



Bank misconduct: The deterrent effect of country governance and customer reaction

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ABSTRACT

Using a proprietary, hand-collected database of 251 sanctions issued by national and international authorities on 109 European banks, we investigate the deterrent effect of governance effectiveness at the country level on detected bank misconduct from 2009 to 2019. We also examine the impact of detected bank misconduct on depositor behavior to investigate how customer reaction is shaped by media coverage. Our empirical strategy based on probit and panel fixed effects shows the existence of a deterrent effect exerted by country governance effectiveness. Moreover, the instrumental regressions show that depositors react to detected bank misconduct by withdrawing their funds and that this reaction is stronger when news coverage is high.

1. Introduction and literature review

The banking industry remains one of the most heavily regulated sectors of the economy, yet instances of misconduct continue to emerge. Fraudulent activities, market manipulation, and money laundering persist despite ongoing regulatory reforms (Alexander and Cumming, 2020). These issues are not merely isolated events but systemic challenges that threaten financial stability, erode depositor trust, and impose significant economic costs (Gowin et al., 2020; Pereira et al., 2019). The collapse of Credit Suisse in March 2023 further underscores the enduring risks of banking misconduct. Since the global financial crisis (GFC) of 2008, financial institutions have faced substantial penalties for misconduct-related infractions, exceeding \$350 billion in the United States alone, with European banks increasingly facing similar scrutiny since 2015 (Busetto et al., 2019). These penalties have significantly impacted banks' net income and equity levels.

Authorities, policymakers, and financial risk managers globally have prioritized addressing bank misconduct, implementing a range of regulatory, enforcement, and preventive measures. Despite these efforts, the effectiveness of such measures depends on the broader institutional

environment. Institutional theory suggests that corporate behavior is shaped by the quality of the governance framework in which firms operate (Campbell, 2007; Hofstede, 2001). Stronger governance frameworks are expected to impose more effective controls, reducing the likelihood of misconduct. However, empirical studies examining the direct relationship between country governance and detected bank misconduct remain limited. By addressing this gap, our study provides new insights into how governance at the national level acts as a deterrent against bank misconduct and examines the extent to which depositors react to misconduct. Furthermore, by developing an original misconduct dictionary for analyzing media coverage, which enabling the extraction of coverage on misconduct from global news databases and textual analysis on the topic, we provide a valuable tool for future research in this field.

Research on bank misconduct has traditionally examined individual actions ("bad apple" theory) or organizational influences ("bad barrel" perspective), but in social psychology there is increasing recognition of the role played by systemic factors ("bad orchard" hypothesis) (Punch, 2003). Prior studies have linked misconduct to bank size, financial health, and governance mechanisms (Sakalauskaite, 2017; Nguyen

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et al., 2016). For example, board oversight and diversity have been found to mitigate misconduct risks, while long-tenured CEOs may increase such risks (Altunbaş et al., 2018; Arnaboldi et al., 2021). However, broader institutional factors, such as governance quality and regulatory stringency, have received comparatively less attention. Firms operating in weaker governance environments are more prone to scandals (Chen, 2016). Similarly, fraud occurrence correlates with the quality of a country's institutions (Bertrand et al., 2007; Callen and Long, 2015; Olken, 2007), and legal compliance and corporate discrimination lawsuits are affected by the legal and political climate (Skaggs, 2009), as well as by variations in local/regional contexts (Tomaskovic-Devey and Stainback, 2007). These insights lead us to our first hypothesis (H1): the better a country's governance, the lower the probability of bank misconduct (deterrent effect).

On the other hand, bank enforcement actions and sanctions resulting from bank misconduct significantly impact bank performance, capital, and risk. While extensive research has examined the impact of misconduct on stock prices, capital adequacy, and risk exposure (Caiazza et al., 2018; Delis et al., 2017), bank capital, profitability, and lending activity (Caiazza et al., 2018; Danisewicz et al., 2018; Guerello et al., 2019; Köster and Pelster, 2017; Peek and Rosengren, 1995), and board turnover, board size and shareholder wealth (Cotugno et al., 2021; Pugachev, 2022), few studies explore customers' reactions, particularly those of depositors. Notably, there is a lack of research focused on Europe, where no studies have investigated the link between detected bank misconduct and depositor behavior. Deposits are a fundamental funding source for banks, accounting for approximately 73 % of total bank funding in Europe (European Banking Authority - EBA, 2021). Some studies suggest that depositors discipline banks by withdrawing funds following revelations of misconduct (Gilbert and Vaughan, 2001; Davenport and McDill, 2006; Pereira et al., 2019). If depositors perceive bank misconduct as an indicator of instability or poor governance, they may respond by shifting funds to competitors, further exacerbating the financial strain on the institution in question. Traditionally, bank regulators have assumed that bank deposits tend to be stable, but evidence shows that, in addition to the familiar risk of bank runs, there is also the threat of "bank walks" (Koont et al., 2023). This term refers to the gradual withdrawal of deposits, contrasting with the rapid pace of bank runs, and this slow movement is not necessarily preventable through deposit insurance. Moreover, studying the change in bank deposits is crucial because not only does withdrawal of corporate deposits weaken the liability side of banks, but also suggests the possibility that their loan business could be shifted to other banks, further destabilizing those already in financial distress (Carletti et al., 2024). Given this backdrop, we hypothesize (H2) that detected bank misconduct has an inverse relationship with bank deposits.

