oliveira et al., 2011). But other incentives for RRD may be associated with lower cost of capital (Linsley and Shrives, 2006), corporate reputation management (Oliveira et al., 2011), and institutional logics (Abraham and Shrives, 2014; Elshandidy et al., 2015).

However, prior literature has found that RRD is not useful for stakeholders because: a) is neither detailed nor precise (Beretta and Bozzolan, 2004; Lajili and Zéghal, 2005; Linsley and Shrives, 2006); b) risk explanations are qualitative, backward-looking, are not aligned with strategy, do not incorporate a clear distinction between controllable and non-controllable risks, and limitations of risk management/measurement models are not disclosed (Solomon et al., 2000; PricewaterhouseCoopers, 2008; Abraham et al., 2012; Ntim et al., 2013); c) and they are difficult to read (Linsley and Lawrence, 2007). More recently, the global financial crisis highlighted some accounting shortcomings, including failure to account for uncertainty and inadequate communication of the impact of risk-taking, thereby undermining the reliability and relevance of disclosures (Magnan and Markarian, 2011).

To overcome this lack of transparency regulation has been used to improve RRD (Solomon et al., 2000; Dobler, 2008). Greco (2012) emphasizes that regulation can require adequate risk management systems and mandate risk reporting. However, no single set of accounting and non-accounting regulations resulted in more extensive levels of RRD and in an improved quality (Woods et al., 2008; Oliveira et al., 2011; Greco, 2012), even after the turmoil caused by the global financial crisis (Ntim et al., 2013).

Another stream of risk reporting research focuses on examining the determinants of RRD. On this regard, recent studies have analysed the potential connections between corporate governance mechanisms and RRD, because different corporate governance models may induce different RRD incentives (Abraham and Cox, 2007; Taylor et al., 2010; Oliveira et al., 2011; Elzahar and Hussainey, 2012; Mokhatar and Mellet, 2013;

Ntim et al., 2013). However, prior literature has been focused on Anglo-Saxon countries, where the ‘shareholder’ governance model is quite common (Taylor et al., 2010; Abraham and Cox, 2007; Elzahar and Hussainey, 2012; Ntim et al., 2013). Under the ‘shareholder’ governance model financial reporting model is oriented towards full disclosure, transparency, investor protection rights, and “shareholders alone elect members of the governing board, payouts are less closely linked to current-period accounting income, and public disclosure is a more likely solution for the information asymmetry problem (Ball et al., 2000, p. 3). In contrast, Code Law countries are characterized by a ‘stakeholder’ governance model, oriented toward legal compliance. Opaque with low disclosure, financial reporting is aimed at creditor protection, and offers weaker investor protection (Meek and Thomas, 2004; García-Castro et al., 2008). Consequently, motivations for risk reporting in Code Law countries may be different. Thus, our first research question is: What are the risk reporting practices across companies belonging to European Latin Code Law countries?

Moreover, Mokhatar and Mellet (2013, p. 842) argue that “our understanding to these [corporate governance] determinants is still limited” and there is still limited research on corporate RRD (Dobler et al., 2011; Abraham and Shrives, 2014). But in a recent study, Abraham and Shrives (2014, p. 93) used institutional theoretical arguments to conclude that managers can use risk disclosures to manage organizational legitimacy (strategic and institutional). Risk reporting can be symbolic, rather than substantive, and therefore a pure exercise of reputation risk management. Mimicking RRD from companies with good reputation and using standardized disclosures over time imply generic RRD decoupled of any useful information to investors. Sarens and D’Onza (2017) conclusions highlight that this reporting behavior can jeopardize companies’ health in the long-term. They concluded that financial analysts pay greater attention to detailed, customized, future-oriented individual risks, rather than generic information on risk management and internal control systems, which is less transparent, less relevant, and from a lower quality. On the other hand, prior literature on RRD has indicated that some corporate governance mechanisms are crucial to improve the quality of risk disclosures (Taylor et al., 2010; Abraham and Cox, 2007; Elzahar and Hussainey, 2012; Ntim et al., 2013; Mokhatar and Mellet, 2013; Agyei-Mensah, 2017; Singh, 2017; Oliveira et al., 2011; Elshandidy and Neri, 2015; Allini et al., 2016; Madrigal et al., 2015; Carmona et al., 2016). Consequently, our second research question is: since Code Law countries are characterized by a “stakeholder” governance

model, in which way the influence of corporate governance mechanisms on RRD is mediated by strategic/institutional legitimacy interests?

The present study assesses the risk reporting practices and how firm's and corporate governance characteristics explain RRD motivations across two European Latin Code Law countries (Portugal and Spain) in 2011. The present research setting is interesting for the following reason: as a consequence of the sovereign debt crisis that afflicted European countries, Portugal and Spain required a bailout in May 2011 and June 2012, respectively. This adverse economic environment affected severely company's liquidity risk. Prior research found that higher levels of liquidity risk were positively associated with risk information (Elshandidy et al., 2015) and RRD were influenced by the global financial crisis (Elshandidy and Nery, 2015; Gulko et al., 2017). However, Ntim et al. (2013) studied RRD in the pre- and post-2007-2008 global financial crisis periods and did not found any significant variations. Following this vein, Linsley (2011) call for a greater reflection on the relationship between RRD and the recent global financial crisis. Consequently, the present study contributes to the literature shedding crucial empirical insights on RRD and its relationship with corporate governance mechanism during a period of crisis (the European sovereign debt crisis), boosted by the 2007/2008 global financial crisis (Lane, 2012).

Moreover, most studies on RRD and corporate governance mechanisms used theoretical frameworks drawn on agency theory (Abraham and Cox, 2007; Elzahar and Hussainey, 2012; Taylor et al., 2010; Mokhatar and Mellet, 2013; Ntim et al., 2013) an on multi-theoretical frameworks grounded on agency theory, legitimacy theory and resources-based perspectives (Oliveira et al., 2011). Oliveira et al. (2011) focused they study in years before the recent global financial crisis and concluded that Portuguese non-finance companies used RRD to manage reputation and litigation costs. However, in the aftermath of the recent global financial crisis, we can find opposing incentives to RRD. From a regulatory prespective, to contain contagion effects, regulatory entities took measures to improve corporate governance mechanisms and consequently RRD (OECD, 2009). On the other hand, from a managerial perspective, due to financial distress and negative organizational outcomes, managers felt a greater need to manage corporate image and reputation through RRD (Abraham and Shrives, 2014).

Drawn on elements of agency, legitimacy, resources-based perspectives, and institutional theory this study predicts that in periods of crisis the influence of corporate governance mechanism on RRD is mediated by strategic/institutional legitimacy

interests. A theoretical argument and a research setting such as this one has never been studied hitherto in risk reporting literature and it will allow us to obtain insightful knowledge able to answer the calls of prior research regarding the extant gaps in risk reporting literature, bringing several contributions to literature: a) studying risk reporting in countries with weak risk reporting legislation (Dobler et al., 2011); b) examining the impact of a wider set of corporate governance mechanisms on RRD (Mokhtar and Mellet, 2013); c) adopting a “conceptual wider lenses” to obtain holistic insights on the motivations to risk reporting (Abraham and Shrivess, 2014); d) and, finally assessing if the theoretical framework developed by Oliveira et al. (2011), even during a period of significant financial/economic distress, remains suitable in explaining risk reporting motivations in European Southern countries.

Main findings reveal that some institutional factors impacted on RRD patterns, such as the legal environment. Moreover, findings reveal that in periods of financial distress visible companies operating in a country with weaker legal environment disclose more RRD to manage their strategic legitimacy and reputation by spending more time in the contextualization of their negative outcomes. Some corporate governance mechanisms (such as board independence, board meeting, and unitary board leadership structures) were crucial to improve RRD in such away. Consequently, in the present research setting – European Latin countries characterized by a “stakeholder” corporate governance model, with low agency costs, and suffering from financial distress due to a deep sovereign debt crisis – results support explanations of RRD to a combination of agency theory, legitimacy theory, resources-based perspectives, and institutional theory. Not only corporate governance mechanisms are relevant to improve RRD, but also some institutional aspects (economic environment) and managers’ strategic legitimacy interests. From a theoretical point of view, these findings indicate that risk reporting continues to be a fertile research field. If strategic legitimacy interests are relevant, then it is crucial the analysis of the influence of managers’ personal characteristics in process of building their mental models to inform on risk. The study of the influence of managers’ idiosyncrasies on disclosure has implications in the corporate governance agenda associated with board composition issues.

