

# 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 which explain why financial institutions disclose corruption-related information to the public in their annual financial reports. Using a total sample of 88 banks from the GIPSI countries during the period 2011-2019, our results reveal that, on average, banks involved in corruption issues disclose less on corruption-related information than banks not 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 econometric models, and to alternative empirical methods accounting for potential reverse causality and sample selection concerns.

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Keywords: corruption, disclosure, GIPSI, institutional quality, regulation

JEL Classifications: G20; G30; K40

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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 which explain why financial institutions disclose corruption-related information to the public in their annual financial reports. Using a total sample of 88 banks from the GIPSI countries during the period 2011-2019, our results reveal that, on average, banks involved in corruption issues disclose less on corruption-related information than banks not 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 econometric models, and to alternative empirical methods accounting for potential reverse causality and sample selection concerns.

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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). Moreover, disclosure allows 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). Most importantly, it helps to maintain stakeholder and investor trust (Oliveira et al. 2011; van Esterik-Plasmeijer and van Raaij, 2017).

Transparency regarding corruption-related disclosure has also been an important focus of previous research (Kowalczyk-Hoyer, 2012; Blanc et al., 2017). In particular, given that corruption scandals might harm a bank's image, and have negative consequences on long-term bank profitability, soundness and shareholder return<sup>1</sup> (Altunbas et al., 2018), it is essential for stakeholders and investors to be adequately informed about banks' involvement in corruption problems and the anti-corruption policies they have 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 economy as a whole (Levine, 2005).

The importance of transparency in general, and of corruption-related disclosure in particular, for both financial and non-financial firms has been highlighted by the numerous theories 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,

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<sup>1</sup> This statement holds true also for non-financial firms (Davidson and Worrel, 1988; Baucus and Baucus, 1997).

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 and aim to identify the most relevant theories that explain 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 involved in corruption issues should provide more disclosure on corruption so as to restore their institutional legitimacy; and (ii) the *signalling theory*, according to which those banks not 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 involved in corruption issues and compare them with the disclosure practices of banks not involved in such problems in order to explore 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 Eurozone economies, because of their high levels of sovereign debt (Shambaugh, 2012). These countries were chosen because, on average, they are characterised 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 behaviour 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).”*

Despite the theoretical and practical importance of corruption-related disclosure in the banking industry, the literature examining this topic remains 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 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 looking at corruption-related disclosure in the banking sector and testing whether and to what extent the level of institutional quality and the characteristics of bank regulation in each country might shape banks' disclosure practices.

The results of our empirical investigation show that banks which did not experience corruption problems provide more corruption-related information than those banks which were involved in such issues, thereby revealing that the *signalling theory* plays a prominent role. Moreover, our results also highlight the relevance of country-level characteristics related to the quality of institutions and regulatory aspects in the banking sector vis-à-vis shaping the impact of corruption issues on disclosure practices.

The remainder of the paper is organised as follows: section 2 provides a review of the related literature, while 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, and, finally, 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 mainly focuses on financial disclosure, which is closely related with financial stability (Sowerbutts et al., 2013). Numerous studies centre on financial risk disclosure, concentrating 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 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 major differences across countries. Baumann and Nier (2004) examine 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 helps to reduce 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. \(2020\)](#) explore the relationship between the tone of banks' disclosure and their insolvency risk, by using a context-specific disclosure dictionary. Their results show that a negative tone in mandatory bank disclosure helps to explain bank risk of insolvency.

The stream of literature on CSR disclosure analyses various kinds of disclosure, including environmental disclosure, social disclosure, disclosure for employees ([Farina et al., 2019](#)), and corruption-related disclosure ([Blanc et al., 2019](#)). [Ali et al. \(2017\)](#) provide an interesting literature review on this topic. By analysing the extant literature, they identify the main determinants of CSR disclosure<sup>2</sup>. 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 to act merely as 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 a significant increase in both 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 has still not been achieved.

Some studies focus on CSR disclosure in the banking industry. [Farook et al. \(2011\)](#), for instance, investigate the determinants of CSR disclosure in banking. Their analysis

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<sup>2</sup> [Gamerschlag et al. \(2011\)](#) also focus on the same topic.

shows that the amount of deposits and 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 protecting shareholder interests (board size and independence) and CSR disclosure. Other studies have examined the relationship between CSR disclosure and financial performance, and provide empirical evidence of a positive and significant relationship between these two variables (Platonova et al., 2018), suggesting there is even a causal relationship between them (Mallin et al., 2014). Another relevant aspect analysed by the literature is CSR disclosure on bank websites. In particular, Hinson et al. (2010) shed light on the difficulties banks experience in providing comprehensive CSR disclosure on their websites. Their investigation shows that even those financial institutions that won awards for the most socially responsible banks exhibit poor CSR disclosure on their websites. Similarly, Kiliç (2016) studies how and to what extent banks provide information on their CSR practices on their websites. The findings of this analysis show that banks do not disclose important information related to energy and environmental issues. In addition, they show that ownership structure, size and multiple exchange listing are important factors that have a strong influence on the level of CSR disclosure on bank websites.

