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CORRUPTION-RELATED DISCLOSURE IN THE BANKING INDUSTRY: EVIDENCE FROM GIPSI COUNTRIES*

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Abstract:

This paper empirically investigates corruption-related disclosure in the banking industry, aiming to identify the most relevant theories that explain the reasons why financial institutions disclose corruption-related information to the public in their annual financial reports. Using a total sample of 83 banks from the GIPSI countries during the period 2011-2019, our results reveal that, on average, banks that have been involved in corruption issues disclose less on corruption-related information than banks that have not been involved in any corruption scandal. Moreover, banks not involved in corruption cases disclose even more information after other banks' corruption events become public. These basic relationships, however, are shaped by the characteristics of each particular country in terms of control of corruption and the specific regulation on non-traditional banking activities. Our results are robust to different specifications of the econometric models, and to alternative empirical methods accounting for potential reverse causality and sample selection concerns.

Keywords: Corruption; Disclosure; GIPSI; Institutional quality; Regulation

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1. INTRODUCTION

The study of disclosure practices in banking is particularly important because adequate levels of disclosure serve as an outside mechanism to monitor the behaviour of top management (Eng and Mak 2003); allow access to external finance at a reasonable cost of capital (Botosan 1997; Botosan and Plumlee 2002; Easley and O'Hara 2004; Cheng et al. 2006; Kothari et al. 2009); and, most importantly, help maintaining the trust of stakeholders and investors (Oliveira et al. 2011; van Esterik-Plasmeijer and van Raaij, 2017).

Transparency with reference to corruption-related disclosure has been also an important focus of previous research (Kowalczyk-Hoyer, 2012; Blanc et al., 2017). In particular, given that corruption scandals might harm bank image, with negative consequences on bank long term profitability, soundness and shareholder return[1] (Altunbas et al., 2018), it is pivotal that stakeholders and investors are adequately informed about banks' involvement in corruption problems and their anti-corruption policies that are in place to prevent and/or tackle these situations. Furthermore, if investors' confidence in the integrity of the financial system is harmed, the effectiveness of financial intermediation might be compromised, with possible negative consequences for the whole economy (Levine, 2005).

The importance of transparency in general, and of corruption-related disclosure in particular, for both financial and non-financial firms is remarked by the numerous theories that have been proposed and developed to analyse these aspects. These theories include agency theory (Jensen and Meckling, 1976; Al-Hadi et al., 2016); impression management theory (Goffman, 1959; Merkl-Davies and Brennan, 2011); legitimacy theory (Suchman, 1995; Shocker and Sethi, 1973; Bamber and McMeeking, 2010; Barakat and Hussainey, 2013); management entrenchment theory (Gelb, 2000; Farinha, 2003; Eng and Mak, 2003; Nagar et al., 2003); political cost theory (Watts and Zimmerman, 1986; Deegan, 2003); proprietary cost theory (Darrough and Stoughton, 1990; Verecchia, 1983; Edwards and Smith, 1996; Polizzi, 2017); resource dependence theory (Pfeffer and Salancik, 1978; Hillman et al., 2009; Bushman and Wittenberg-Moerman, 2012); signalling theory (Spence, 1973; Morris, 1987; Scannella and Polizzi, 2018, 2020) and stakeholder theory (Freeman, 2010; Dignah et al., 2012; Barakat and Hussainey, 2013; Al-Hadi et al., 2016).

In this paper, we investigate corruption-related disclosure in the banking industry, aiming to identify the most relevant theories that explain the reasons why financial institutions disclose corruption-related information to the public in their annual financial reports. In our analysis, we draw upon two theoretical frameworks: (i) the *legitimacy theory*, which posits that banks that have

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[1] This statement holds true also for non-financial firms (Davidson and Worrel, 1988; Baucus and Baucus, 1997).

been involved in corruption issues should provide more disclosure on corruption to restore their institutional legitimacy; and (ii) the *signalling theory*, according to which those banks that have not been involved in corruption problems, send a signal to show investors the lack of corruption by increasing the level of corruption disclosure. We analyse the corruption disclosure of banks that have been involved in corruption issues and compare them with the disclosure practices of banks that have not been involved in this kind of problems in order to analyse the effects of these two theories. We focus on the so called GIPSI countries (Greece, Italy, Portugal, Spain and Ireland) that represent the most troubled economies of the Eurozone, because of their high levels of sovereign debt (Shambaugh, 2012). The choice of selecting these countries lies on the fact that they are characterised, on average, by higher levels of perceived corruption according to the corruption perception index proposed by Transparency International (2019).

Given the extensive literature on corruption in the financial sector (Bahoo, 2020), it is crucial to identify clearly what we mean by corruption in the context of our analysis. We adopt the definition of corruption proposed by Pellegrini (2011), who defines corruption as *"the misuse of entrusted power for private gain; it is behavior which deviates from the formal duties of a given role because of private-regarding (personal, close family, private clique) pecuniary or status gains; or violates rules against the exercise of certain types of private regarding influence. This includes such behaviour as bribery (use of a reward to pervert the judgment of a person in a position of trust); nepotism (bestowal of patronage by reason of ascriptive relationship rather than merit); and misappropriation (illegal appropriation of public resources for private regarding uses)."*

Notwithstanding the theoretical and practical importance of corruption-related disclosure in the banking industry, the literature that analyses this topic is scant. Several studies focus on disclosure in the financial industry (Frolov, 2006; Woods et al., 2008; Barakat and Hussainey, 2013; Polizzi and Scannella, 2020), while and others examine corruption-related disclosure in non-financial firms (Joseph et al., 2016; Blanc et al., 2017, 2019). In this research, we fill a gap in the literature by analysing corruption-related disclosure in the banking sector testing whether and to what extent the level of institutional quality and the characteristics of bank regulation in each country could shape disclosure practices.

The results of our empirical investigation show that banks that did not experience corruption problems provide more corruption-related disclosure compared to those banks that were involved in this type of problems, showing that the *signalling theory* plays a prominent role. Moreover, our results also remark the relevance of the country-level characteristics related to the quality of institutions and regulatory aspects in the banking sector to finally shape the impact of corruption cases on disclosure practices.

The remainder of this paper is organised as follows: Section 2 provides a review of the related literature; Section 3 describes the theoretical framework and develops the research hypotheses. Section 4 provides an explanation of the methodologies used in the empirical analysis. Section 5 shows the results of the analysis and discusses them. Section 6 concludes.

2. REVIEW OF THE RELATED LITERATURE

This paper is broadly related to two strands of literature, namely that on disclosure in the banking industry and that on Corporate Social Responsibility (CSR) disclosure. The literature on disclosure and narrative reporting in the banking industry is mostly focused on financial disclosure, which is tightly related with financial stability (Sowerbutts et al., 2013). Numerous studies focus on the disclosure on financial risks, focusing mostly on credit (Frolov, 2006; Scannella and Polizzi, 2019); market (Woods et al., 2008; Scannella and Polizzi, 2018; Polizzi and Scannella, 2020); and operational risk (Helbok and Wagner, 2006; Barakat and Hussainey, 2013; Kumar et al., 2019); whilst other studies focus on more general aspects. The early study provided by Kahl and Belkaoui (1981) analyses the extent of disclosure by focusing on 30 information items in the annual reports of banks located in 18 different countries. Their results provide evidence of relevant differences across countries. Baumann and Nier (2004) analyse the benefits of bank disclosure and its usefulness for financial markets, by studying the relationship between the volatility of bank stock prices and the amount of information provided to the public. The results of their study show that higher levels of disclosure are associated with lower levels of stock volatility. Nier and Baumann (2006) shed light on another important positive effect of bank disclosure. Their analysis shows that disclosure is an important market monitoring mechanism that contributes reducing bank moral hazard and insolvency risk. Vauhkonen (2012) studies the impact of mandatory disclosure requirements on the soundness of the banking system by focusing on the Basel Pillar III disclosure requirements. This author provides evidence that regulators can improve the safety of the banking sector by imposing stricter disclosure requirements. In a more recent paper, Del Gaudio et al. (2020) analyse the relationship between the tone of bank disclosure and their insolvency risk, by using a context-specific disclosure dictionary. Their results show that a negative tone in bank mandatory disclosure contributes to explain bank risk of insolvency.