From a practitioner point of view, the disclosure patterns found (such as qualitative, backward-looking, and bad news) continue to impair the usefulness of RRD to stakeholders. To safeguard the interests of stakeholders and improve risk reporting quality we believe that national and international regulators should include in their

agenda the development of a RRD disclosure framework, perhaps aligned with the International Integrated Reporting guidelines (Ntim et al., 2013; Oliveira et al., 2013).

In the next section we present the literature review, the theoretical framework, and hypotheses. Thereafter, we describe the research method, report results and finalize with conclusions.

### **Literature review and hypothesis development**

Prior literature on the influence of corporate governance mechanisms and RRD are focused on Anglo-Saxon countries (Taylor et al., 2010; Abraham and Cox, 2007; Elzahar and Hussainey, 2012; Ntim et al., 2013), developing Islamic/African countries (Mokhatar and Mellet, 2013; Agyei-Mensah, 2017), India (Singh, 2017) and European Latin countries (Oliveira et al., 2011; Elshandidy and Neri, 2015; Allini et al., 2016; Madrigal et al., 2015; Carmona et al., 2016), using different explanatory variables to assess different aspects of the same constructs (such as board composition, ownership structure, and audit committee). Table 1 presents the mains findings of this literature.

(insert table 1 here)

Among European Latin countries, prior studies have explored the connection between internal corporate governance mechanisms and RRD in Portugal (Oliveira et al., 2011), Italy (Elshandidy and Neri, 2015; Allini et al., 2016) and Spain (Madrigal et al., 2015; Carmona et al., 2016). Elshandidy and Neri (2015) found that corporate governance does not stimulates Italian firms to disclose RRD voluntarily. But firm incentives (such as higher level of liquidity risk) do. Corporate governance only stimulates the compliance with risk regulations. Allini et al. (2016) found that only board diversity (assessed by board gender, educational background, and age) stimulates RRD among state-owned enterprises. Carmona et al. (2016) found that the board of directors independence, level of activity of the board, gender diversity, CEO duality, audit committee independence, type of external auditor, and the presence of institutional investors are associated with high RRD in the Combined Governance annual reports.

However, these prior researches only assessed: a) the connections between the internal mechanisms (scattered heterogeneously throughout the literature) of corporate governance and RRD; b) findings from Allini's et al. (2016) study only applies to listed state-owned enterprises; c) and Carmona's et al. (2016) findings result from an exploratory analysis of the combinatory effects among multiple corporate governance

practices on risk disclosure, through the use of a fuzzy-set qualitative comparative analysis.

The present study addresses these research gaps by extending prior literature in four ways. First, by exploring the association between a wider and homogeneous range of internal corporate governance mechanisms and RRD in an under-researched setting (European Latin countries such as Portugal and Spain). Second, as responses to Ntim's et al. (2013) call it analyses the connection between external mechanisms of corporate governance (such as the strength of legal enforcement mechanisms) on RRD, never studied hitherto. Third, it extends Carmona et al. (2016) work by using an effects-of-causes approach (traditional regression) instead of fuzzy-set qualitative comparative analysis. Finally, European Latin countries, due to IAS/IFRS adoption follow a code-law institutional logic regarding financial reporting (Guerreiro et al., 2012), but they have a 'stakeholder' governance model (García-Castro et al., 2008). Companies are characterized by low levels of agency costs and in 2011 Portugal and Spain were under a special scrutiny of the European Union, The International Monetary Fund, and international rating agencies due to their deep sovereign debt crisis. Thus, motivations for RRD may be different from those found in prior literature.

Prior research indicates that in periods of crisis managers have incentives to use disclosures to manage corporate image and reputation (Abraham and Shrivess, 2014). On the other hand, since the global financial crisis of 2007/2008, regulatory entities recommended better RRD through the improvement of corporate governance mechanisms (Magnan and Markarian, 2011). Consequently, based on a multi-theoretical framework grounded on agency theory, legitimacy theory, resources-based perspectives and institutional theory the present study tries to conciliate these opposing disclosure incentives and predicts that in periods of a crisis the influence of corporate governance mechanisms on RRD are mediated by strategic/institutional legitimacy interests.

#### *Agency theory*

To solve agency problems the literature has identified several internal governance mechanisms (ownership structure, board characteristics, management compensation, and debt/dividend policy) and external governance mechanisms (takeover threat, product-market competition, managerial labour market and mutual monitoring by managers, security analysts, the legal environment, and the role of reputation) has been identified by the literature (Jensen and Meckling 1976).



### *Ownership Structure*

Diffused ownership structures have higher agency costs (Eng and Mack, 2003). Therefore, greater levels of disclosure are expected because owners have difficulties in monitoring managers' behaviours. On the other hand, in more concentrated ownership structures larger shareholders have a relevant participation in management and therefore lower levels of disclosures are expected (Mokhatar and Mellet, 2013). However, Jensen and Meckling (1976) indicate that in case of convergence of interest between the largest shareholder and outside investors can imply a positive relationship. In terms of corporate governance system Portuguese institutions are quite similar to Spanish institutions (Lopes and Rodrigues, 2007). Listed companies are basically family-owned. In both countries banks dominate as source of financing and they have a crucial role in corporate governance regarding the composition/roles of the board members (Pérez et al., 2015).

Previous literature on risk reporting provides inconclusive results. Abraham and Cox (2007), Ntim et al. (2013) and Singh (2017) found positive and negative associations. Taylor et al. (2010), Elzahar and Hussainey (2012), Oliveira et al. (2011), and Agyei-Mensah (2017) did not find any association at all.

*H1: Concentrated ownership structure is associated positively with RRD.*

### *Board size*

Prior literature indicates that larger boards have greater diversity (expertise, experience, knowledge, and stakeholder representation), which may increase risk management activities and affect voluntary disclosure choices (Elzahar and Hussainey, 2012; Ntim et al., 2013). On the other hand, agency theory states that larger boards may lead to less coordination, communication and monitoring, affecting negatively corporate performance and disclosure (Jensen, 1993). In Spain the Code of Good Governance recommends a board size of 5-15 members to be effective. But Portugal does not specify the number of directors that the board should have. Only indicates that an excessive board size can jeopardize board's cohesion, effectiveness and decision-making process. Prior risk reporting literature found a positive association between risk reporting and board size (Mokhatar and Mellet, 2013; Ntim et al., 2013; Elshandidy and Neri, 2015; Agyei-Mensah, 2017; Singh, 2017). However, Elzahar and Hussainey (2012) and Allini et al. (2016) did not find any significant association.

*H2: Board size is associated with RRD.*

#### *Board independence*

Independent non-executive directors are crucial elements in reducing agency costs, turning the board more effective in their daily activities and affecting positively the quality and quantity of financial reporting – which includes RRD (Buckby et al., 2015).

In Spain, the Code of Good Governance recommends that the number of non-executive independent directors should be at least half the size of the board of directors (Recommendation 17). In Portugal, it is only recommended that the board of directors should include a number of non-executive independent members to assure the supervision and assessment of non-executive directors' activities.