More specifically, this paper contributes to the literature focusing on corruption disclosure, which still remains quite 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 content analysis based on binary disclosure indicators 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 in its infancy and numerous regulatory efforts are still required to improve anti-corruption disclosure. By drawing on the legitimacy theory framework, Blanc et al. (2017) study the relationship between media exposure and anti-corruption disclosure. In particular, the authors examine Transparency International’s Rating of the Anti-Corruption Disclosures (Kowalczyk-Hoyer, 2012) of the 105 largest multinational firms worldwide and the

Reporters Without Borders' rankings of country-level press freedom<sup>3</sup>. Their results show that media exposure has a positive impact on anti-corruption disclosure scores, and that this impact declines as the country-level of press freedom increases. These findings shed light on the role that media exposure plays in 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) explore anti-corruption and compliance disclosure at Siemens AG before and after a corruption scandal in 2006, through the lenses 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. Results show that the occurrence of the scandal is positively and significantly associated with higher levels of anti-corruption disclosure. This finding can be interpreted as a strategy designed to regain legitimacy. Furthermore, annual reports are seen to display high levels of compliance and anti-corruption disclosure earlier compared to sustainability reports.

### 3. THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

We draw on 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; Derouiche et al., 2020).

First, the *legitimacy theory* (Suchman, 1995) proposes an explanation concerning 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 society as a whole, whereby their survival and growth depend upon delivering socially desirable goods to society. If firms fail to follow the provisions of this contract or if society thinks they failed to do so, they must then remedy the 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 means 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;

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<sup>3</sup> Available at <http://en.rsff.org/press-freedom-index-2011-2012.1043.html>

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, they should provide more disclosure on corruption in order to restore their institutional legitimacy<sup>4</sup>. Hence, these banks should provide more disclosure on corruption after the spread of news concerning their involvement 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 involved in corruption problems exhibit higher levels of corruption-related disclosure after the corruption scandal in order to restore their legitimacy (legitimacy theory).*

Second, the *signalling theory* was 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, in an effort to show the public their superior performance through disclosure. This postulate is based upon the idea that firm value is positively influenced by investors' perceptions on firms' managerial capabilities (Morris, 1987). Thus, high performing firms disclose more information so as to show the public the managerial skills of their managers, in an attempt to attract more investors. This argument also holds when it comes to corruption disclosure in the banking industry. Given the asymmetric information between investors and bank managers, the latter might tend to provide more corruption-related disclosure if their banks are characterised by a reliable anti-corruption system and if no corruption issues emerged. This higher level of information is important for investors to assess the bank's value, 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

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<sup>4</sup> Also, stakeholder theory (Freeman, 2010) leads to similar conclusions.

our context, the *signalling theory* (Spence, 1973) posits that banks not involved in corruption issues could be more incentivised to provide corruption-related disclosure in an effort to send a signal to the public regarding their lack of corruption issues and the reliability of their anti-corruption mechanisms. Hence, banks not involved in corruption problems should provide more disclosure on corruption. In this regard, it is worth mentioning Cho et al.'s (2015) analysis, where the authors examine CSR disclosure, which can be considered a broad 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 merely acting as a legitimacy tool, 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 not involved in corruption problems exhibit higher levels of corruption-related disclosure compared to banks that do 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 corruption issues and banks that were not. First, we decided to focus on GIPSI countries (Greece, Italy, Portugal, Spain, and Ireland) that represent the most troubled Eurozone economies over the last decade because of their high levels of sovereign debt (Shambaugh, 2012). These countries were chosen because, on average, they are characterised by higher levels of perceived corruption, according to the corruption perception index proposed by Transparency International (2019). Second, we identify banks that experience these problems in these countries by searching for corruption scandal news in selected news publication websites<sup>5</sup>. Given that some corruption cases were borderline cases, we adopted a clear definition of corruption by drawing on previous studies. Specifically, we adopted the definition proposed by Pellegrini (2011), who defines corruption as “*the misuse of entrusted power for private*

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<sup>5</sup> 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).

*gain; it is behaviour 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 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 news of these corruption problems became public.

After identifying 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 pinpointed the main determinants of CSR disclosure and selected those banks closest to the “corrupted” bank sample. Although the best solution would have been to use the main determinants of corruption-related disclosure to match banks which experienced corruption problems with other banks which were not involved in such problems, the scant literature on this topic forced us to rely on studies analysing 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)<sup>6</sup>. Hence, we selected 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). By way of an example, if Bank A in Spain experienced corruption issues reported in the *Expansión* newspaper, we included it in our analysis, and compared its corruption-related disclosure with those of three other Spanish banks with the closest levels of size, profitability and amount of deposits. In doing so, we created a “treatment group” of banks that experienced corruption issues which became public domain, and a “control group” of banks that did not experience such problems. Given that, in certain cases, the BankFocus database did not

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<sup>6</sup> 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 the amount of deposits.

allow us to select three “uncorrupted banks” from the same country as the “corrupted banks”, for countries with 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 88 banks (22 “corrupted” and 66 “uncorrupted”), 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 88 banks included in our sample from banks’ official websites and we analysed them by means of content analysis<sup>7</sup>. 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 the information provided to a wider audience of stakeholders. Hence, given that CSR disclosure in general and corruption disclosure in particular are 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, annual financial reports (Tutino, 2019).