The stream of literature on CSR disclosure analyses various different kind of disclosure, including environmental disclosure, social disclosure, disclosure for employees (Farina et al., 2019) and also on corruption-related disclosure (Blanc et al., 2019). Ali et al. (2017) provides an interesting literature review on this topic. By analysing the extant literature, these authors identify

the main determinants of CSR disclosure[2]. Specifically, the firm-specific factors that influence the extent of CSR disclosure are size, profitability and corporate governance mechanisms. Furthermore, industry sector and country characteristics are other important determinants. In the same line, Garcia-Sanchez et al. (2016) show that the characteristics of the country's system, including law enforcement and ownership concentration, are important elements that influence the level of CSR disclosure. Cho et al. (2015) question the idea that CSR disclosure is mostly a function of exposure to legitimacy factors. Their findings support the idea that the purpose of CSR disclosure is to inform investors rather than being only a tool of legitimation. Other studies distinguish between mandatory and voluntary CSR disclosure (Rodríguez and LeMaster, 2007; Chen et al., 2018). Chauvey et al. (2015) examine the effects of the Nouvelles Régulations Économiques #2001-420, which made CSR disclosure mandatory in France. The authors provide evidence of both a significant increase of the quantity and quality of CSR disclosure, although the overall level of quality remains quite low, suggesting that the objective of increased transparency of the aforementioned regulation is still not achieved.

There are also some studies that focus on CSR disclosure in the banking industry. Farook et al. (2011), for instance, investigate into the determinants of CSR disclosure in banking. Their analysis show that the amount of deposits and the level of political and social freedom are amongst the most important determinants of bank CSR disclosure. Some studies focus on the relationship between CSR disclosure and corporate governance (Jizi et al., 2014; Kiliç et al., 2015). Jizi et al. (2014) found a positive relationship between the board characteristics most commonly associated with the protection of the interests of the shareholders (board size and independence) and CSR disclosure. Other studies have examined the relationship between CSR disclosure and financial performance providing empirical evidence of a positive and significant relationship between these two variables (Platonova et al., 2018), suggesting that there is even a causal relationship between them (Mallin et al., 2014). Another relevant aspect analysed by the literature is the CSR disclosure in bank websites. In particular, Hinson et al. (2010) shed light on the difficulties banks experience in providing a comprehensive CSR disclosure in their websites. Their investigation shows that even the financial institutions that won awards for the most socially responsible banks exhibit a poor CSR disclosure in their websites. Similarly, Kiliç (2016) studies how and to which extent banks provide information on their CSR practices in their websites. The findings of this analysis show that banks do not disclose important information related to energy and environmental issues. In addition, they

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[2] Also Gamerschlag et al. (2011) focus on the same topic.

show that ownership structure, size and multiple exchange listing are important factors that have a strong influence on the level of CSR disclosure in bank websites.

More specifically, this paper contributes to the literature that focuses on the disclosure on corruption, which is still rather scant. Joseph et al. (2016) analyse anti-corruption disclosure in three different published reports of non-financial firms, namely annual reports, CSR reports and sustainability reports. This analysis is carried out by means of a content analysis methodology based on binary disclosure indicators, which are divided into seven categories: (i) Accounting for combatting bribery; (ii) Board and top-management responsibility; (iii) Human resources for combating bribery; (iv) Responsible business relationships; (v) Assurance and external verifications; (vi) Codes of conduct; and (vii) Whistle-blowing. The results show that the categories "codes of conduct" and "whistle-blowing" are those most reported in the reports analysed, although this kind of disclosure is still at its infancy and numerous regulatory efforts are still necessary to improve anti-corruption disclosure. By drawing upon the legitimacy theory framework, Blanc et al. (2017) study the relationship between media exposure and anti-corruption disclosure. In particular, the authors analyse the Transparency International's Rating of the Anti-Corruption Disclosures (Kowalczyk-Hoyer, 2012) of the 105 largest multinational firms at worldwide level and the Reporters Without Borders' rankings of country-level press freedom[3]. Their results show that media exposure has a positive impact on the anti-corruption disclosure scores, and that this impact is reduced as the country-level of press freedom increases. These findings shed light on the role that media exposure plays on CSR disclosure in general and anti-corruption disclosure in particular by showing that country-level press freedom is an important factor to be taken into account. Blanc et al. (2019) analyse the anti-corruption and compliance disclosure at Siemens AG before and after a corruption scandal occurred in 2006, through the lens of stakeholder and legitimacy theory. The methodology adopted in this study is the content analysis of annual reports and sustainability reports. More specifically, the authors counted the number of sentences related to compliance and anti-corruption. The results show that the occurrence of the accident is positively and significantly associated with higher levels of anti-corruption disclosure. This finding can be interpreted as a strategy to regain legitimacy. Furthermore, it emerges that the annual reports show high levels of compliance and anti-corruption disclosure earlier compared to sustainability reports. This time lag is related to the fact that the audience that uses the annual reports is different from that of the sustainability reports.

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[3] Available at http://en.rsf.org/press-freedom-index-2011-2012,1043.html

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3. THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

We draw upon two theoretical frameworks to explain corruption related disclosure practices in the banking industry, namely the *legitimacy theory* and the *signalling theory*, which are widely adopted in disclosure literature (Dicuonzo, 2018).

First, the *legitimacy theory* (Suchman, 1995) proposes an explanation on the reasons why firms show their adherence to the system of values of the society in which they operate, and how they meet social expectations. According to this theory, firms are bound into an expressed or implied social contract with the whole society, whereby their survival and growth depend upon the delivery of socially desirable goods to the society. If firms do not follow the provisions of this contract or if the society thinks they do not do so, then they have to put a remedy to this situation, by providing additional information to the public through financial and non-financial disclosures (Shocker and Sethi, 1973). Thus, firms can use disclosure as a mean to provide more in-depth explanations on the activities they carry out, and to demonstrate their adherence to the above-referred contract with society. This theory has been implemented in numerous disclosure studies (Oliveira et al., 2011; Barakat and Hussainey, 2013), also with reference to corruption related disclosure (Blanc et al., 2017, 2019). According to the *legitimacy theory*, if banks are involved in corruption problems, then they should provide more disclosure on corruption to restore their institutional legitimacy[4]. Hence, these banks should provide more disclosure on corruption after the spread of the news that they have been involved in corruption problems. In this regard, numerous studies provide evidence of a significant increase in disclosure when an incident occurs in non-financial firms (Islam and Mathews, 2009; Eweje and Wu, 2010; Coetzee and Van Staden, 2011; Blanc et al., 2019). In line with this theory, we state our first research hypothesis as follows:

H1: Banks that have been involved in corruption problems, exhibit higher levels of corruption-related disclosure after the occurrence of the corruption scandal in order to restore their legitimacy (legitimacy theory).