Risk reporting literature has not been conclusive on the relationship between RRD and independent non-executive directors. Some studies have found a positive association (Abraham and Cox, 2007; Ntim et al., 2013; Agyei-Mensah, 2017), but others did not find any significant association (Elzahar and Hussainey, 2012; Buckby et al., 2015; Elshandidy and Neri, 2015; Allini et al., 2016; Singh, 2017). In the Portuguese context, Oliveira et al. (2011) found a positive association. In the Spanish setting, findings have not been conclusive (Madrigal et al., 2015; Carmona et al., 2016). However, following the theoretical framework of agency theory we propose:

*H3: Board independence is associated positively with RRD*

#### *Board diversity*

Board diversity is desirable for several reasons: a) improves debate and the exchange of ideas; b) helps assuring the representativeness of all corporation stakeholders; c) promotes more effective global relationships; d) and increases board independence (Kang et al., 2007). In Spain, corporate governance regulation deals board diversity in terms of gender. Recommendation n.º 14 states for Boards Appointments to implement mechanisms to promote the selection of women and recommends a quota of 30% of women by 2020 in the boards of listed companies. In Portugal a government resolution of 2015 encourages listed companies to attain 30% of underrepresented sex at their boards by 2018. In 2012, the European Commission proposed a Directive to accelerate gender balance on corporate boards, setting a quantitative objective of a 40% presence of underrepresented sex among non-executive directors of listed companies. From a psychological point of view, studies have shown that gender is strongly correlated with

risk judgments, risk assessment, risk perception, affective reactions and disclosure choices (Slovic et al., 1997). Prior literature found a positive association between board diversity and voluntary disclosure (Barako and Brown, 2008) and risk reporting (Ntim et al., 2013; Allini et al., 2016; Singh, 2017).

*H4: Board diversity is associated positively with RRD*

#### *Board and audit committee meetings*

Corporate governance recommendations in Spain and Portugal state that the board of directors should meet regularly. Board and committees' meetings are crucial aspects to assure boards effectiveness, improve firm's value, reduce agency costs, and complements auditor oversight (Laksmana, 2008). Active boards and committees that meet regularly have more time to discuss, confer, and monitor management actions. This enforces the monitoring of financial reporting (Allini et al., 2016), its quality, reduces the risk of fraud, and improves de quality of auditing procedures (Allegrini and Greco, 2013). Prior literature found that board/committees' meetings and disclosure are positively associated (Laksmana, 2008; Allegrini and Greco, 2013). However, among RRD literature any association was found (Allini et al., 2016; Singh, 2017).

*H5a: Board meetings are associated positively with RRD*

*H5b: Audit committee meetings are associated positively with RRD*

#### *Dual board leadership*

Dual board leadership occurs when the roles of the CEO and Chairman are performed by different individuals. In contrast, role duality exists if the CEO and the chairman positions are held by the same individual. Because of their dominance over the board, agency theory indicates that unitary leadership structures can deteriorate board's functions (Barako et al., 2006), and therefore disclosure choices, such as RRD (Lim et al., 2007). By contrast, other authors consider that unitary leadership structures leads to better corporate outcomes associated with CEO's clearer focus on firm goal, opportunities, and long-term welfare of the company, quick management decision-making process, clear unambiguous leadership, and improved managerial accountability (Khan et al., 2013).

On the other hand, agency theory posits that decision management and decision control processes needed to be separate. This would improve board's monitoring,

managers discipline, board accountability, independence, and RRD reporting (Ntim et al., 2013).

Spain and Portugal accept both types of leadership structures. Prior research on risk reporting did not find any association between RRD and dual board leadership (Elzahar and Hussainey, 2012; Ntim et al., 2013; Elshandidy and Neri, 2015; Singh, 2017).

*H6: Dual board leadership is associated positively with RRD*

#### *Management compensation*

Theoretically, investors use earnings and management compensation information to assess management efforts in increasing future returns (Martikainen et al., 2015). Management compensation can be divided into two parts: a fixed and variable one. The variable part has a short-term component (based on company's success such EBIT or profit) and a long-term component that contains a stock-option plan (Siggelkow and Zülch, 2013).

Based on the efficient labour market hypothesis, Martikainen et al. (2015) suggest two conflicting visions. If labour market is efficient it is expected that higher management compensation is positively associated with managers' motivation to increase the value of the firm and to improve corporate risk disclosures. On the other hand, if labour market is inefficient, highly compensated managers may think that they do not have to prove their professional skills in the market and therefore a negative association is expected.

Additionally, some studies found that stock options performance incentives have no significant association with agency costs reduction arguments (Yermack, 1996). This could be due to countries institutional environment – their legal and political characteristics (Jensen and Murphy, 1990) – or to managers' self-serving behaviour associated with the announcement of good/bad news (Yermack, 1996).

*H7: Management compensation is associated with RRD*

#### *Audit committee independence*

Spanish and Portuguese Codes of Corporate Governance state that audit committees should report information to shareholders, assess internal control and risk management systems effectiveness, perform internal auditing, and supervise the preparation and presentation of forward-looking financial information. Thus, audit committees are

commonly seen as monitoring mechanisms (Barako et al., 2006) able to mitigate agency costs and information asymmetries (Al-Najar and Abed, 2014) and improve financial reporting quality. Spanish and Portuguese Codes of Corporate Governance recommend that audit committee members are expected to be independent, basically because independent audit committees are more sensitive to RRD as a way to mitigate agency costs.

Some studies on risk reporting did not find any association between RRD and audit committees size and independence (Oliveira et al., 2011; Elzahar and Hussainey, 2012; Buckby et al., 2015). However, Carmona et al. (2016) found that the audit committee independence of Spanish companies is positively associated with RRD.

*H8: Audit committee independence is associated positively with RRD.*

### *Leverage*

According to Hart (1995) debt policy can act as a monitoring/disciplining mechanism of managers' behaviour. If a company has debts managers have fewer incentives to take discretionary actions, because they have fewer cash-flows. Moreover, leveraged companies are riskier and to reduce information asymmetries debtholders will encourage management to disclose more information (Linsley and Shrivess, 2006). On the other hand, Linsley and Shrivess (2006) state that leveraged companies with higher levels of risk may try to divert attention to these risks and smooth the disclosure of risk information, or as proposed by Leuz et al. (2004) information on risk was captured in other corporate documents beyond annual reports. This is crucial among Spanish and Portuguese companies in which banks dominate as source of financing and share the role of management with other shareholders/managers (Lopes and Rodrigues, 2007; Pérez et al., 2015).

Prior research on RRD have shown mixed findings: positive associations (Taylor et al., 2010; Oliveira et al., 2011; Buckby et al., 2015), negative associations (Ntim et al., 2013), and any association at all (Abraham and Cox, 2007; Allini et al., 2016).

*H9: Leverage is associated with RRD.*

### *Legal environment*

The legal environment (through legislation) as an external mechanism of corporate governance can directly affect the efficiency of some monitoring devices such the protection of minority shareholders and legal structures of corporate governance

(LaPorta et al., 1997). However, is not just the presence of regulation that matters, but also the capacity to monitor firms behaviour and enforce these regulations. Leuz et al. (2003) argues that legal systems can protect outside investors in two different ways: gives them the right to discipline insiders and the ability to design contracts to limit the private information. Consequently, legal environment can reduce the incentives for insiders act in irresponsible ways (e.g. manipulation/obfuscation of earnings or risk information to conceal their self-serving behaviour) (Chih et al., 2010).

*H10: Legal environment is associated positively with RRD*

#### *Legitimacy theory and resource dependency theory*

Strategic legitimacy sees legitimacy as an operational resource that needs to be gained, maintained or restored (Suchman, 1995). On this regard, resource dependency theory establishes that organizations are interest-driven and attempt to obtain legitimacy by using active choice behaviours to manipulate external dependencies (the relevant stakeholders who provide crucial resources to organizations) and exert influence over the allocation or source of critical resources (Pfeffer and Salancik, 1978). Public visible organizations confront greater demands from a variety of relevant external actors. But, they are also more able to exert some degree of influence, control or power over the resource environment. To enhance corporate reputation they seek stability and legitimacy by strategically controlling the legitimation process through disclosure to influence external dependencies' perceptions of themselves and control resources flow (Oliver, 1991).

*H11: Public visibility is associated positively with RRD.*

#### *Legitimacy theory and institutional theory*

Institutional legitimacy sees legitimacy as a set of constitutive beliefs. On this perspective, power tends to be attributed to the institutional environment. Through processes of institutional isomorphism (DiMaggio and Powell, 1983), these institutional constituents exert power, force, pressure, control and expectations on organizations to adopt specific internal procedures and practices (coercive isomorphism). To survive and achieve stability and organizational legitimacy, organizations need to conform and adhere to these external rules and norms through the reproduction or imitation of organizational structures, activities, and routines (mimetic isomorphism).