In order to examine 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) from the websites of reputable international organizations committed to fighting against corruption (see Appendix A for further information on these sources). The dictionary was subsequently validated by a panel of experts in banking and CSR<sup>8</sup>

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<sup>7</sup> As reported in Table 1, over 50% of the sample of bank-year observations are from Italy. We also ran our baseline models without the subsample of Italian banks, and found that our results held completely. This allowed to confirm that our results are not driven by this relatively higher presence of Italian banks in our sample.

<sup>8</sup> This panel of experts includes academic scholars and practitioners in the field of banking. They have worked in studies on disclosure, CSR and corruption in banking.

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

Similar 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 annual financial reports and create a disclosure index per bank and year as follows:

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

[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 was subsequently standardized, subtracting the mean and dividing by the standard deviation of the whole sample. 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:

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

[2]

where  $D_{ijt}$  is the disclosure index for bank  $i$  in country  $j$  at time  $t$ . As can be observed in Table 1, there are important differences in corruption-related disclosure among countries in our sample. The highest average value of the disclosure index is found in Spain (0.6585), whereas Ireland shows the lowest (-0.4293).  $CORRUP_{ijt}$  is defined as a dummy variable equal to 1 for banks that experienced corruption problems, and 0

otherwise. According to the figures reported in Table 1, Ireland is the country with the highest percentage of bank-year observations of “corrupted banks” (77.14%) and Italy is the country with the lowest (14.19%). On average, our sample is composed of 26.60% of “corrupted” bank-year observations.

We also add a comprehensive set of bank-level control variables ( $BANK_{ijt-1}$ ) based on the analysis of the extant literature that could, at least partly, explain corruption-related disclosure. These variables were collected from the BankFocus database (Bureau van Dijk). When individual bank-level data were not available in BankFocus, we manually collected them from the annual reports. We include bank size ( $SIZE$ ), proxied by the natural logarithm of bank total assets. As can be seen, Ireland and Spain are the countries with the largest banks in our sample (18.0810 and 18.0837, respectively), whereas Portugal has the smallest (16.35). 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 Spanish ones (62.32%). Irish banks, however, are the ones with the highest value of this ratio (83.57%). 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 (29.13%). Spanish banks report, on average, the lowest value of capital ratio during our sample period (14.75%). Finally, a measure of bank diversification, non-interest income over operating revenues ratio ( $NONINT$ ), is included. Greece and Portugal are the countries with the lowest (28.97%) and highest (54.34%) value of this ratio, respectively. In all the estimates, we include the initial level of the disclosure index in order to account for potential reverse causality problems between bank-level variables and level of disclosure ( $D_{ij2011}$ )<sup>9</sup>. All bank-level variables are lagged by one period and winsorised at the 1% and 99% levels in order to reduce the impact of outliers. Our main coefficient of interest is  $\beta_2$ , 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:

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

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<sup>9</sup> In our sample, we consider the value of the index in 2011.

[3]

where  $CORRUPT_{after_{ijt}}$  is equal to 1 for “corrupted banks” after the corruption scandal became public. In our sample, this dummy takes an average value of 0.1582, meaning that 15.82% of the bank-year observations in our sample are from “corrupted” banks during the post-corruption scandal period. In this regression model, the parameter  $\theta_2$  captures the effects of the spread of the news of corruption problems for “corrupted” banks, and allows us to study whether the news of a corruption problem in the press release induced “corrupted” banks to increase their level of disclosure or not. In both specifications [2] and [3],  $\delta_j$  and  $\partial_t$  are the country- and year-fixed effects, respectively.  $\varepsilon_{ijt}$  is the error term.

<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 whether banks which 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. Specifically, column (1) reports the results using a POLS 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, banks which experienced a corruption scandal are the ones that report less on corruption-related issues. This finding would be in line with the *signalling theory*, suggesting that “uncorrupted” banks are more willing to disclose on corruption issues than banks classified as “corrupted”. In fact, given the context of asymmetric information between investors and bank managers that usually characterises the banking market, managers of “uncorrupted” banks might 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 which examine whether 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 *CORRUPT*<sub>after</sub> dummy always presents negative and statistically significant coefficients at the 1% level. Consistent with this empirical finding, it could be stated that, after a corruption scandal, “corrupted” banks disclose less on corruption topics than “uncorrupted” banks. At first glance, this result could prove surprising as, according to the *legitimacy theory*, “corrupted” banks might be expected to disclose after the corruption scandal. This would be in line with an attempt to restore their institutional legitimacy and to become “accepted” in the market again. However, our results are more aligned with an increased relevance of the *signalling theory* by “uncorrupted” banks. It emerges that after a corruption scandal, “uncorrupted” banks are more incentivized to increase their reputation in the market, and try to distinguish themselves even further from “corrupted” banks. Hence, they are more prone to increase their corruption-related disclosure after scandals become public.