Second, the *signalling theory* has been originally proposed by Spence (1973) to draw meaningful conclusions in his well-known analysis of the job market. According to this theory, the higher the levels of performance, the more firms provide information to the market, aiming to show the public their superior performance by mean of disclosure. This postulate is based upon the idea that firm value is positively influenced by investors' perceptions on firms' managerial capabilities (Morris, 1987). Thus, highly performing firms disclose more information to show the public the managerial

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[4] Also stakeholder theory (Freeman, 2010) leads to similar conclusions.

skills of their managers, aiming to attract more investors. This argument also holds when it comes to the disclosure on corruption in the banking industry. Given the asymmetric information between investors and bank managers, the latter could tend to provide more corruption-related disclosure if their banks are characterised by a reliable anti-corruption system and if they did not experience any corruption issue. The higher level of information is important for investors to assess the value of the bank, resulting in higher levels of investment. In this respect, the explanation proposed by Lev and Penman (1990, pp. 50) is particularly insightful: *"managers with information that implies firms' values larger than the average valuation assumed by the market will disclose it credibly and their firms' values will be revised upward. Managers whose information implies below market values will not disclose, but investors interpret silence as withholding the worst possible information. Market values of such non-disclosing firms can therefore be expected to decrease."* In our context, the *signalling theory* (Spence, 1973) posits that those banks that have not been involved in corruption issues could be more incentivised to provide corruption-related disclosure to send a signal to the public of their lack of corruption issues and on the reliability of their anti-corruption mechanisms. Hence, banks that have not been involved in corruption problems should provide more disclosure on corruption. In this regard, it is worth to mention Cho et al.'s (2015) analysis, who examine the disclosure on CSR, which can be considered a wide category that includes anti-corruption disclosure (Blanc et al., 2017). These authors question the idea that CSR disclosure is mostly a function of exposure to legitimacy factors. Cho et al. (2015) support the idea that the purpose of this kind of disclosure is to inform investors, rather than being only a tool of legitimation, showing that the *signalling theory* is a useful theoretical framework to analyse anti-corruption disclosure. Hence, we state our second research hypothesis as follows:

H2: Banks that have not been involved in corruption problems exhibit higher levels of corruption-related disclosure compared to those banks that experience corruption issues (signalling theory).

4. METHODOLOGY

4.1 Sample Selection

In order to test the aforementioned research hypotheses, it is necessary to identify a suitable sample of banks that were involved in a corruption issues and banks that did not experience any problem related to corruption. First, we decided to focus on GIPSI countries (Greece, Italy, Portugal, Spain and Ireland) that represent the most troubled economies of the Eurozone during the last decade because of their high levels of sovereign debt (Shambaugh, 2012). The choice of selecting these countries lies on the fact that they are characterised, on average, by higher levels of perceived corruption according to the corruption perception index proposed by Transparency

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International (2019). Second, we identify those banks that experience these problems in these countries by searching for corruption scandal news in selected news publication websites[5]. Given that some corruption cases were borderline cases, we adopted a clear definition of corruption by drawing upon previous studies. Specifically, we adopted the definition proposed by Pellegrini (2011), who defines corruption as "*the misuse of entrusted power for private gain; it is behavior which deviates from the formal duties of a given role because of private-regarding (personal, close family, private clique) pecuniary or status gains; or violates rules against the exercise of certain types of private regarding influence. This includes such behaviour as bribery (use of a reward to pervert the judgment of a person in a position of trust); nepotism (bestowal of patronage by reason of ascriptive relationship rather than merit); and misappropriation (illegal appropriation of public resources for private regarding uses).*" We included in our sample all banks that were involved in corruption problems that fall under this exact definition (from now on, "corrupted" banks). According to this definition, we identified 22 "corrupted banks" and we relied on the aforementioned press release websites to identify when the news of these corruption problems became public.

After the identification of the sample of "corrupted" banks, we selected a sample of comparable banks that did not experience any corruption issue (from now on "uncorrupted" banks), in order to compare the disclosure practices of these two groups. Following previous literature, we detected the main determinants of CSR disclosure and selected those banks that are closer to "corrupted" bank sample. Although the best solution would have been to use the main determinants of corruption-related disclosure to match the banks that experienced corruption problems with other banks that were not involved in this kind of problems, the scant literature on this topic forced us to rely on studies that analyse CSR disclosure, which is a wider category that includes corruption-related disclosure. In this regard, the literature shows that size, profitability and the amount of deposits are amongst the most relevant variables that influence CSR disclosure in the banking industry (Farook et al., 2011; Ali et al., 2017)[6]. Hence, we selected the banks from the same countries that have the closest levels of size, profitability and amount of deposits, by relying on the BankFocus database (Bureau van Dijk). As an example, if Bank A in Spain experienced corruption issues that have been reported in the Expansión newspaper, we include it in our analysis, and we compare its corruption-related disclosure with those of other three Spanish banks with the closest levels of total assets, net interest margin and total customer deposits. In doing so, we created a

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[5] We focus on some of the most relevant and trustworthy economic, business and financial newspapers at European level (Reuters, Financial Times, The Economist, City A.M., Il Sole24Ore, Milano Finanza and Expansión).

[6] The natural logarithm of total assets in the balance sheet is used as a proxy for bank size. The net interest margin is considered to proxy for the level of bank profitability. The ratio total customer deposits over total funding is used as a proxy for bank leverage.

"treatment group" of banks that experienced corruption issues that became public domain, and a "control group" of banks that did not experience these problems. Given that, in certain cases, the BankFocus database did not allow us to select three "uncorrupted banks" from the same country as that of each "corrupted banks", for those countries that have a limited number of banks, such as Greece and Ireland, we selected "uncorrupted banks" from the other GIPSI countries when it was not possible to find a comparable bank from the same country. As reported in Panel A of Table 1, our final sample is made up of 83 "corrupted" and "uncorrupted" banks examined during the 2011-2019 period.

4.2 Content analysis methodology

We collected the audited and consolidated versions of the annual financial reports of the 83 banks included in our sample from banks' official websites and we analysed them by means of content analysis[7]. We focus on the annual financial reports, rather than on sustainability reports or integrated reports, because we are interested in the analysis of the information that banks provide to investors and shareholders, rather than on the information provided to a wider audience of stakeholders. Hence, given that CSR disclosure in general and corruption disclosure in particular is especially important for investors (Cho et al., 2015) we analyse the most important documents banks use to provide information to shareholders and potential investors, namely the annual financial reports (Tutino, 2019).

In order to analyse the content of the annual reports, we draw upon the content analysis framework proposed by Krippendorf (2004). We created a disclosure dictionary specifically tailored to analyse corruption-related disclosure in bank annual reports. The decision to create a tailored dictionary is based on the idea that applying standardised dictionaries outside the context for which they were created might invalidate the results of the analysis (Loughran and McDonald, 2011; Beattie, 2014; Kearney and Liu, 2014). We created our dictionary by selecting the most relevant words to test our research hypotheses by drawing upon a selection of sources (including three corruption dictionaries) of websites of reputable international organizations that are committed to fight against corruption (see Appendix A for further information on these sources). The dictionary has been subsequently validated by a panel of experts in banking and CSR[8] that were

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[7] As reported in Table 1, more than 50% of the sample of bank-year observations are from Italy. We corroborate that our results are not driven by the such a relative higher presence of Italian banks in our sample. We run our baseline models without the subsample of Italian banks. Our results hold completely.

[8] This panel of experts include academic scholars and practitioners in the field of banking. They have worked in studies on disclosure, CSR and corruption in banking.

asked to propose additional words and eliminate those that were not considered relevant. The results of this procedure is a list of 88 words, listed in Table A1 in the appendix A.