Thus, the Portuguese and Spanish Securities Exchange Commissions demand that listed companies must publish the Corporate Governance Annual Report. This report follows a “comply or explain” rationale, but it is coercively demanded by law. However, because risk disclosures recommended are vague, to achieve organizational legitimacy – the acceptance by its environment – managers have incentives to mimic the risk disclosures from those companies with a good reputation. Manager’s mimetic behaviour will signal that their corporate governance structure or procedures (such as risk management systems) are legitimate. However, according to Abraham and Shrides (2014) this behaviour can be purely symbolic, rather than substantive. Since disclosures are industry-wide, non-specific, and routinely standardise they will be unhelpful to readers. Consequently, risk reporting procedures besides legitimated they can be decoupled from the substantive structures of risk management, which are consequently illegitimate (Meyer and Rowan, 1977). To control decoupling strategies, the Portuguese and Spanish Securities Exchange Commissions endorses the organizations’ means and ends as valid, reasonable, and rational, by assessing the corporate governance recommendations compliance level of listed companies. Assessment results are published annually, are accessible to all stakeholders, demonstrate the present corporate governance robustness level per company, and consequently these institutions legitimate the corporate governance structures of organizations. This procedure is consistent with Eng and Mak (2003) argument that corporate governance structures are an important determinant of a company’s transparency policy and a mechanism to improve the quality of financial reporting. Additionally, Taylor et al. (2010) suggest firms with an effective corporate governance structure in place are expected to disclose more information, because they are more accountable and transparent.

*H13: Corporate governance robustness is associated positively with RRD.*

#### *Control variables*

Consistently with previous literature we considered the following control variables: profitability, company risk, and external auditor quality (Linsley and Shrides, 2006; Oliveira et al., 2011; Ntim et al., 2013; Buckby et al., 2015; Elshandidy and Neri, 2015).

## **Research method**

### *Sample*

Consolidated annual reports and corporate governance reports for 2011 of 60 non-finance Portuguese and Spanish companies listed on the regulated market Euronext Lisbon and on the Spanish Stock Exchange regulated market, respectively, as at 31 December 2011 were analysed.

In the Spanish subsample we first considered all companies included in the IBEX-35 drawn up by Bolsas y Mercados Españoles (BME). The index IBEX-35 is a “capitalization-weighted stock market index, comprised of the 35 most liquid Spanish stocks traded in the continuous market, and is the benchmark index for the Madrid Stock Exchange.” (Fernández and Arana, 2010, p. 119). Finance companies were excluded, because they differ from non-finance companies in terms of business model and disclosure requirements (Linsley and Shrides, 2006). This gave us a final subsample of 30 Spanish companies.

In the Portuguese subsample we first considered all companies included in the PSI-20. The PSI-20 is a benchmark stock market index of companies traded on Euronext Lisbon stock exchange market. In 2011, there were 44 companies with stocks traded on the Euronext Lisbon stock exchange market, in which the twenty largest companies (assessed by the largest market capitalization and share turnover) were included in the PSI-20 stock market index. Following Linsley and Shrides (2006) we removed four finance companies, which gave us a sample of 16 non-finance companies. To increase sample representativeness we added the largest 14 non-companies (assessed by market capitalization) with stocks traded on Euronext Lisbon stock exchange market, but that did not belong to PSI-20. This allowed us to have a final subsample of 30 Portuguese non-finance companies

The final sample comprises the most representative non-finance companies from Spain and Portugal. Prior literature indicate that companies included in IBEX-35 are the most significant and represent 30 percent of all publicly traded companies and more than 95 per cent of the total capitalization of the Spanish stock market (Sierra et al., 2013; Capriotti and Moreno, 2007a, 2007b). The indexes IBEX-35 and PSI-20 are representative of the various sectors that constitute the Spanish and Portuguese market, respectively (Capriotti and Moreno, 2007b; Caiado, 2004). The PSI-20 stock market index is one of the main national indexes of the Pan-European stock exchange group Euronext alongside with Brussels’ BEL20, Paris’s CAC40, and Amsterdam’s AEX. The “reduced size of the Portuguese finance market suggest that the behaviour of the national stock



returns is closer to the behaviour of stock returns in European and American markets (Caiado, 2004). Finally, the total assets of the thirty non-finance listed companies included in the Portuguese subsample represent 98,6% of the total assets of all companies with stocks traded, in 2011, on the Euronext Lisbon stock exchange market (after the exclusion of all finance companies). Consequently, the sample is representative, results are generalizable, and therefore this sample allows us to achieving our research objectives.

### *Dependent variable*

Based on previous works of Linsley and Shrivess (2006), Abraham and Cox (2007), Dobler et al. (2011), and Ntim et al. (2013) we used content analysis to quantify RRD included in the “risk and risk management” sections of management reports and in the corporate governance reports for 2011 of the sampled companies.

Prior research has used different concepts of risk: RRD narratives (Abraham and Cox, 2007; Elzahar and Hussainey, 2012; Elshandidy and Neri, 2015; Martikainen et al., 2015; Alini et al., 2016), voluntary/mandatory financial risk management disclosures (Taylor et al., 2010), mandatory financial risk (Agyei-Mensah, 2017), risk management disclosures (Buckby et al., 2015), risk keywords (Singh, 2017), and voluntary/mandatory RRD including narratives, tables and graphs (Oliveira et al., 2011; Mokhatar and Mellet, 2013; Ntim et al., 2013). The present study adopts a broad concept of risk encapsulating “any opportunity or prospect, or any hazard, danger, threat or exposure, that has already impacted upon the company or may impact upon the company in the future or the management of any such opportunity, prospect, hazard, threat or exposure” (Linsley and Shrivess, 2006). This concept embraces any risk exposure, activities/policies to manage/mitigate those exposures, and any description and evaluation of internal control/risk management systems effectiveness.

According to Ntim et al. (2013) we developed two categories of risk: financial risk (FR) and non-financial risk (NFR). The concept of FR embraces any exposure to interest risk, exchange rate risk, commodity risk, liquidity risk, and credit risk. The concept of NFR incorporates five subcategories in line with Linsley and Shrivess (2006): operational risk, empowerment risk, information and technology risk, integrity risk and strategic risk.

Four semantic properties of the information disclosed were used (Linsley and Shrivess, 2006; Dobler et al., 2011; Oliveira et al., 2011; Mokhatar and Mellet, 2013): a)

impact (positive/negative/normal); b) time horizon (past/future/neutral); c) quantification (monetary/non-monetary); d) and location (management report/corporate governance report).

Content analysis has been applied in disclosure research works and we used sentences as the recording unit, because it is expected to yield more accurate data and has been used widely (Linsley and Shrivess, 2006; Dobler et al., 2011; Oliveira et al., 2011; Elzahar and Hussainey, 2012; Mokhatar and Mellet, 2013). Since content analysis is inherently subjective some procedures are needed to assure reliability (Linsley and Shrivess 2006). Thus, a list of disambiguation rules has been set out based on the work of Linsley and Shrivess (2006). Narratives, tables and graphs were codified. Scott's pi measure of inter-coder reliability (Scott's pi = 0.81) was used to assess the reliability of the content analysis.

A score of RRD for the  $j^{th}$  company in the  $n^{th}$  country was calculated as follows:

$$RRD_{jn} = \sum_{i=0}^{sa} FR_{ijn} + \sum_{i=0}^{sa} NFR_{ijn}$$

where

$FR_{ijn}$  = number of FR sentences for the sentence attribute  $i$  in the  $j^{th}$  company of the  $n^{th}$  country.

$NFR_{ijn}$  = number of NFR sentences for the sentence attribute  $i$  in the  $j^{th}$  company of the  $n^{th}$  country.