As regards the control variables, in all the estimates of Table 1 we obtain positive and statistically significant coefficients for the initial level of disclosure (*DISCLOSURE*<sub>2011</sub>), indicating that banks which displayed 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, a bank’s strong capital position could act as an additional way to foster its legitimacy and strengthen the role of capital as an additional signal about its financial health to the market. Hence, disclosure strategy might prove to be less relevant in these cases. In a similar vein, banks with higher levels of activity diversification, proxied by non-interest income over operating revenue ratio, present lower levels of disclosure. In other words, banks that mostly focus on traditional activities of credits and deposits are prone to disclose more on corruption-related topics as their importance 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 capturing bank size (*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 vis-à-vis increasing

bank legitimacy on its own and acting as a potential substitute of disclosure practices. However, this result should be approached with caution as it is only statistically significant in Panel B. We do not find any statistically significant result for the *COST* variable.

<INSERT TABLE 2 ABOUT HERE>

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

Having studied the extent to which corruption cases affect 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 whether results hold after taking into account country-level characteristics related to the quality of institutions and regulatory features of the banking market. This analysis pursues two main goals. First, by controlling for differences in institutional environment and regulatory aspects across countries, we check the robustness of the basic results. For instance, if the corruption dummy is proxying for institutions and regulations that affect corruption levels in a country, then controlling for legal and institutional features will drive out the significance of the corruption dummy and will explain the reasons for its potential significant coefficients in the baseline results. Moreover, this analysis allows us to check whether institutional quality and regulations have an independent influence on corruption-related disclosure in our sample of banks. To carry out this analysis, we consider the annual index of control of corruption (*CONTROLC*) 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 greater control over 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 tighter 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 *CORRUPT*<sub>after</sub> are reported in Panel B. The negative and significant coefficient found for both dummies remain unchanged after controlling for each country's institutional and regulatory characteristics. Moreover, we find that most of them have an individual effect on corruption-related disclosure practices by banks. In particular, we find that higher levels of control of corruption (*CONTROLCORR*) are positively related to corruption disclosure. This indicates that, in the case of countries and years characterised by higher levels of control of corruption, bank entities disclose more on corruption-related issues. The argument could be related to the greater disclosure requirements in these environments forcing banks to increase the amount of information they provide to the public. The effect of the index that proxies for corruption perception is negative, although only statistically significant at the 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 characterised by relatively higher levels of restrictions on banking activities banks would disclose less on corruption issues, as the stringent regulation could be seen as an additional mechanism through which banks could increase their legitimacy. In other words, if regulatory requirements concerning the kinds of activities banks can engage in were stronger, corruption disclosure would be less 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 whether the effects of being a “corrupted” bank on disclosure practices and the behaviour of “corrupted” banks after corruption scandals are homogeneous across countries or whether, by contrast, 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 *CORRUPT*<sub>after</sub>) and each of the proxies for institutional quality and bank regulation (*CONTROL*<sub>C</sub>; *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 throughout the sample period and, particularly, also during the years after the corruption event. Moreover, the coefficients of the interaction terms between the control of corruption index 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, to some extent, again be consistent with the *signalling theory* affecting the incentives of “uncorrupted” banks. These entities might be prone to disclose more about corruption issues in countries where the institutional quality is higher and where this environment could make it easier for them to better signal 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 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 characterised 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 in their basic business model. Hence, the *legitimacy theory* could be emerging as a potential argument to explain this behaviour of “corrupted” banks. The results closely resemble those 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**

One important methodological concern of our empirical approach is that “corrupted” banks might be endogenously determined in our model. Indeed, the probability of being a “corrupted” bank could not be deemed fully exogenous but might partly be driven by

bank-level characteristics. In such a setting, where observations could not be 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 strengthen our empirical analysis as regards this specific econometric concern. To this aim, we proceed in a two-fold manner. First, we try to identify whether causality runs from the corruption dummy to the disclosure index by considering the initial level of disclosure as a reference (*DISCLOSURE<sub>2011</sub>*). We then define the interaction term between each corruption dummy and the initial level of disclosure. Our premise is that, taking 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. 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 *DISCLOSURE<sub>2011</sub>* are negative and statistically significant at conventional levels in both panels. This suggests that “uncorrupted” banks which displayed higher levels of disclosure in 2011 are currently more prone to provide higher levels of disclosure, in line with the *signalling 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 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 “corrupted” banks (*CORRUPTION dummy*) in order to estimate  $\lambda$ , the inverse Mill’s ratio. As explanatory variables, we consider the whole set of variables explaining corruption-related disclosure in the second stage plus an additional control acting as an 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 considered the annual loan loss provisions-to-total customer loans of each bank (*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). In line with 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 ( $\lambda$ ) 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>

## 5.5. Robustness tests

### 5.5.1. Controlling for internal corporate governance mechanisms

Corporate governance features in bank entities are designed mainly to protect shareholder interests (Fama, 1980). Hence, one would expect that banks with more effective internal corporate governance mechanisms will be more diligent in disclosing corruption-related disclosure information. In this regard, the extant literature has shown that there is a strong relationship between corporate governance and disclosure (Hermalin and Weisbach, 2012; Elshandidy and Neri, 2015; Wu et al., 2016). To ensure that our results are not driven by the characteristics of each bank in terms of these aspects, we now re-estimate the basic set of regressions including control variables related to the characteristics of the board of directors. Particularly, we account for the size of the board (*BOARD*), the percentage of non-executive directors on the board (*NED*), the gender ratio (*GENDER*), and the nationality mix of the board of directors (*NATIONALITYMIX*). The results obtained are presented in Table 6. Columns (1) to (3) and (4) to (6) report different specifications of the model explaining the impact of corruption events on the level of disclosure on corruption-related issues while controlling for the different corporate governance variables. As can be observed, in most the estimates shown, *CORRUPT* (Panel A) and *CORRUPT*<sub>after</sub> (Panel B) present negative and statistically significant coefficients. These empirical findings indicate that, after controlling for the corporate governance characteristics, “uncorrupted” banks disclose more than banks involved in