Similarly to previous disclosure (Tetlock et al., 2008; Bushman et al., 2016) and CSR disclosure studies (Gamerschlag et al., 2011), we count the occurrences of these words in the annual financial reports and create a disclosure index per bank and year as follows:

$$DI_{ijt} = \sum_{i=1}^{n} \frac{(number\ of\ occurences\ word\ i)}{Total\ number\ of\ words\ of\ the\ report}$$

[1]

Where i, j and t denote the bank, country and year, respectively. Hence, DI_{it} is our disclosure index for bank i in period t, and n is the number of words included in our dictionary (88). Higher values of this index will indicate more corruption-related disclosure. The disclosure index has been subsequently standardized, subtracting the mean and dividing by the standard deviation of the whole sample. The standardization is necessary when the disclosure index is non-stationary, which might happen if there are regime changes in the word distribution (Tetlock et al., 2008).

4.3 Econometric model and variables

In order to examine the relation between corruption scandals and corruption-related disclosure, we rely on a difference-in-differences identification strategy, aiming to analyse whether "corrupted banks" provide more/less corruption related disclosure in their annual financial reports compared to "uncorrupted banks". Formally, we estimated the following econometric model:

$$D_{ijt} = \beta_0 + \beta_1 D_{ij2011} + \beta_2 CORRUPT_{ijt} + \gamma BANK_{ijt-1} + \delta_j + \partial_t + \varepsilon_{ijt}$$

[2]

Where D_{ijt} is the disclosure index for bank i in country j at time t. As can be observed in Table 1, countries in our sample report an on averaged value of the disclosure index of -0.0704. We find, however, important differences among countries in our sample. The highest averaged value of the disclosure index is found in Spain (0.5734), whereas Ireland shows the lowest one (-0.4487). $CORRUPT_{ijt}$ is a dummy variable equal to 1 for those banks that experienced corruption problems and 0 otherwise. According to the figures reported in Table 1, Ireland is the country with highest percentage of bank-year observations of "corrupted banks" (77.14%) and Italy is the country with the lowest one (27.77%). On average, our sample is composed of a 29.14% of "corrupted" bank-

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year observations. In all the estimates, we include the initial level of the disclosure index in order to account for potential reverse causality problems between the bank-level variables and the level of disclosure (D_{ij2011})[9].

We also add a comprehensive set of bank-level control variables $(BANK_{ijt-1})$ based on the analysis of the extant literature that could be explaining, at least in part, corruption-related disclosure. In particular, we include bank size ($SIZE$), proxied by the natural logarithm of bank total assets. As can be observed, Spain and Ireland are the countries with the largest banks in our sample (18.16 and 18.08, respectively), whereas Italy has the banks with the lowest value of total assets (1.76). We also consider the cost-to-income ratio ($COST$) in order to account for the level of bank efficiency. According to the mean values presented in Table 1, the most efficient banks are the Italian ones (23.41%). Greek banks, however, are the ones with the highest value of this ratio (76.88%). The total capital adequacy ratio (CAP) is included as a proxy for bank solvency. This ratio presents its highest value in the case of Irish banks (28.78%). Italian banks report, on average, the lowest value of capital ratio during our sample period (4.91%). Finally, a measure of bank diversification, the non-interest income over operating revenues ratio ($NONINT$), is included. Italy and Portugal are the countries with the lowest (19%) and highest (53.89%) value of this ratio, respectively. All the bank-level variables are lagged by one period and winsorized at 1% level in order to reduce the impact of outliers. δ_j and ∂_t are the country- and year-fixed effects, respectively. ε_{ijt} is the error term. Our main coefficient of interest is β_2, as it captures the effect of being involved in corruption problems on bank corruption related disclosure.

As for the second research hypothesis, we compare the corruption disclosure indexes of "corrupted banks" after the news of the corruption problem became public and "uncorrupted banks" by means of the following econometric model:

$$D_{ijt} = \theta_0 + \theta_1 D_{ij2011} + \theta_2 CORRUPTafter_{ijt} + \lambda BANK_{ijt-1} + \delta_j + \partial_t + \varepsilon_{ijt}$$

[3]

Where $Dummy\_Corruption\_after_t$ is equal to 1 for "corrupted banks" after the corruption scandal becomes public. In our sample, this dummy takes an on average value of 0.1904, meaning that 19.04% of the bank-year observations in our sample are from "corrupted" banks during the after-corruption scandal period. In this regression model, the parameter θ_2 captures the effects of the spread of the news of the corruption problems for "corrupted banks", and it allows us

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[9] In our sample, we consider the value of the index in 2011.

to study whether the news of a corruption problem in the press release induce "corrupted banks" to increase their level of disclosure or not.

INSERT TABLE 1 ABOUT HERE

5. RESULTS

5.1. Corruption and bank disclosure: baseline model

We first examine the basic relationship between corruption scandals and bank corruption-related disclosure. The idea is to check if those banks that have experienced a corruption scandal disclose more or less on this topic than "uncorrupted" banks. The results obtained are presented in Panel A of Table 2. In columns (1) to (4), we report different specifications of the baseline model. In particular, column (1) reports the results using an OLS estimator controlling for country- and year-fixed effects and clustering the standard errors at a country-year dimension. Columns (2) to (4) show the results of a mixed effects panel data estimator. In column (2), we only include country dummies, whereas in column (3) we include both country- and year-fixed effects. In column (4), we report the results of the mixed effects model controlling for country and year dummies and clustering at a country-year dimension. As can be observed, in all the estimates we find a negative and statistically significant coefficient for the $CORRUPT$ dummy, indicating that after controlling for the initial level of corruption disclosure and the rest of bank-level characteristics, those banks that have experienced a corruption scandal are the ones that report less on corruption-related issues. This finding would be in line with the *signalling theory*, as they suggest that "uncorrupted" banks are more willing to disclose on corruption issues than those banks that have been classified as "corrupted". In fact, given the context of asymmetric information between investors and bank managers that usually characterizes the banking market, managers of "uncorrupted" banks could tend to provide more corruption-related disclosure if their banks are characterised by a reliable anti-corruption system and if they did not experience any corruption issue.

In Panel B, we report the results examining if after corruption scandals, "corrupted" banks are more likely to disclose more on corruption-related topics. As can be observed in columns (5) to (8), the $CORRUPTafter$ dummy always presents negative and statistically significant coefficients at 1% level. Consistently with this empirical finding, it could be stated that, after a corruption scandal, "corrupted" banks disclose less on corruption topics than "uncorrupted" banks. At a first look, this result could be surprising as, according to the *legitimacy theory*, it could be expected that "corrupted" banks were more prone to disclose after the corruption scandal. This would be in line with an attempt of restoring their institutional legitimacy and being "acceptable" in the market again. However, our results a more aligned with an increased relevance of the *signalling theory* by

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"uncorrupted" banks. It emerges that after a corruption scandal, "uncorrupted" banks are more incentivised to increase their reputation in the market and try to differentiate even more from "corrupted" banks. Hence, they are more prone to increase their corruption-related disclosure after the scandals become public.