$sa$  = number of sentence attributes ( $sa = 36$ )

### *Estimation model*

The regression model used tries to analyse the relationship between RRD, corporate governance mechanisms associated with agency theory (AT), legitimacy/resources dependency/institutional factors (LRDI), and control variables:

$$RRD_i = \alpha_0 + \sum_{i=1}^{10} \beta_i AT_i + \sum_{i=1}^3 \beta_i LRDI_i + \sum_{i=1}^3 \beta_i CONTROLS_i + \varepsilon_i$$

Table 2 describes each independent and control variables, regarding definition, measurement, data source, and expected sign.

(insert Table 2 about here)

## **Results**

### *Descriptive Analysis*

Table 3 indicates 3,805 sentences containing RRD. The risk category disclosed more often is FR (All sample=38.8%; Portugal=36%; Spain=41.4%) followed by integrity risk (All sample=24.1%; Portugal=28.5%; Spain=19.9%), strategic risk (All sample=19.3%; Portugal=18.5%; Spain=20.1%), and operational risk (All sample=15.4%; Portugal=13.8%; Spain=17%). This is consistent with Linsley and Shrides (2006) findings. Mann-Whitney U tests also indicate that risk disclosures from Portuguese and Spanish companies are not significantly different (p-value > 0.05).

(Insert Table 3 about here)

Table 4 (top band of panel A) indicates that the total number of sentences with negative impact (bad news) (Portugal=357; Spain=496) is significantly greater (p-value<0.01) than those with positive impact (good news) (Portugal=98; Spain=89). These results are not consistent with prior research (Linsley and Shrides, 2006; Oliveira et al., 2011; Mokhatar and Mellet, 2013).

(insert Table 4 about here)

Results from Table 4 (middle band of Panel A) also indicate that backward-looking RRD (Portugal=788; Spain=1,106) are significantly greater (p-value<0.01) than forward-looking RRD (Portugal=236; Spain=149). This finding is consistent with prior research (Dobler et al., 2011; Oliveira et al., 2011; Mokhatar and Mellet, 2013).

Finally, Table 4 (third band of Panel A) documents that non-monetary RRD (Portugal=1,769; Spain=1,799) are significantly greater (p-value<0.01) than monetary RRD (Portugal=78; Spain=159), and consistent with prior research (Linsley and Shrides, 2006; Dobler et al., 2011; Oliveira et al., 2011; Mokhatar and Mellet, 2013).

These results indicate a particular disclosure pattern that potentially is related to the research setting used in the present study. In Portuguese and Spanish economies were suffering from a deep sovereign debt crisis. These economic imbalances affected negatively companies' liquidity, increased their financial distress, their business and financial risks, and decreased organizational outcomes (Lane, 2012). The most interesting is that table 5 presents low levels of leverage (Portugal=0.45; Spain=0.34). In fact, according to Reverte (2009) and Oliveira et al., (2011) in 2005 leverage was substantially higher (Portugal=1.03; Spain=3.804).

(insert Table 5 about here)

Table 6 presents the evolution of Gross Domestic Product (GDP) and shows the economic and financial distress since 2007/2008 financial crisis (World Bank, 2014).

Moreover, it shows that Portugal and Spain suffered an economic recession in 2011 and 2012, respectively. Exactly in the same years they required a bailout to the European Union and International Monetary Fund.

(insert table 6 here)

After the recent global financial crisis the Eurozone countries expanded public debt issuance, which was absorbed by domestic banking industry. According to Eurostat between 2010 and 2013, sovereign debt holdings of domestic banks increased by 5% of GDP, but between 2007 and 2012, government debt held by the domestic financial sector increased by 13% of GDP. These variations were around 30% in countries such as Greece, Ireland, Italy, Portugal and Spain. As a result, corporate credit loans contracted, the cost of debt increased, and only the few companies used the bond market to raise capital. Moreover, some banks were using funding from the European Central Bank to buy sovereign debt. However, The European Central Bank set collateral haircuts based on countries credit rating (Becker and Ivashina, 2014). During this process several banks went bankrupted, others were recapitalized and after several downgrades from international credit rating agencies, Portugal and Spain required a bailout in May 2011 and June 2012, respectively. This has created a deeper economic and financial distress among the banking sector with greater implication on company's liquidity risk due to the contraction of corporate credit loans. In Code Law countries (such as Portugal and Spain) money flows through financial institutions and financing policies are bank-oriented (Lopes and Rodrigues, 2007), which justifies the low levels of leverage presented in table 5.

In an economic context like this one, managers opted not to adopt self-serving disclosure behaviours. Instead of obfuscating bad news, they used a strategy of retrospective sense-making (Aerts, 2005). They disclosed more bad news than good news. In periods of financial distress negative organizational outcomes are more salient to relevant stakeholders and expose management to their scrutiny. Therefore, disclosure pattern found may be related to an informational process (Aerts, 2005). Management needs to present more accounting explanations to contextualize these negative outcomes and legitimate themselves with stakeholders. In this effort of contextualization of organizational outcomes managers were reluctant to release forward-looking information to avoid the threat of external effects (Dobler, 2008), and disclosed more qualitative RRD to contextualize negative organizational outcomes and therefore to promoting legitimacy (Aerts, 2005).

Table 5 (Panel A) reports that on average each company disclose 63.42 sentences of RRD (mean value in Portugal=61.57; mean value in Spain=65.27). Portuguese companies disclose more in Corporate Governance reports, while Spanish companies in the Management report. In terms of board size (Portugal=10.67; Spain=13.13), the proportion of independent non-executive directors (Portugal=0.21; Spain=0.41), board diversity (Portugal=0.09; Spain=0.13), board and audit committee meetings (Portugal=16.66; Spain=17.87), and audit committee independence (Portugal=0.43; Spain =0.55) Portugal present lower levels compared to Spain. Generally, companies comply with almost corporate governance recommendations in both countries (mean value in Portugal=0.90; mean value in Spain=0.89). Portuguese and Spanish companies present different ownership structure concentration (mean value in Portugal=0.76; mean value in Spain=0.35). Around 50% of Portuguese and 33% of Spanish sample firms have a dual board leadership.

#### *Regression Analysis*

Table 7 presents the correlation matrix. The value of the correlation coefficients indicates that multicollinearity is minimal.

(insert Table 7 about here)

Table 8 presents the regression analysis. We used ordinary least squares (OLS) to test our hypotheses. The stability of the regression model was assured by assessing all the assumptions such as autocorrelation, multicollinearity, heterocedasticity, outliers and influential observations, and normality of residuals.

(insert Table 8 here)

Table 8 results indicate that collinearity issues are minimal (Variance Inflation Factors  $\leq 4.274$ ). We also have run White's heterocedasticity test to test for unequal variances, and when necessary, heterocedasticity was corrected by the White matrix. Finally, the Durbin-Watson statistic suggests that autocorrelation is minimal.

Findings indicate that the regression model is statistically significant (F-statistic=5.1; p-value<0.01) for RRD. The regression model presents an explanatory power (adjusted  $R^2$ ) of 0.554.

RRD is associated positively with ownership structure (p-value<0.01), independent non-executive directors (p-value<0.01), and size (p-value<0.01). Hypotheses H1 (ownership structure), H3 (independent non-executive directors), and H11 (public visibility) are supported. This result is consistent with prior research

(Taylor et al., 2010; Oliveira et al., 2011; Elzahar and Hussainey, 2012; Ntim et al., 2013). According to legitimacy theory and resources-based perspective public visible companies disclose more RRD to manage relevant stakeholders' expectations on corporate image and reputation and achieve strategic legitimacy.

Consistent with Oliveira et al., (2011) and Ntim et al., (2013) companies with more independent boards of directors disclose more RRD probably to reduce agency costs. Findings also indicate that companies with a higher ownership concentration disclose more RRD. Descriptive analysis shows that ownership structure of Portuguese companies are more concentrated than Spanish companies. Portuguese companies are commonly controlled by families, which are frequently the largest shareholder (Lopes and Rodrigues, 2007). According to agency theory, among family controlled companies the assumption of convergence of interests between the largest shareholder and outside investors may become salient, mainly in periods of financial distress (Jensen and Meckling, 1976). In these cases it is expected a positive relationship between ownership structure and RRD.