corruption cases. Moreover, and consistently with our basic results, after a corruption scandal becomes public “uncorrupted” banks continue to disclose more than “corrupted” entities. Furthermore, the presence of international members in the board (*NATIONALITYMIX*) presents a negative and statistically significant coefficient, indicating that nationality heterogeneity in the board reduces the level of disclosure on corruption-related issues. However, we should be cautious with this result as the inclusion of *GENDER* and *NATIONALITYMIX* in the regressions forces the drop around 47% of the observations.

<INSERT TABLE 6 ABOUT HERE>

#### 5.5.2. *Other robustness tests*

In further analysis, we perform additional robustness tests of our results. First, we conduct a placebo experiment by assigning random placebo corruption events to our sample of banks. Then, the banks involved in corruption cases and the years in which these events became public are randomly selected. Columns (1) and (4) of Table 7 show that the coefficients of *CORRUPT* and *CORRUPT**after* are not statistically significant after the placebo experiment. This finding suggests that our basic results are not driven by chance.

Second, we re-run the basic estimations excluding Italian banks since, as reported in Table 1, they represent more than 50% of the bank-year observations in our sample. The coefficients of the corruption dummies are still negative and statistically significant after excluding this subsample of bank-year observations.

Finally, on December 2014 the European Banking Authority (EBA)<sup>10</sup> published “*three sets of final Guidelines related to the information that institutions in the EU banking sector should disclose under Pillar 3*”. Specifically, these Guidelines “*cover how institutions should apply the concepts of materiality, proprietary nature and confidentiality in relation to the disclosure requirements, as well as how they should assess the frequency of disclosures (...)*” and “*aim at enhancing consistency in disclosure practices across the EU and are part of the EBA's work to ensure transparency in the EU banking sector*”. Hence, in columns (3) and (6) of Table 7, we define a dummy variable (*EBA*) that takes value 1 for the post-publication period (2015-2019), and 0 otherwise. The objective is to test if, after the enforcement of the new disclosure requirements, there

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<sup>10</sup> EBA/GL/2014/14. Guidelines on materiality, proprietary and confidentiality and on disclosure frequency under articles 432(1), 432(2) and 433 of regulation (eu) no 575/2013.

is a change in the disclosing behavior of our sample of “corrupted” and “uncorrupted” banks. The coefficients for both *CORRUPTION* and *CORRUPTION*<sub>after</sub> remain negative and statistically significant. Moreover, we do not find any significant result for the interaction between each corruption dummy and the *EBA* variable.

<INSERT TABLE 7 ABOUT HERE>

## 6. CONCLUSIONS

This paper explores whether and to what extent banks involved in corruption cases disclose more on corruption-related topics in their annual reports or whether after the corruption event becomes public, the “corrupted” bank is more prone to increase its level of disclosure. We construct a dataset composed of 88 “corrupted” and “uncorrupted” banks from the GIPSI countries (Greece, Italy, Portugal, Spain, and Ireland), examined during the 2011-2019 period.

We apply a mixed-effects panel data approach on our sample of bank-year observations and, in line with the *signalling theory*, our results show that “uncorrupted” banks disclose more than banks involved in corruption cases during the period considered. Results are similar when we consider not only whether the bank is “corrupted” or “uncorrupted”, but also the specific moment at which the corruption scandal becomes public. This allows us to state that after a corruption scandal becomes public “uncorrupted” banks continue to disclose 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 countries characterised by higher levels of control of corruption and in banking sectors characterised by lower levels of restrictions on non-traditional banking activities.

In terms of policy implications, our results shed light on the importance of appropriate mechanisms to control potential corruption behaviour by banks. Developing bank risk-control tools is particularly important in the banking sector and, more specifically, in the

case of banks already 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 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 disclosing behaviour by both “corrupted” and “uncorrupted” entities.

## **Appendix A:**

### **List of sources for 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 Corruption Watch. “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](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”.

<https://www.transparency.org/en/corruptionary>

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”.

<https://rm.coe.int/20th-general-activity-report-2019-of-the-group-of-states-against-corr/16809e8fe4>

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	Misbehaviour	Shell company
Cheat	Graft	Misconduct	Spoliation
Clientelism	Grease money	Miscreancy	State capture
Collusion	Illegal	Misdemeanour	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 standardised disclosure index on corruption issues computed for each bank on an annual basis. *CORRUPT* is a dummy variable identifying whether a bank has been affected by a corruption scandal. *CORRUPTafter* takes the value 1 for banks affected by the corruption 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	0.5367	0.4210	0.3157	17.1904	0.7572	0.1926	0.2897
Ireland	5	35	-0.4293	0.7714	0.4571	18.0810	0.8357	0.2913	0.3314
Italy	44	303	-0.2544	0.1419	0.0495	16.4386	0.6824	0.1546	0.4672
Portugal	15	82	-0.1010	0.4512	0.3292	16.3505	0.6639	0.1654	0.5434
Spain	19	117	0.6585	0.2564	0.1794	18.0837	0.6232	0.1475	0.4530
All	88	575	0.0000	0.2660	0.1582	16.9104	0.6820	0.1655	0.4552
Median			-0.2893	0	0	17.3703	0.6518	0.1438	0.4410
St. Dev.			1.0000	0.4422	0.3653	2.0727	0.2847	0.0862	0.2013
Min.			-0.8436	0	0	10.9460	0.0139	0.0803	0.0139
Max			5.9968	1	1	21.1011	2.2159	0.8226	1.1699