As regards of the control variables, in all the estimates of Table 1 we obtain positive and statistically significant coefficients for the initial level of disclosure ($DISCLOSURE_{2011}$), indicating that those banks that presented higher levels of corruption related disclosure in the first year of our sample are prone to disclose more in the following periods. The total capital adequacy ratio (CAP) and the diversification measure ($NONINT$) always show a negative coefficient that is statistically significant at conventional levels. Banks that are strongly capitalized seem to disclose less on corruption topics. According to this result, bank's strong capital position could act as an additional way to foster its legitimacy and to increase the signals sent to the market about its financial health. Hence, the disclosure strategy could be less relevant in these cases. In a similar vein, banks with higher levels of activities diversification, proxied by the non-interest income over operating revenue ratio, present lower levels of disclosure. In other words, banks that are mostly focused on traditional activities of credits and deposits are more prone towards disclosing more on corruption-related topics as their relevance for the interconnection between the financial and real side of the economy is higher through the traditional lending channel. The sign of the coefficient of the variable that captures bank size is negative, suggesting that, on average, large banks tend to disclose less on corruption topics. This could be to some extent related to the importance of size to increase bank legitimacy on its own and acting as a potential substitute of disclosure practices. However, we should be cautious with this result as it is only statistically significant in Panel B.

INSERT TABLE 2 ABOUT HERE

5.2. Corruption and bank disclosure: the effect of institutional quality and bank regulation

Once that we have studied the extent to which corruption cases affect the disclosure practices in the banking sector, our objective is to exploit the heterogeneity of our sample of bank-year observations across countries. Hence, in this section we examine if our results hold after taking into account country-level characteristics related to the quality of institutions and regulatory features of the banking market. This analysis has two main purposes. First, by controlling for differences in institutional environment and regulatory aspects across countries, we check the robustness of the basic results. For instance, if our corruption dummy is proxying for institutions and regulations that affect corruption levels in a country, then controlling for the legal and institutional environment

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will drive out the significance of the corruption dummy and explain the reasons for its potential significant coefficients in the baseline models. Moreover, this analysis allows us to check if institutional quality and regulations have an independent influence on corruption-related disclosure in our sample of banks. To carry out this analysis, we include the annual index of control of corruption (*CONTROLCORR*) for each country from the Worldwide Governance Indicators (WGI) dataset. This variable specifically captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Hence, higher values of this indicator imply higher control of corruption. In a similar vein, we collected the country-year values of the corruption perception index developed by Transparency International (*CORRPERCEP*). This indicator measures how corrupt a country's public sector is perceived to be by experts and business executives. In this case, higher values of this index imply lower levels of corruption perception. As regulatory variables, we specifically consider the influence of restrictions on non-traditional bank activities (*RESTRICTALL*) and restrictions on bank ownership and control of non-financial firms (*RESTRICTOWN*). These variables have been collected from the World Bank Regulation and Supervision dataset (2019). According to their definition, higher values of both indicators imply higher restrictions on non-traditional banking activities and on bank ownership and control of non-financial firms.

In Table 3, we present the results obtained. Following a similar structure to that presented in Table 2, we show the results for the *CORRUPT* dummy in Panel A. The results using *CORRUPTafter* are reported in Panel B. The negative and significant coefficient found for both dummies remain invariant after controlling for the institutional and regulatory characteristics of each country. Moreover, we find that most of them have an individual effect on corruption-related disclosure practices. In particular, we find that higher levels of control of corruption (*CONTROLCORR*) are positively related to the corruption disclosure. This indicates that, in the case of countries and years characterized by higher levels of control of corruption, bank entities disclose more on corruption-related topics. The argument could be related to the higher disclosure requirements in these environments forcing banks to increase the amount of information that they provide to the public. The effect of the index that proxies for the corruption perception is negative although only statistically significant at 10% level in column (2). Finally, both the indicator of restrictions on all types of non-traditional banking activities (*RESTRICTALL*) and the indicator of restrictions on bank ownership and control of non-financial firms (*RESTRICTOWN*) enter the regression with negative coefficients. Hence, in countries characterized by relatively higher levels

of restrictions on bank activities banks would disclose less on corruption topics, as the stringent regulation could be seen as an additional mechanism through which banks could increase their legitimacy. In other words, if regulatory requirements on the kinds of activities a bank can enroll in were stronger, corruption disclosure would not be so relevant.

INSERT TABLE 3 ABOUT HERE

5.3. Corruption and bank disclosure: interactions with institutional quality and bank regulation

In this section, we empirically explore if the effects of being a "corrupted" bank on disclosure practices and the behaviour of "corrupted" banks after corruption scandals are homogeneous across countries or if, alternatively, they vary depending on the institutional and regulatory environment. To do so, we extend our baseline model and introduce, sequentially, an interaction term between the corruption dummy (*CORRUPT* and *CORRUPTafter*) and each of the proxies for institutional quality and bank regulation (*CONTROLCORR; CORRPERCEP; RESTRICTALL; RESTRICTOWN*). The results obtained are shown in Table 4. As can be observed, the overall negative effect for both corruption dummies (Panels A and B) remain invariant in most of the estimates reported, suggesting that "corrupted" banks disclose less corruption-related information during all the sample period and, particularly, also during the years after the corruption event. Moreover, the coefficients of the interaction terms between the index of control of corruption and the corruption dummy appear as statistically significant in column (1). The result could be in line with "corrupted" banks disclosing less than "uncorrupted" entities in countries with higher levels of control of corruption. This result could be consistent to some extent with, again, the *signalling theory* affecting the incentives of "uncorrupted" banks. These entities could be prone to disclose more about corruption issues in countries where the institutional quality is higher and this environment could make it easier for them to better signalize their good internal practices against corruption and their lack of corruption cases. We do not find, however, any significant impact for the interaction that captures the extent to which control of corruption mechanisms in a country may shape the impact of "corrupted" banks after the corruption cases.

Our empirical findings also report significant coefficients for the interaction terms between both corruption dummies and the proxies for specific regulation on bank activities. Although, on average, the effect of being a "corrupted" bank is negatively associated with the disclosure index, the effect is, to some extent, moderated if the "corrupted" bank comes from a country characterized by higher levels of restrictions on non-traditional banking activities. The result could be in line with increased incentives to disclose more in these environments in order restore investors' confidence

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on their basic business model. Hence, the *legitimacy theory* could be emerging as a potential argument explaining this behaviour of "corrupted" banks. The results are closely similar in Panel B, when we examine the disclosure practices of "corrupted" banks after the corruption event.

INSERT TABLE 4 ABOUT HERE

5.4. Corruption and bank disclosure: endogeneity concerns

An important methodological concern of our empirical approach is that "corrupted" banks could be likely to be endogenously determined in our model. Indeed, the probability of being a "corrupted" bank could not be considered fully exogenous but could be in part driven by the bank-level characteristics. In such a setting, where observations could be not randomly assigned to different groups, linear regressions may not provide consistent estimates. Although the original construction of our dependent and explanatory variables in the baseline models could partially mitigate this aspect, we now aim to sophisticate our empirical analysis as regards of this specific econometric concern. To this aim, we proceed in a double dimension. First, we try to identify if the causality runs from the corruption dummy to the disclosure index by considering the initial level of disclosure as a reference ($DISCLOSURE_{2011}$). We then define the interaction term between each corruption dummy and the initial level of disclosure. Our premise is that, taken the initial level of disclosure as given, we can identify the sense of the relation if we find a significant coefficient for this multiplicative term. The results are provided in columns (1) and (4) of Table 5. As in previous results, "corrupted" banks disclose less than "uncorrupted" banks about corruption-related issues. Moreover, the individual effect of the initial level of disclosure remains positive, suggesting that banks with higher levels of disclosure at the beginning of the sample period will disclose more. However, the coefficients of the interaction terms between $CORRUPTION$ $dummy$ and $DISCLOSURE2011$ are negative and statistically significant at conventional levels in both panels. This suggests that those "uncorrupted" banks that presented higher levels of disclosure in 2011, are currently more prone to disclose more, in line with the *signaling theory*. Hence, the significant coefficient of this interaction term makes it possible to state that causality runs from corruption to disclosure practices and not the other way around.