Results from Table 8 also documents that RRD is associated negatively with audit committee independence ( $p\text{-value}<0.05$ ) and legal environment ( $p\text{-value}<0.01$ ). Hypothesis H8 and H10 are not supported. Less independent audit committees disclose more RRD. Moreover, companies belonging to countries with weaker legal environments disclose more RRD. Descriptive analysis (table 5) indicates that Portuguese companies have less independent audit committees and a weaker legal environment compared to Spain. Besides, due to the sovereign debt crisis Portugal required a bailout in May 2011, one year before Spain. Prior research found that companies with higher levels of liquidity risk disclose more risk information (Elshandidy et al., 2015). Consequently, these results may indicate a behaviour consistent with Aerts (2005) arguments that considers this reporting pattern related to an informational process of contextualization of the negative outcomes. Acting this way they try to manage their strategic legitimacy, rather than reducing agency costs.

Hypotheses H2 (board size), H4 (board diversity), H5a (board meetings), H5b (audit committee meetings), H6 (dual board leadership), H7 (management compensation), H9 (leverage), and H11 (corporate governance robustness) were not supported. Results did not indicate any significant association between RRD and these variables. These corporate governance mechanisms and institutional factor (corporate

governance robustness) did not impacted on RRD. Instead, public visible companies used other mechanisms to foster RRD, such as independent non-executive directors.

We reran the regression model for each FR and NFR categories. Most FR were disclosed in the “risk and risk management” sections of management reports. Regarding financial instruments, both countries require the description of the objectives and financial risk management policies followed and exposures to price, credit, liquidity, and cash-flow risks. Therefore, this information has a compulsory nature. Non-financial risk disclosures were found in the “risk and risk management” sections of management reports and corporate governance annual reports. Disclosure requirements for non-financial risks in the management reports are very vague. Corporate governance recommendations follow the “comply or explain” principle. Therefore, managers have discretionary power to manage the content and extension of this information and consequently it has a voluntary nature.

Only the model for NFR was considered statistically significantly. Table 8 indicates that NFR is positively associated with board independence (p-value < 0.05), board meetings (p-value<0.05), and size (p-value<0.01). In larger companies with higher public visibility, independent non-executive directors and board meetings improve the disclosure of NFR information. Moreover, NFR is negatively associated with dual board leadership (p-value<0.05), legal environment (p-value<0.05), and environmental sensitivity (p-value<0.01). Companies environmentally sensitive, with dual board leadership structures, in countries with stronger legal environments disclose less NFR information.

In 2011, during a particular period of financial distress visible companies disclosed more NFR information to manage their legitimacy through the contextualization of negative outcomes. Some corporate governance mechanisms were significantly important to promote this kind of disclosures, such as the higher proportion of independent non-executive directors on the board, the number of the board meetings, and the unitary board leadership structures.

## **Conclusions**

Our analysis of RRD by Portuguese and Spanish companies supports explanations of RRD to a combination of agency, legitimacy theory resources-based perspectives and institutional theory.

Findings indicate that companies with concentrated ownership structures disclose more RRD. But prior literature indicate that in these companies agency costs are low (Mokhatar and Mellet, 2013). Pérez et al. (2015) indicate that in these countries banks are the main source of financing and it is very common to influence the composition of the board. Thus this promotion of RRD seems consistent with the argument of reduction of information asymmetries between managers and debtholders. However, results indicate that the level of company's dependency from debtholders (assessed by leverage) has decreased (Reverte, 2009; Oliveira et al., 2011), which might suggest that other reasons may explain greater RRD.

Findings also reveal that independent non-executive directors (in the board, not in the audit committee) have a relevant role in promoting RRD. From an agency theory perspective, they act as monitoring mechanisms to reduce agency costs (Buckby et al., 2015). But, this corporate governance mechanism can also be used to manage legitimacy, rather than agency costs (Ntim et al., 2013). Independent non-executive directors represent corporate stakeholders. Thus, their appointment "can be viewed as an attempt to enhance legitimacy by signalling a match between corporate and societal values" (Ntim et al., 2013, p. 368).

Legal environment (assessed by the strength of legal enforcement mechanisms) is a crucial element in promoting RRD as an institutional mechanism, rather than an external corporate governance tool, as predicted by agency theory. But this does not mean that companies acted in irresponsible ways (e.g. concealment of risk information). Besides, findings indicate that corporate governance robustness is not a significant determinant of RRD, meaning that companies do not disclose RRD to pursue institutional legitimacy interest and most probably do not use RRD as decoupling strategies (Abraham and Shrikes, 2014).

In periods of financial distress, public visibility (assessed by size) helps enhancing the congruency between corporate goals and stakeholders' expectations on corporate image and reputation achieving strategic legitimacy, because larger firms disclose more RRD.

Consequently, findings suggest that in European Southern countries characterized by a "stakeholder" governance model and low levels of agency costs, the influence that corporate governance have on RRD is mediated by strategic legitimacy interests, rather than institutional legitimacy ones. However, this conclusion is valid when companies disclose discretionary risk information (such as NFR), not mandatory



risk information (such as FR). Additionally, according to agency theory, independent non-executive directors, board meeting, and unitary board leadership structures are crucial elements in promoting discretionary risk information. But they are mediated by institutional factors (such as the legal environment) and strategic legitimacy interests (assessed by public visibility). However, this information continues to be basically qualitative, backward-looking, and focused on bad news. Sarens and D'Onza (2017) argue that this information may be less transparent, less relevant and with lower information quality. On the other hand, Gulko et al. (2017, p. 1) found that during periods of crisis companies disclose more risk information and with better quality, “while during periods of stability companies generally provide less information and the quality of information is generic and repetitive in nature”. Thus, the disclosure pattern found in our study is consistent across both countries and aligned with the argument of retrospective sense-making – the contextualization of their negative outcomes in order to manage their strategic legitimacy (Aerts, 2005).

The present study adds to the emerging literature on risk reporting and corporate governance mechanisms, basically because it broadens our understanding in RRD through the analysis of the conditions that motivate managers to disclose risk information under specific economic conditions and in countries with specific characteristics regarding corporate governance models, legal environments, and level of agency costs. In the aftermath of the recent global financial crisis, regulatory entities endeavours to contain crisis were basically focused on corporate governance issues. In the same vein, prior literature has only assessed the mechanical effects of a company's contextual factors associated with corporate governance issues, through the lens of agency theory. Our findings contribute to prior literature by elucidating in a broader way that not only corporate governance mechanisms are crucial to improve RRD, but other motivations associated with strategic legitimacy interests intertwined with economic environmental contexts may mediate their influence.

If strategic legitimacy is a crucial element in promoting RRD, then our findings demonstrate that risk reporting continues to be a fertile research field. Waring (2013) refer that risk/risk management behaviour is inherently linked to individual bounded rationality. In other words, managers' idiosyncrasies impact on their strategic decision making process, how they report information to third parties, and therefore how they behave to pursue strategic legitimacy purposes. Prior literature has forgotten that CEO's personal characteristics may impact on their decisions to inform on risk

exposures, and from a regulatory perspective this aspect is also relevant regarding corporate governance issues associated with board composition.

Moreover, our results also highlight some implications for national and international regulators. Despite the efforts in improving corporate governance mechanisms it seems that the quality and content of risk reporting continues to impair its usefulness to stakeholders. Thus, consistent with Ntim et al. (2013) and Oliveira et al. (2013) one possible solution to improve the quality of risk reporting could be the development of a RRD disclosure framework aligned with the International Integrated Reporting guidelines.

The present study presents some limitations associated with the coding instrument, research setting (only two European Latin countries and only one year of analysis), and sample size (even knowing that the sample used has representativeness). Future studies should incorporate larger samples and other European Latin countries. Longitudinal data is also needed to provide a better understanding of risk reporting incentives and its change over time. Additionally, further studies can also study risk reporting incentives from a social psychology perspective, through the use of bounded rationality concept and explore in which way CEO's personal characteristics impact on the way they build mental models to report on risk issues.