  

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	0.1076	62.88	10	2
Portugal	0.8953	47.80	10	2
Spain	0.6366	59.14	6	1
All	0.4031	59.36	9.0034	1.7942
Median	0.2357	62	10	2
St. Dev.	0.4470	7.5689	1.6778	0.4029
Min.	-0.1892	36	6	1
Max	1.6276	75	10	2

**Table 2: Corruption and corruption-related 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 standardised disclosure index on corruption issues computed for each bank on an annual basis. *CORRUPTION Dummy* refers to either a dummy variable identifying whether a bank has been affected by a corruption scandal –*CORRUPT*– (Panel A), or a dummy variable that takes the value 1 for banks affected by the corruption scandal after the year of the scandal, and 0 otherwise –*CORRUPTafter*– (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 a POLS 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. Robust standard errors are clustered by bank. \*\*\*, \*\* 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	-0.3632** (-2.12)	-0.3535*** (-3.51)	-0.3632*** (-3.69)	-0.3632** (-2.15)	-0.3429* (-1.71)	-0.2413** (-2.05)	-0.3429*** (-2.80)	-0.3429* (-1.73)
DISCLOSURE <sub>2011</sub>	0.4002*** (3.38)	0.4052*** (5.44)	0.4002*** (5.37)	0.4002*** (3.44)	0.3977*** (3.37)	0.4006*** (5.32)	0.3977*** (5.33)	0.3977*** (3.42)
SIZE <sub>t-1</sub>	-0.0213 (-0.64)	-0.0252 (-1.28)	-0.0213 (-1.11)	-0.0213 (-0.65)	-0.0408 (-1.35)	-0.0469** (-2.63)	-0.0408** (-2.35)	-0.0408 (-1.37)
COST <sub>t-1</sub>	0.0007 (0.44)	0.0009 (0.82)	0.0007 (0.67)	0.0007 (0.45)	0.0003 (0.21)	0.0005 (0.47)	0.0003 (0.31)	0.0003 (0.21)
CAP <sub>t-1</sub>	-0.0126* (-1.95)	-0.0100*** (-2.61)	-0.0126*** (-3.29)	-0.0126** (-1.97)	-0.0113* (-1.69)	-0.0076** (-2.02)	-0.0113*** (-2.98)	-0.0113* (-1.72)
NONINT <sub>t-1</sub>	-0.0051* (-1.75)	-0.0052*** (-3.18)	-0.0051*** (-3.27)	-0.0051* (-1.77)	-0.0052* (-1.79)	-0.0054*** (-3.26)	-0.0052*** (-3.33)	-0.0052* (-1.81)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	No	Yes	Yes	Yes	No	Yes	Yes
Bank-level Cluster	Yes	No	No	Yes	Yes	No	No	Yes
R <sup>2</sup>	0.4112	-	-	-	0.4063	-	-	-
Wald Test (p-value)	-	0.0000	0.0000	0.0000	-	0.0000	0.0000	0.0000
#Obs.	575	575	575	575	575	575	575	575
#Banks	88	88	88	88	88	88	88	88

**Table 3: Corruption and corruption-related bank disclosure: 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 standardised disclosure index on corruption issues computed for each bank on an annual basis. *CORRUPTION Dummy* refers to either a dummy variable identifying whether a bank has been affected by a corruption scandal –*CORRUPT*– (Panel A), or a dummy variable that takes the value 1 for banks affected by the corruption scandal after the year of the scandal, and 0 otherwise –*CORRUPTafter*– (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 *RESTRICTTOWN* 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 bank. \*\*\*, \*\* 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	-0.3974*** (-2.64)	-0.3430** (-2.44)	-0.3151** (-2.22)	-0.2737*** (-1.89)	-0.3609* (-1.92)	-0.3135* (-1.78)	-0.2982* (-1.65)	-0.2591 (-1.46)
DISCLOSURE <sub>2011</sub>	0.4590*** (4.25)	0.4492*** (4.01)	0.4206*** (3.78)	0.4084*** (3.54)	0.4650*** (4.29)	0.4547*** (4.05)	0.4235*** (3.80)	0.4081*** (3.53)
CONTROLC <sub>t-1</sub>	0.2259** (2.20)				0.1994* (1.84)			
CORRPERCEP <sub>t-1</sub>		-0.0075 (-1.15)				-0.0072 (-1.09)		
RESTRICTALL			-0.0812** (-2.12)				-0.0854*** (-2.17)	
RESTRICTTOWN				-0.3547** (-2.12)				-0.3861** (-2.33)
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
Bank-level Cluster	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.	575	575	575	575	575	575	575	575
#Banks	88	88	88	88	88	88	88	88