Second, we perform a two-stage Heckman (1979) regression analysis that controls for the sample selection and endogeneity problems between being a "corrupted" bank and its effects on disclosure practices. Hence, we run a first-stage Probit regression where the dependent variable is the dummy that identifies the "corrupted" banks ($CORRUPTION$ $dummy$) to estimate λ, the inverse Mill's ratio. As explanatory variables, we consider the whole set of variables explaining the corruption-

related disclosure in the second stage plus an additional control acting as exogenous variable. This additional variable in the first-stage equation must explain the corruption dummy without affecting the second-stage dependent variable, the disclosure index, directly. We have considered the annual loan loss provisions-to-total customer loans of each bank as the exogenous instrument ($PROV$) as the instrument for the first-stage estimates. According to previous literature, banks could use loan loss provisions to smooth positive (non-negative) earnings thereby dampening discipline over risk-taking. This would be consistent with diminished transparency inhibiting outside monitoring (Bushman and Williams, 2012; Ozili, 2019) and potentially increasing corruption practices by the examined banks. The results of the first-stage regressions are reported in columns (2) and (5). According to our expectations, the coefficients for the loan loss provisions ratio are positive and statistically significant, suggesting that the instrument is valid and that, in particular, higher levels of these kinds of provisions increase the probability of corruption cases. Columns (3) to (6) present the results from the two-stage Heckman (1979) selection models. As can be observed, the inverse Mill's ratio (λ) always enters the regressions with a non-statistically significant coefficient. This result allows us to state that our empirical analysis is not affected by potential sample selection problems. Therefore, this empirical finding suggests that unobserved factors that make corruption cases more likely are not significantly associated with corruption-related disclosure.

INSERT TABLE 5 ABOUT HERE

6. CONCLUSIONS

This paper has analyzed whether and to what extent banks that were involved in corruption cases disclose more on corruption-related topics in their annual reports or if after the corruption event becomes public, the "corrupted" bank is more prone to increase its level of disclosure. We have constructed a dataset composed of 83 "corrupted" and "uncorrupted" banks from the GIPSI countries (Greece, Italy, Portugal, Spain and Ireland) examined during the 2011-2019 period.

We have applied a mixed-effects panel data approach on our sample of bank-year observations and, in line with the *signaling theory*, our results show that "uncorrupted" banks disclose more than banks that were involved in corruption cases during the considered period of time. The results are similar when we consider if not only the bank is "corrupted" or "uncorrupted", but also the specific moment at which the corruption scandal becomes public. This aspect, in fact, allows us to state that after a corruption scandal becomes public "uncorrupted" banks continue disclosing more on corruption topics than "corrupted" entities. These basic results hold after controlling by individual features at a country-level related to institutional quality and regulation in the banking sector.

Moreover, our results are robust to alternative specifications of the baseline model and when potential reverse causality and sample selection concerns are considered in the empirical analysis.

Furthermore, our empirical findings suggest that the relation between corruption and disclosure is not homogenous across countries and years. In particular, our results indicate that "uncorrupted" banks tend to disclose more in the case of countries characterized by higher levels of control of corruption and in the case of banking sectors characterized by lower levels of restrictions on non-traditional banking activities.

In terms of policy implications, our results shed some light on the importance of appropriate mechanisms to control potential corruption behaviour by banks. The development of bank risk-control tools is particularly important in the banking sector and, more specifically, in the case of banks that have already been involved in corruption scandals. Therefore, it is important to try to increase the benefits associated to both the *signalling* and the *legitimacy theory* in the banking sector as ways to increase transparency in the European banking markets.

Finally, our paper also clarifies the institutional and regulatory characteristics that might help to increase disclosure incentives by individual bank entities. Specifically, our results point to additional benefits from control of corruption and bank regulatory restrictions on non-traditional banking activities as country-level features connected to disclosure practices and able to shape the disclosing behavior by both "corrupted" and "uncorrupted" entities.

Appendix A:

List of sources for the development of the tailored disclosure dictionary

https://www.u4.no/terms

Glossary of corruption related terms provided by U4 Anti-corruption resource centre. U4 aims "to reduce the harmful impact of corruption on society. It shares research and evidence to help international development actors get sustainable results."

https://www.globalreporting.org/standards/media/1006/gri-205-anti-corruption-2016.pdf

Global Reporting Initiative (GRI) standard 205 on anti-corruption. "GRI is an independent international organization that has pioneered sustainability reporting since 1997. GRI helps businesses and governments worldwide understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance and social well-being. This enables real action to create social, environmental and economic benefits for everyone. The GRI Sustainability Reporting Standards are developed with true multi-stakeholder contributions and rooted in the public interest."

https://www.corruptionwatch.org.za/glossary-of-corruption-related-terms

Glossary of corruption related terms provided by corruptionwatch. "Corruption Watch is a non-profit organisation launched in January 2012. We rely on the public to report corruption to us. We use the reports as an important source of information to fight corruption and hold leaders accountable for their actions."

https://www.unodc.org/documents/treaties/UNCAC/Publications/Convention/08-50026_E.pdf

"The United Nations Convention against Corruption is the only legally binding universal anti-corruption instrument. The Convention's far-reaching approach and the mandatory character of many of its provisions make it a unique tool for developing a comprehensive response to a global problem. The Convention covers five main areas: preventive measures, criminalization and law enforcement, international cooperation, asset recovery, and technical assistance and information exchange. The Convention covers many different forms of corruption, such as bribery, trading in influence, abuse of functions, and various acts of corruption in the private sector."

Corruptionary (dictionary of corruption terms) provided by Transparency International. "Transparency International is a global movement working in over 100 countries to end the injustice of corruption. We focus on issues with the greatest impact on people's lives and hold the powerful to account for the common good. Through our advocacy, campaigning and research, we work to expose the systems and networks that enable corruption to thrive, demanding greater transparency and integrity in all areas of public life."

20th General Activity Report (2019) of the Group of States against Corruption (GRECO) Anti-corruption trends, challenges and good practices in Europe & the United States of America. "The Group of States against Corruption (GRECO) was established in 1999 by the Council of Europe to monitor States' compliance with the organisation's anti-corruption standards. GRECO's objective is to improve the capacity of its members to fight corruption by monitoring their compliance with Council of Europe anti-corruption standards through a dynamic process of mutual evaluation and peer pressure. It helps to identify deficiencies in national anti-corruption policies, prompting the necessary legislative, institutional and practical reforms. GRECO also provides a platform for the sharing of best practice in the prevention and detection of corruption."