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Table 1 – Prior literature on the influence of corporate governance mechanism on RRD

Corporate Governance explanatory variables	RRD narratives				Risk management disclosures	Financial risk disclosures	Financial risk management disclosures	RRD (narratives, tables and graphs)			RRD keywords	
	Abraham & Cox (2007)	Elzahar & Hussainey (2012)	Elshandidy & Neri (2015)	Martikainen et al. (2015)	Alini et al. (2016)	Buckby et al. (2015)	Agyei-Mensah (2017)	Taylor et al. (2010)	Oliveira et al. (2011)	Mokhtatar and Mellet (2013)	Ntim et al. (2013)	Singh (2017)
Board meetings					0							0
Board composition												
Executive directors on the board	0											
Non-executive directors			+									
Independent non-executive directors on the board	+	0	0		0	0	+		+		+	0
Board size		0	+		0		+				+	+
Board diversity											+	
Gender					+							+
Educational background					-	0						
Age					+							
Role Duality		0	0								-	0
Multiple directorships					0							
Equity-based wealth of non-executive directors				+								
Salary-based compensation of non-executive directors				-								
High attrition of non-executive directors				-								
High education of non-executive directors				-								
Dividend yield			-/0									
Ownership structure												
By life assurance pension funds	+											
By in-house managed pension funds	-											
By outside managed pension funds	0											
Ownership concentration			0					0	0		-	-
Institutional ownership		0				0	0				-	-
Block ownership							0				+	
Foreign owners				+								-
Shares owned by firm insiders				+								
Audit committee												
Audit committee independence							0		0			
Audit committee size		0										
Educational background						0						
Risk committee						+						
Technology committee						+						
Corporate governance robustness								+				
Leverage	0				0	+	0	+	+		-	
Corporate Governance committee											+	

Notes: Y: statistically significant; +: positive and statistically significant association; -: negative and statistically significant association; 0: no association found

Table 2 – Definition of the independent and control variables

Variables	Measurement	Predicted Signal	Source	References
<i>Panel A: Independent variables</i>				
<i>Agency theory (internal and external mechanisms of corporate governance)</i>				
Ownership structure	Qualified shareholdings greater than 2%	?	Annual report	(Taylor et al., 2010; Oliveira et al., 2011; Mokhtar & Mellet, 2013; Ntim et al., 2013)
Board size	Number of directors in the board	?	Annual report	(Elzahar & Hussainey, 2012; Ntim et al., 2013; Elshandidy & Nery, 2015; Allini et al., 2016; Agyei-Mensah, 2017; Singh, 2017)
Board independence	Proportion of independent non-executive directors in the board	?	Annual report	(Abraham & Cox, 2007; Oliveira et al., 2011; Ntim et al., 2013; Agyei-Mensah, 2017; Singh, 2017)
Board diversity	Proportion of women in the board	+	Annual report form CMVM/CNMV	(Allini et al., 2016; Singh, 2017)
Board and audit committee meetings	Number of board meetings in the year	+	Annual report form CMVM/CNMV	(Allini et al., 2016; Singh, 2017)
	Number of audit committee meetings in the year	+	Annual report form CMVM/CNMV	
Dual board leadership	Dummy variable = 1 if the CEO and Chairman are different; 0 otherwise	?	Annual report	(Elzahar & Hussainey, 2012; Mokhtar & Mellet, 2013; Ntim et al., 2013; Singh, 2017)
Management compensation	Dummy variable = 1 if there is a stock options plan, 0 otherwise	?	Annual report form CMVM/CNMV	(Martikainen et al., 2015)
Audit committee independence	Proportion of independent non-executive directors in the audit committee	+	Annual report	(Oliveira et al., 2011; Agyei-Mensah, 2017)
Leverage	Debt ratio = Total debt to total assets	?	Annual report	(Abraham & Cox, 2007; Taylor et al., 2010; Oliveira et al., 2011; Ntim et al., 2013; Agyei-Mensah, 2017)
Legal environment	Strength of legal enforcement mechanisms per country, assessed by the average of 4 indicators:			
	Rule of law (0-100 best)	+	The Worldwide Governance indicators (2015)	(LaPorta et al., 1998)
	Control of corruption (0-100 best)	+	The Worldwide Governance indicators (2015)	
	Judicial independence (0-100 best)	+	The Global Competitiveness Index Historical Dataset (2005-2014)	
	Efficiency of legal framework (0-100 best)	+	The Global Competitiveness Index Historical Dataset (2005-2014)	



Table 2 – Definition of the independent and control variables (to be continued)<sup>[1], [2]</sup>

Variables	Measurement	Predicted Signal	Source	References
<i>Legitimacy theory and resources-based perspective</i>				
Public visibility				
Size	Total assets	+	Annual report	(Linsley & Shrives, 2006; Abraham & Cox, 2007; Oliveira et al., 2011)
	Total sales	+	Annual report	
	Market capitalization	+	Annual report	
Environmental sensitivity	Dummy variable = 1 if the company belongs to an industry environmentally sensitive; 0 otherwise	+	Annual report	(Oliveira et al., 2011)
Corporate governance robustness	Level of compliance with corporate governance recommendations	+	Annual report form CMVM/CNMV	(Taylor et al., 2010)
<i>Panel B: Control variables</i>				
Profitability	Return on investment ratio = Earnings before taxes to total assets	?	Annual report	(Linsley & Shrives, 2006; Oliveira et al., 2011; Ntim et al., 2013; Buckby et al., 2015; Elshandidy & Neri, 2015)
Company risk	Beta risk	?	Annual report form CMVM/CNMV	
External auditor quality	Dummy variable = 1 if auditing firm is a BIG4; 0 otherwise	?	Annual report	

Table 3 – Frequencies of risk-related disclosures by risk category

	Financial	Non-financial risk					Total
	risk	OPR	EMP	IT	INT	STR	
All sample	1,476	587	24	67	916	735	3,805
%	38.8	15.4	0.6	1.8	24.1	19.3	100.0
Portugal	665	255	17	42	527	341	1,847
%	36.0	13.8	0.9	2.3	28.5	18.5	100.0
Spain	811	332	7	25	389	394	1,958
%	41.4	17.0	0.4	1.3	19.9	20.1	100.0
Mann-Whitney U test	420.5	415.0	429.5	410.5	437.5	437.0	450.0
Wilcoxon W	885.5	880.0	894.5	875.5	902.5	902.0	915.0
Z	-0.436	-0.519	-0.488	-0.678	-0.185	-0.193	0.000
Asymp. Sig. (2-tailed)	0.663	0.604	0.626	0.498	0.853	0.847	1.000

Notes: OPR = operational risk; EMP = empowerment risk; IT = information and technology risk; INT = integrity risk; STR = strategic risk

Table 4 – Frequencies and differences in the mean values of risk-related sentence attributes

	RRD		FR		NFR	
	Portugal	Spain	Portugal	Spain	Portugal	Spain
<i>Panel A: Frequencies for each sentence attributes</i>						
Impact						
Positive	98	89	21	62	77	27
Negative	357	496	85	117	272	379
Normal	1,392	1,373	559	632	833	741
Time Horizon						
Past	788	1,106	283	441	505	665
Future	236	149	48	33	188	116
Neutral	823	703	334	337	489	366
Quantification						
Monetary	78	159	44	121	34	38
Non-monetary	1,769	1,799	621	690	1,148	1,109
<i>Panel B: Differences in means</i>						
Impact						
Positive - Negative	-8.63 **	-13.57 **	-2.13 **	-1.83 **	-6.50 **	-11.73 **
Time Horizon						
Past - Future	18.40 **	31.90 **	7.83 **	13.60 **	10.57 **	18.30 **
Quantification						
Monetary - Non-monetary	-56.37 **	-54.67 **	-19.23 **	-18.97 **	-37.13 **	-35.70 **

Notes: Differences statistically significant at: \*\*0.01, and \*0.05 levels (2-tailed), respectively. Wilcoxon test are used to test the differences in means.