**Table 4: Corruption and corruption-related bank disclosure: interactions with institutional quality and bank regulation**

This table shows the results examining whether institutional characteristics and bank regulatory features might shape the impact of corruption scandals on the disclosure index. The dependent variable (*DISCLOSURE*) is the standardised disclosure index on corruption issues computed for each bank on an annual basis. *CORRUPTION Dummy* refers to either a dummy variable identifying whether a bank has been affected by a corruption scandal –*CORRUPT*– (Panel A), or a dummy variable that takes the value 1 for banks affected by the corruption scandal after the year of the scandal, and 0 otherwise –*CORRUPTafter*– (Panel B). *CONTROL* 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 bank. \*\*\*, \*\* 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	-0.3679** (-2.51)	-0.3387** (-2.50)	-0.2657** (-2.26)	-0.2812** (-2.10)	-0.3368* (-1.67)	-0.3170* (-1.92)	-0.2098 (-1.55)	-0.2262 (-1.53)
DISCLOSURE <sub>2011</sub>	0.4587*** (4.33)	0.4452*** (3.86)	0.4301*** (4.54)	0.4335*** (4.42)	0.4652*** (4.30)	0.4555*** (3.98)	0.4566*** (4.91)	0.4536*** (4.59)
CORRUPTION Dummy * CONTROL <sub>t-1</sub>	-0.4011** (-2.20)				-0.1463 (-0.67)			
CORRUPTION Dummy * CORRPERCEP <sub>t-1</sub>		0.0059 (0.50)				-0.0018 (-0.85)		
CORRUPTION Dummy * RESTRICTALL			0.2271*** (2.80)				0.2916** (2.30)	
CORRUPTION Dummy * RESTRICTOWN				0.9283** (2.25)				1.2265* (1.89)
CONTROL <sub>t-1</sub>	0.4219** (2.55)				0.2280* (1.88)			
CORRPERCEP <sub>t-1</sub>		-0.0103 (-0.91)				-0.0068 (-0.85)		
RESTRICTALL			-0.1476*** (-3.18)				-0.1226*** (-3.09)	
RESTRICTOWN				-0.5686*** (-2.99)				-0.5140*** (-3.09)
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
Bank-level Cluster	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.	575	575	575	575	575	575	575	575
#Banks	88	88	88	88	88	88	88	88

**Table 5: Corruption and corruption-related 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 whether a bank has been affected by a corruption scandal –*CORRUPT*– (Panel A), or a dummy variable that takes the value 1 for banks affected by the corruption scandal after the year of the scandal, and 0 otherwise –*CORRUPTafter*– (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. 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 standardised disclosure index on corruption issues computed for each bank on an 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	-0.4468*** (-2.96)			-0.2594*** (-3.51)		
DISCLOSURE <sub>2011</sub>	0.5508*** (8.08)	0.1338** (2.01)	0.1044* (1.84)	0.5502*** (7.99)	0.1498** (2.27)	0.0734 (0.84)
CORRUPTION Dummy * DISCLOSURE <sub>2011</sub>	-0.4468*** (-2.96)			-0.4601*** (-2.96)		
SIZE <sub>t-1</sub>	-0.0138 (-0.74)	0.4598*** (8.66)	-0.0731 (-0.91)	-0.0245 (-1.47)	0.2527*** (4.78)	0.0167 (0.17)
COST <sub>t-1</sub>	0.0000 (0.01)	0.0065** (2.12)	0.0025 (1.00)	-0.0002 (0.19)	0.0035 (1.18)	0.0035 (1.03)
CAP <sub>t-1</sub>	-0.0125*** (-3.01)	-0.0674*** (-3.85)	0.0098 (0.63)	-0.0112*** (-2.76)	-0.0490*** (-2.85)	0.0112 (0.46)
NONINT <sub>t-1</sub>	-0.0045*** (-3.60)	0.0045 (0.81)	-0.0098** (-2.20)	-0.0047*** (-3.64)	0.0058 (1.06)	-0.0183*** (-2.86)
PROV <sub>t-1</sub>		0.0405*** (4.95)			0.0257*** (3.16)	
Inverse Mill's Ratio			-0.2733 (-1.08)			-0.2020 (-0.43)
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
Bank-level Cluster	Yes	No	No	Yes	No	No
Wald Test (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
#Obs.	575	569	569	575	569	569
#Banks	88	88	88	88	88	88

**Table 6: Corruption and bank disclosure: controlling for internal corporate governance mechanisms**

This table shows the results examining the impact of corruption scandals on the disclosure index controlling for internal corporate governance mechanisms of our sample of banks. The dependent variable (*DISCLOSURE*) is the standardised disclosure index on corruption issues computed for each bank on an annual basis. *CORRUPTION Dummy* refers to either a dummy variable identifying whether a bank has been affected by a corruption scandal –*CORRUPT*– (Panel A), or a dummy variable that takes the value 1 for banks affected by the corruption scandal after the year of the scandal, and 0 otherwise –*CORRUPTafter*– (Panel B). *BOARD* is the size of the board of directors and it is computed as the natural logarithm of the annual number of members in the board. *NED* is the percentage of the non-executive directors in the board. *GENDER* is the gender ratio and it is computed as the share of men over the total number of members in the board. *NATIONALITYMIX* measures the internationalization of the board of directors as the share of international board members. Bank-level controls (*SIZE*, *COST*, *CAP* and *NONINT*) are included but not reported for reasons of space. All the estimates include year-fixed effects. Robust standard errors are clustered by bank. \*\*\*, \*\* and \* indicate statistical significance at 1, 5, and 10 percent, respectively.