Table A1: List of the words of the tailored corruption disclosure dictionary

Words of the corruption related disclosure dictionary			
Abuse	Facilitation payments	Malefactor	Scam
Asset forfeiture	Favouritism	Malfeasance	Scandal
Bluff	Felon	Manipulation	Secrecy jurisdiction
Breach of trust	Fraud	Misappropriation	Sextortion
Bribery	Gift giving	Misbehavio(u)r	Shell company
Cheat	Graft	Misconduct	Spoliation
Clientelism	Grease money	Miscreancy	State capture
Collusion	Illegal	Misdemeanor	Suspicious
Conflict(s) of interest	Illicit	Misdoing	Suspicious activity reports (SARs)
Corruption	Illicit financial flows (IFFs)	Misfeasance	Swindle
Crime	Immoral	Mismanagement	Tax avoidance
Crookedness	Incident(s) of corruption	Mispricing	Tax evasion
Cronyism	Influence peddling	Misuse	Tax haven
Debarment	Injustice	Money laundering	Terrorist financing
Deceit	Insider trading	Neopatrimonialism	Theft

Dishonest	Interest peddling	Nepotism	Thief
Double-dealing	Intimidation	Offshore financial centre	Trading in influence
Elite capture	Kickback	Patronage	Transgression
Embezzlement	Kleptocracy	Politically exposed persons (PEPs)	Unlawful
Entrusted authority	Laundering of proceeds of crime	Predicate offence	Violation
Exploitation	Larceny	Prosecution	Whistleblow
Extortion	Lawbreaker	Reprobate	Wrongdoing

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Table 1: Sample of banks and observations per country and main descriptive statistics

This table shows the number of banks and observations in each country and the mean values of the main variables of interest per country. It also reports the main aggregated descriptive statistics for all the bank- and country-level variables. DISCLOSURE is the standardized disclosure index on corruption issues computed for each bank in annual basis. CORRUPT is a dummy variable identifying if a bank has been affected by a corruption scandal. CORRUPTafter takes value 1 for the banks affected by the corrupted scandal after the year of the scandal and 0 otherwise. SIZE measures the size of the bank entity as the natural logarithm of total assets. COST is the cost-to-income ratio. CAP and NONINT refer to the total capital adequacy ratio and the non-interest income-to-operating revenues ratio, respectively. All bank-level variables are winsorized at 1% level to avoid the impact of outliers. CONTROLC is a country-level index proxying for the degree of control of corruption. CORRPERCEP measures the level of corruption perception in each country. RESTRICTALL and RESTRICTOWN measure the extent to which non-traditional banking activities and bank owning and control of non-financial firms are restricted, respectively.

				Panel A: Bank-level variables					
Country	#Banks	#Obs.	DISCLOSURE	CORRUPT	CORRUPTafter	SIZE	COST	CAP	NONINT
Greece	5	38	0.4153	0.4210	0.3157	17.1904	0.7688	0.1926	0.2897
Ireland	5	35	-0.4487	0.7714	0.4571	18.0810	0.8654	0.2878	0.2728
Italy	41	284	-0.3253	0.1628	0.0568	1.7604	0.2341	0.0491	0.1900
Portugal	15	80	-0.1640	0.4625	0.3375	16.4293	0.6777	0.1607	0.5389
Spain	17	108	0.5734	0.2777	0.2777	18.1636	0.6245	0.1409	0.4424
All	83	525	-0.0704	0.2914	0.1904	17.1598	0.6882	0.1651	0.4494
Median			-0.3617	0	0	17.5657	0.6503	0.1428	0.4410
St. Dev.			0.9081	0.4548	0.3930	1.8978	0.2837	0.0862	0.1874
Min.			-0.8191	0	0	12.0255	0.1691	0.0803	0.0139
Max			5.2986	1	1	21.1533	2.6576	0.7817	1.1040
			Panel B: Country-level variables						
Country		CONTROLC		CORRPERCEP		RESTRICTALL		RESTRICTOWN	
Greece		-0.0823		44.15		10		2	
Ireland		1.5546		73.25		7		2	
Italy		0.1095		62.88		10		2	
Portugal		0.8961		47.72		10		2	
Spain		0.6421		59.18		6		1	
All		0.4214		59.15		8.9771		1.7942	
Median		0.2357		62		10		2	
St. Dev.		0.4576		7.8364		1.6883		0.4046	
Min.		-0.1892		36		6		1	
Max		1.6276		75		10		2	

Table 2: Corruption and bank disclosure: baseline model

This table shows the results examining the impact of corruption scandals on the disclosure index. The dependent variable (DISCLOSURE) is the standardized disclosure index on corruption issues computed for each bank in annual basis. CORRUPTION Dummy refers to either a dummy variable identifying if a bank has been affected by a corruption scandal (Panel A), or a dummy variable that takes value 1 for the banks affected by the corrupted scandal after the year of the scandal and 0 otherwise (Panel B). SIZE measures the size of the bank entity as the natural logarithm of total assets. COST is the cost-to-income ratio. CAP and NONINT refer to the total capital adequacy ratio and the non-interest income-to-operating revenues ratio, respectively. In columns (1) and (5) we report the results using an OLS estimation method. Columns (2) to (4) and (6) to (8) show different specifications of linear mixed models. Country- and year-fixed effects coefficients are not reported for reasons of space. ***; ** and * indicate statistical significance at 1, 5, and 10 percent, respectively.

Dependent variable: DISCLOSURE	Panel A: Using CORRUPT as the CORRUPTION Dummy				Panel B: Using CORRUPTafter as the CORRUPTION Dummy			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CORRUPTION Dummy	-0.3240***	-0.3134***	-0.3240***	-0.3240***	-0.3334***	-0.2566***	-0.3334***	-0.3334***
	(-2.99)	(-3.42)	(-3.61)	(-3.04)	(-2.78)	(-2.60)	(-3.28)	(-2.82)
$DISCLOSURE_{2011}$	0.3888***	0.3938***	0.3888***	0.3888***	0.3808***	0.3855***	0.3808***	0.3808***
	(7.47)	(5.06)	(4.98)	(7.59)	(7.31)	(4.90)	(4.87)	(7.43)
$SIZE_{t-1}$	-0.0225	-0.0281	-0.0225	-0.0225	-0.0382*	-0.0462**	-0.0382*	-0.0382*
	(-0.94)	(-1.23)	(-0.99)	(-0.96)	(-1.66)	(-2.23)	(-1.84)	(-1.69)
$COST_{t-1}$	0.0011	0.0014	0.0011	0.0011	0.0008	0.0011	0.0008	0.0008
	(1.21)	(1.23)	(1.04)	(1.23)	(0.90)	(1.02)	(0.79)	(0.92)
CAP_{t-1}	-0.0123***	-0.0103***	-0.0123***	-0.0123***	-0.0111***	-0.0084**	-0.0111***	-0.0111***
	(-3.30)	(-2.84)	(-3.40)	(-3.35)	(-3.16)	(-2.34)	(-3.11)	(-3.22)
$NONINT_{t-1}$	-0.0043**	-0.0045**	-0.0043**	-0.0043**	-0.0043**	-0.0046***	-0.0043**	-0.0043**
	(-2.36)	(-2.59)	(-2.59)	(-2.39)	(-2.34)	(-2.62)	(-2.59)	(-2.38)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	No	Yes	Yes	Yes	No	Yes	Yes
Cluster (Country & Year)	Yes	No	No	Yes	Yes	No	No	Yes
R^2	0.4185	-	-	-	0.4170	-	-	-
Wald Test (p-value)	-	0.0000	0.0000	0.0000	-	0.0000	0.0000	0.0000
#Obs.	525	525	525	525	525	525	525	525
#Banks	83	83	83	83	83	83	83	83

Table 3: Corruption and bank disclosure: controlling for institutional quality and bank regulation

This table shows the results examining the impact of corruption scandals on the disclosure index controlling for institutional variables and bank regulation. The dependent variable (DISCLOSURE) is the standardized disclosure index on corruption issues computed for each bank in annual basis. CORRUPTION Dummy refers to either a dummy variable identifying if a bank has been affected by a corruption scandal (Panel A), or a dummy variable that takes value 1 for the banks affected by the corrupted scandal after the year of the scandal and 0 otherwise (Panel B). SIZE measures the size of the bank entity as the natural logarithm of total assets. COST is the cost-to-income ratio. CAP and NONINT refer to the total capital adequacy ratio and the non-interest income-to-operating revenues ratio, respectively. CONTROLC is a country-level index proxying for the degree of control of corruption. CORRPERCEP measures the level of corruption perception in each country. RESTRICTALL and RESTRICTOWN measure the extent to which non-traditional banking activities and bank owning and control of non-financial firms are restricted, respectively. All the estimates include year-fixed effects. Robust standard errors are clustered by country and year. ***; ** and * indicate statistical significance at 1, 5, and 10 percent, respectively.