Table 5 – Evolution of Gross Domestic Product

Countries	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Spain	3.09	3.26	3.58	4.08	3.48	0.89	-3.83	-0.2	0.05	-1.64
Portugal	-0.91	1.56	0.78	1.45	2.37	-0.01	-2.91	1.9	-1.25	-3.23
Euro Zone	0.76	2.22	1.74	3.27	3.01	0.38	-4.46	1.98	1.61	-0.64
World	2.81	4.19	3.63	4.1	3.98	1.46	-2.09	4.07	2.83	2.38

Table 6 – Descriptive statistics

Variables	Measurement	N	All sample		Portugal		Spain	
			Mean	St. Deviation	Mean	St. Deviation	Mean	St. Deviation
Total risk disclosures	Count	60	63.42	47.27	61.57	43.33	65.27	51.60
Financial risk disclosures	Count	60	24.60	25.31	22.17	14.10	27.03	33.05
Non-financial risk disclosures	Count	60	38.82	39.33	39.40	40.12	38.23	39.20
Ownership structure	Percentage	60	0.55	0.28	0.76	0.11	0.35	0.24
Board size	Count	60	11.90	4.55	10.67	5.33	13.13	3.27
Board independence	Percentage	60	0.31	0.20	0.21	0.16	0.41	0.19
Board diversity	Percentage	60	0.11	0.10	0.09	0.09	0.13	0.10
Board meetings	Count	60	10.27	3.61	10.33	4.05	10.20	3.18
Audit committee independence	Percentage	60	0.49	0.38	0.43	0.46	0.55	0.28
Audit committee meetings	Count	60	6.98	14.68	6.30	20.72	7.67	2.81
Corporate governance robustness	Percentage	60	0.90	0.09	0.90	0.10	0.89	0.07
Leverage	Ratio	60	0.40	0.19	0.45	0.18	0.34	0.20
Total assets	100 <sup>3</sup> Euros	60	14,492.35	24,405.52	4,486.83	7,940.17	24,497.87	30,685.93
Total sales	100 <sup>3</sup> Euros	60	7,688.50	13,804.18	2,380.92	4,135.12	12,996.08	17,671.98
Market capitalization	100 <sup>3</sup> Euros	60	5,365.92	10,206.16	1,536.11	2,690.20	9,195.72	13,203.77
Profitability	Ratio	60	0.06	0.07	0.04	0.05	0.20	0.16
Company risk	Index	60	0.81	0.41	0.86	0.41	0.77	0.40
Legal environment	Index	60	66.63	1.91	64.73	0.00	68.52	0.00
			Frequency	Percent	Frequency	Percent	Frequency	Percent
Dual Board Leadership	Dummy	=1 (Yes)	25	41.70%	15	50.00%	10	33.30%
		=0 (No)	35	58.30%	15	50.00%	20	66.70%
Management compensation	Dummy	=1 (Yes)	19	68.30%	9	30.00%	10	33.30%
		=0 (No)	41	31.70%	21	70.00%	20	66.70%
External auditor quality	Dummy	=1 (Big4)	55	91.70%	15	50.00%	25	83.30%
		=0 (No Big4)	5	8.30%	15	50.00%	5	16.70%
Environmental sensitivity	Dummy	=1 (Yes)	33	55.00%	15	50.00%	18	60.00%
		=0 (No)	27	45.00%	15	50.00%	12	40.00%

Table 7 – Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
<i>Panel A: Coorelation (Pearson) among continuous variables</i>																		
(1) Total risk disclosures	1.00																	
(2) Ownership structure	0.16	1.00																
(3) Board size	0.20	-0.29 **	1.00															
(4) Board independence	0.22	-0.43 *	0.26 **	1.00														
(5) Board diversity	-0.16	-0.22	-0.16	0.12	1.00													
(6) Board meetings	-0.05	0.05	0.11	-0.15	-0.14	1.00												
(7) Audit committee independence	0.16	-0.23	0.32 **	0.64 *	0.01	-0.08	1.00											
(9) Audit committee meetings	-0.03	-0.36 *	0.42 *	0.39 *	-0.02	0.33 **	0.47 *	1.00										
(10) Corporate governance robustness	0.19	0.19	0.02	0.21	0.03	-0.05	0.25	0.06	1.00									
(11) Leverage	-0.11	0.16	0.06	-0.28 **	0.09	0.30 **	-0.04	-0.06	-0.01	1.00								
(12) Size	0.43 *	-0.45 *	0.66 *	0.50 *	-0.13	0.02	0.28 **	0.39 *	0.03	-0.12	1.00							
(13) Profitability	-0.01	-0.32 **	0.17	0.11	-0.11	0.00	0.15	0.12	-0.14	-0.03	0.29 **	1.00						
(14) Company risk	-0.06	0.02	0.15	-0.04	0.03	-0.14	-0.01	0.00	-0.09	0.21	0.05	-0.19	1.00					
(15) Legal environment	0.00	-0.71 *	0.32 **	0.51 *	0.21	0.00	0.14	0.48 *	-0.05	-0.28 **	0.60 *	0.26 **	-0.12	1.00				
<i>Panel B: Correlation (Spearman) between continuous and categorical variables</i>																		
(16) Dual board leadership	-0.09	0.35 *	-0.38 *	-0.20	-0.04	-0.14	-0.28 **	-0.22	0.05	0.05	-0.22	-0.08	-0.25	-0.17	1.00			
(17) Management compensation	0.17	-0.17	0.26 **	0.23	-0.14	-0.22	0.31 **	0.08	0.03	-0.07	0.21	-0.13	0.25	0.04	-0.21	1.00		
(18) External auditor quality	0.08	0.20	-0.19	-0.17	0.14	0.07	-0.01	-0.12	0.00	0.23	-0.21	0.07	-0.05	-0.30 **	0.01	-0.18	1.00	
(19) Environmental sensitivity	0.03	-0.05	0.18	-0.03	-0.14	0.11	-0.26 **	0.06	-0.23	0.02	0.28 **	-0.12	0.25	0.10	-0.26 **	-0.18	-0.03	1.00

Table 8 – Results of regression analysis

		RRD	FR	NFR
	ES	Coefficients	Coefficients	Coefficients
Intercept		14.902 *	-3.543	15.165 *
Ownership structure	?	0.373 **	0.397	0.197
Board size	?	-0.203	-0.063	-0.192
Board independence	?	0.405 ††	-0.114	0.308 †
Board diversity	+	0.090	0.048	0.010
Board meetings	+	-0.010	-0.255	0.269 †
Audit committee meetings	+	-0.094	-0.125	-0.212
Dual board leadership	?	-0.448	0.151	-0.609 *
Management compensation	?	0.286	-0.137	0.371
Audit committee independence	+	-0.296 †	0.050	-0.210
Leverage	?	0.038	-0.074	-0.009
Legal environment	+	-0.223 ††	0.044	-0.219 †
Size	+	0.871 ††	0.433 †	0.879 ††
Environmental sensitivity	+	-0.193	0.381	-0.633 ††
Corporate governance robustness	+	0.085	-0.027	0.081
Profitability	?	0.026	-0.070	-0.024
Company risk	?	-0.252 *	-0.232	-0.070
External auditor quality	?	0.199	0.459	-0.112
<i>Model fit:</i>				
R <sup>2</sup>		0.690	0.369	0.650
Adjusted R <sup>2</sup>		0.554	0.107	0.508
F-statistic		5.100 **	1.409	4.583 **
Durbin-Watson		1.710	2.308	1.873
Max. Value Inflated Factor		4.274	4.274	4.274
Kolmogorov-Smirnov statistic (p-value>0.05)		0.051	0.084	0.050

Notes: Significance at: \*\*0.01, \*0.05 levels (2-tailed), respectively.

Significance at: ††0.01, †0.05 levels (1-tailed), respectively.

[1] Following Oliveira et al. (2011) since size variables were highly correlated a principal components analysis was applied to extract an index for “size”. All assumptions were assured (unidimensionality=91.04%; Cronbach’s  $\alpha$ =0.88; Bartlett’s test of sphericity was statistically significant; KMO=0.76). The component extracted represents a unique composite size index for each company (Size = total assets x 0.959 + total sales x 0.964 + market capitalization x 0.939).

[2] According to Branco et al. (2008) companies belonging to mining, oil and gas, chemicals, construction and building materials, forestry and paper, steel and other materials, electricity, gas distribution, and water were considered environmentally sensitive.