	Panel A:			Panel B:		
	Using <i>CORRUPT</i> as the <i>CORRUPTION Dummy</i>			Using <i>CORRUPTafter</i> as the <i>CORRUPTION Dummy</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>CORRUPTION Dummy</i>	-0.3155* (-1.92)	-0.4245** (-2.25)	-0.4002** (-2.26)	-0.036 (-1.60)	-0.3278* (-1.75)	-0.3246* (-1.81)
<i>DISCLOSURE</i> <sub>2011</sub>	0.3641** (2.54)	0.2954** (2.13)	0.3434** (2.30)	0.3649** (2.56)	0.2966** (2.07)	0.3494** (2.28)
<i>BOARD</i> <sub>t-1</sub>	0.0416 (0.26)	-0.1174 (-0.57)	-0.0316 (-0.14)	0.0659 (0.43)	-0.0497 (-0.27)	0.0361 (0.17)
<i>NED</i> <sub>t-1</sub>		0.1677 (0.55)	-0.0995 (-0.26)		0.1303 (0.42)	-0.1840 (-0.46)
<i>GENDER</i> <sub>t-1</sub>			-0.0625 (-0.13)			0.0894 (0.19)
<i>NATIONALITYMIX</i> <sub>t-1</sub>			-0.6540* (-1.68)			-0.6732* (-1.67)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Bank-level Cluster	Yes	Yes	Yes	Yes	Yes	Yes
Wald Test (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
#Obs.	487	345	304	487	345	304
#Banks	87	68	56	87	68	56

**Table 7: Corruption and bank disclosure: other robustness tests**

This table shows the results for additional robustness tests. The dependent variable (*DISCLOSURE*) is the standardised disclosure index on corruption issues computed for each bank on an annual basis. *CORRUPTION Dummy* refers to either a dummy variable identifying whether a bank has been affected by a corruption scandal –*CORRUPT*– (Panel A), or a dummy variable that takes the value 1 for banks affected by the corruption scandal after the year of the scandal, and 0 otherwise –*CORRUPTafter*– (Panel B). Columns (1) and (4) provide the regression results for the placebo experiment on assigning randomly the banks and years affected by corruption cases. In columns (2) and (5), the regression results without the subsample of Italian bank-year observations are reported. Columns (3) and (6) show the results obtained when we control for the new disclosure requirements published by the EBA in 2014. Hence, *EBA* is a dummy variable that takes value 1 for the years 2015-2019, 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 the estimates include year-fixed effects. Robust standard errors are clustered by bank. \*\*\*; \*\* and \* indicate statistical significance at 1, 5, and 10 percent, respectively.

	Panel A: Using <i>CORRUPT</i> as the <i>CORRUPTION Dummy</i>			Panel B: Using <i>CORRUPTafter</i> as the <i>CORRUPTION Dummy</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
	Placebo Test	Without Italian Banks	EBA disclosure requirements after 2014	Placebo Test	Without Italian Banks	EBA disclosure requirements after 2014
<i>CORRUPTION Dummy</i>	-0.0764 (-0.67)	-0.6304*** (-2.76)	-0.3254** (-2.18)	-0.1489 (-1.29)	-0.4681** (-2.04)	-0.2907* (-1.72)
<i>DISCLOSURE</i> <sub>2011</sub>	0.3884*** (3.04)	0.4027*** (3.19)	0.4002*** (3.44)	0.3911*** (3.12)	0.3967*** (3.00)	0.3973*** (3.38)
<i>CORRUPTION Dummy</i> * <i>EBA</i>			-0.0541 (-0.29)			-0.0646 (-0.21)
<i>SIZE</i> <sub>t-1</sub>	-0.0500 (-1.58)	0.0029 (0.04)	-0.0216 (-0.66)	-0.0496 (-1.56)	-0.0191 (-0.27)	-0.0410 (-1.36)
<i>COST</i> <sub>t-1</sub>	0.0000 (0.04)	-0.0009 (-0.41)	0.0007 (0.45)	0.0000 (0.02)	-0.0011 (-0.49)	0.0003 (0.20)
<i>CAP</i> <sub>t-1</sub>	-0.0085 (-1.29)	-0.0137* (-1.89)	-0.0126** (-1.97)	-0.0092 (-1.39)	-0.0093 (-1.22)	-0.0113* (-1.72)
<i>NONINT</i> <sub>t-1</sub>	-0.0053* (-1.79)	-0.0105* (-1.78)	-0.0052* (-1.77)	-0.0052* (-1.71)	-0.0106* (-1.77)	-0.0053* (-1.81)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Bank-level Cluster	Yes	Yes	Yes	Yes	Yes	Yes
Wald Test (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
#Obs.	575	272	575	575	272	575
#Banks	88	44	88	88	44	88

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