Dependent variable: DISCLOSURE	Panel A: Using CORRUPT as the CORRUPTION Dummy				Panel B: Using CORRUPTafter as the CORRUPTION Dummy			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CORRUPTION Dummy	-0.3511***	-0.3003***	-0.2762***	0.2373***	-0.3212***	-0.2674**	-0.2812**	-0.2518**
	(-3.59)	(-3.00)	(-3.08)	(-2.60)	(-2.72)	(-2.25)	(-2.53)	(-2.30)
DISCLOSURE$_{2011}$	0.4577***	0.4476***	0.4117***	0.3974***	0.4646***	0.4539***	0.4127***	0.3943***
	(11.25)	(10.94)	(8.16)	(7.07)	(11.26)	(10.90)	(8.10)	(7.03)
CONTROLC$_{t-1}$	0.2128***				0.1974***			
	(3.58)				(2.85)			
CORRPERCEP$_{t-1}$		-0.0070*				-0.0066		
		(-1.66)				(-1.50)		
RESTRICTALL			-0.0783***				-0.0871***	
			(-3.01)				(-3.26)	
RESTRICTOWN				-0.3470***				-0.3964***
				(-2.74)				(-3.28)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	No	No	No	No	No	No	No	No
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster (Country & Year)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wald Test (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
#Obs.	525	525	525	525	525	525	525	525
#Banks	83	83	83	83	83	83	83	83

Table 4: Corruption and bank disclosure: interactions with institutional quality and bank regulation

This table shows the results examining if institutional characteristics and bank regulatory features could shape the impact of corruption scandals on the disclosure index. The dependent variable (DISCLOSURE) is the standardized disclosure index on corruption issues computed for each bank in annual basis. CORRUPTION Dummy refers to either a dummy variable identifying if a bank has been affected by a corruption scandal (Panel A), or a dummy variable that takes value 1 for the banks affected by the corrupted scandal after the year of the scandal and 0 otherwise (Panel B). CONTROLC is a country-level index proxying for the degree of control of corruption. CORRPERCEP measures the level of corruption perception in each country. RESTRICTALL and RESTRICTOWN measure the extent to which non-traditional banking activities and bank owning and control of non-financial firms are restricted, respectively. Bank-level controls (SIZE, COST, CAP and NONINT) are included but not reported for reasons of space. All the estimates include country- and year-fixed effects. Robust standard errors are clustered by country and year. ***; ** and * indicate statistical significance at 1, 5, and 10 percent, respectively.

	Panel A: Using CORRUPT as the CORRUPTION Dummy				Panel B: Using CORRUPTafter as the CORRUPTION Dummy			
Dependent variable: DISCLOSURE	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CORRUPTION Dummy	-0.1848*	-0.3900	-2.1454***	-1.7137***	-0.3205***	-0.1927**	-1.9764***	-1.7524***
	(-1.68)	(-1.31)	(-5.84)	(-4.98)	(-2.70)	(-2.30)	(-5.46)	(-5.19)
$DISCLOSURE_{2011}$	0.4030***	0.3876***	0.4205***	0.4129***	0.3816***	0.3833***	0.4112***	0.4108***
	(8.41)	(7.81)	(8.46)	(8.20)	(7.75)	(7.54)	(8.26)	(8.19)
CORRUPTION Dummy * $CONTROLC_{t-1}$	-0.2876**				-0.0227			
	(-2.35)				(-0.22)			
CORRUPTION Dummy * $CORRPERCEP_{t-1}$		0.0011				-0.0030		
		(0.24)				(-1.38)		
CORRUPTION Dummy * RESTRICTALL			0.2053***				0.1956***	
			(5.62)				(5.56)	
CORRUPTION Dummy * RESTRICTOWN				0.7956***				0.8452***
				(4.53)				(5.04)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster (Country & Year)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wald Test (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
#Obs.	525	525	525	525	525	525	525	525
#Banks	83	83	83	83	83	83	83	83

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Table 5: Corruption and bank disclosure: endogeneity concerns

This table shows the results examining the impact of corruption scandals on the disclosure index controlling for potential reverse causality and sample selection bias. CORRUPTION Dummy refers to either a dummy variable identifying if a bank has been affected by a corruption scandal (Panel A), or a dummy variable that takes value 1 for the banks affected by the corrupted scandal after the year of the scandal and 0 otherwise (Panel B). In columns (1) and (4) we explain the DISCLOSURE variable controlling for reverse causality by introducing the interaction term between the initial level of disclosure (in 2011) and the CORRUPTION Dummy. Columns (2) and (5) report the results of the first-stage estimates of a Heckman (1979) model. The second stage regressions are reported in columns (3) and (6). The first-stage dependent variable is the CORRUPTION Dummy. The dependent variable in columns (1), (3), (4) and (6) is the standardized disclosure index on corruption issues computed for each bank in annual basis (DISCLOSURE). PROV is the annual loan loss provisions-to-gross consumer loans ratio. SIZE measures the size of the bank entity as the natural logarithm of total assets. COST is the cost-to-income ratio. CAP and NONINT refer to the total capital adequacy ratio and the non-interest income-to-operating revenues ratio, respectively. Coefficients for country- and year-fixed effects are not reported for reasons of space. ***; ** and * indicate statistical significance at 1, 5, and 10 percent, respectively.

	Panel A: Using CORRUPT as the CORRUPTION Dummy			Panel B: Using CORRUPTafter as the CORRUPTION Dummy		
	(1)	(2)	(3)	(4)	(5)	(6)
CORRUPTION Dummy	-0.3578***			-0.3094***		
	(-4.47)			(-4.36)		
DISCLOSURE$_{2011}$	0.5465***	0.1281*	0.1045**	0.5429***	0.0732	0.1277**
	(7.49)	(1.72)	(1.97)	(7.38)	(0.99)	(2.03)
CORRUPTION Dummy * DISCLOSURE$_{2011}$	-0.4447***			-0.4547***		
	(-2.92)			(-2.93)		
SIZE$_{t-1}$	-0.0115	0.4352***	-0.0616	-0.0199	0.2714***	0.0080
	(-0.48)	(8.05)	(-1.09)	(-0.93)	(5.14)	(0.11)
COST$_{t-1}$	0.0002	0.0054*	0.0025	0.0001	0.0047	0.0043
	(0.20)	(1.74)	(1.13)	(0.10)	(1.62)	(1.43)
CAP$_{t-1}$	-0.0117***	-0.0670***	0.0086	-0.0109***	-0.0423**	0.0067
	(-3.01)	(-3.82)	(0.64)	(-2.91)	(-2.56)	(0.35)
NONINT$_{t-1}$	-0.0038**	0.0066	-0.0087**	-0.0039**	0.0043	-0.0157***
	(-2.29)	(1.12)	(-2.22)	(-2.32)	(0.78)	(-2.80)
PROVI$_{t-1}$		0.0730***			0.0354***	
		(4.62)			(3.25)	
Inverse Mill's Ratio			-0.2476			-0.1630
			(-1.44)			(-0.52)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country-year fixed effect	No	Yes	Yes	No	Yes	Yes
Cluster (Country & Year)	Yes	No	No	Yes	No	No
Wald Test (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
#Obs.	525	525	525	525	525	525
#Banks	83	83	83	83	83	83

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