In examining the relationship between detected bank misconduct and the bank deposit base, we propose that depositor behavior can be significantly influenced by mass media coverage. Media coverage influences investor reactions and shapes public perceptions of corporate behavior (Tetlock, 2007; Miller, 2006). While much attention has been paid to understanding, on one hand, the determinants of corporate misconduct and trust repair (Bertels et al., 2015; Brown et al., 2016; Gillespie et al., 2014), and on the other hand, the effect of corporate misconduct on shareholders' reaction (Kim et al., 2022; Kölbel et al., 2017; Karpoff, 2012; Karpoff et al., 2008), the media's role in shaping stakeholder reactions to detected misconduct remains underexplored (Goodstein et al., 2014). Prior research indicates that heightened media attention increases reputational costs associated with corporate scandals, worsening the financial consequences of misconduct (Carberry et al., 2018). Not only does the media amplify negative news but also influences the level of depositor awareness, potentially driving behavioral shifts. Studies have found that greater media scrutiny leads to stronger shareholder responses to detected misconduct (Kim et al., 2022; Kölbel et al., 2017), but unexpectedly, the literature has largely neglected the banking industry and the reactions of banks' important

stakeholders, i.e., depositors. To address this gap, we aim to clarify how the volume of media coverage of news on bank misconduct affects depositor behavior. Accordingly, we propose as third hypothesis (H3) that media coverage amplifies the inverse relationship between detected bank misconduct and bank deposit growth.

To test these hypotheses, we employ probit and panel fixed effects regressions, examining a dataset of 109 European banks supervised by the European Central Bank (ECB) from 2009 to 2019. Our analysis draws on a proprietary, hand-collected database of sanctions imposed by both the ECB and national supervisory authorities, supplemented with media coverage data.

We focus on significant institutions³ in the European context to provide a wide-ranging analysis, acknowledging differences in legal frameworks and supervisory authorities and the distribution of enforcement powers between the US and Europe. While the extant literature provides empirical evidence primarily on the US—and studies on bank misconduct in Europe are scarce (Götz and Tröger, 2017), with those on depositor behavior being absent entirely—our study is among the first to comprehensively examine bank misconduct in Europe and investigate depositor behavior in response to misconduct. In addition, since our database also contains information about media coverage, and because previous studies highlight that coverage is greater for larger firms (Miller, 2006), we focus on institutions that are considered significant and thus likely to receive media attention. Lastly, the European context and the time span selected enable us to shed light on the influence on detected bank misconduct of the introduction of the Single Supervisory Mechanism (SSM), which was created to strengthen financial system oversight and may reduce the regulatory capture effect, identified as a driver of the inadequate oversight of financial institutions before the GFC (Johnson and Kwak, 2010).

Our findings and several robustness checks clearly demonstrate that high-quality governance significantly deters bank misconduct and that detected misconduct negatively affects bank funding, with media coverage amplifying this effect. This paper makes several key contributions to the literature. Besides contributing to the stream of research on the determinants of bank misconduct, it pioneers the examination of country governance as a macroeconomic determinant of bank misconduct, explores - for the first time ever - depositor behavior in response to misconduct, and highlights the role of the media in shaping depositor reactions. Furthermore, by developing an original misconduct dictionary for analyzing media coverage, which enables the extraction of coverage on misconduct from global news databases and textual analysis on the topic, we provide a valuable tool for future research in this field.

The remainder of this paper proceeds as follows. Sections 2 and 3 describe the sample and methodology. The results are presented in Section 4, while Section 5 contains additional analyses and several robustness tests. Lastly, Section 6 presents the discussion and conclusions.

2. Data and descriptive statistics

2.1. Sample

Our analysis is based on a sample of 109 banks supervised by the ECB in 18 European countries over the 2009–2019 period. These banks represent about 80 % of the assets of the entire European banking sector. This time span is selected to focus on the post-GFC period, since bank misconduct peaked sharply during the GFC (Altunbaş et al., 2018) and kept growing thereafter (Götz and Tröger, 2017), leading regulators to focus increasingly on curbing risk-taking and potentially illegal practices. The investigation period ends in 2019 to exclude the COVID-19 pandemic crisis, which heavily influenced the banking system,

³ The ECB maintains a list of all significant banks under its direct supervision and less significant banks under its indirect supervision.

impacting lending and the deposit base (Çolak and Öztekin, 2021; Dursun-de Neef and Schandlbauer, 2022; Park and Shin, 2021), along with media coverage and financial markets' behavior (Akhtaruzzaman et al., 2022; Haroon and Rizvi, 2020). The decision to focus on significant banks is driven by the fact that these banks are all under the same supervisory process and the same sanctions procedures, i.e., the SSM. Created as a first pillar of the Banking Union in 2014 under Directive 2013/36/EU (CRD IV), since 2015 the SSM has aimed to ensure the safety and soundness of the European banking system and to increase financial integration and stability in Europe. Within the SSM, the ECB directly supervises significant European banks, as well as non-euro-area credit institutions that decide to join the mechanism, and it has the authority to impose sanctions (pecuniary penalties) for any breach of the EU law by credit institutions, financial holding companies, and mixed financial holding companies. The ECB may ask the relevant National Competent Authorities (NCA) to open proceedings which may end with the imposition of penalties. Thus, NCAs can impose sanctions on significant banks only upon the request of the ECB. This ensures homogeneity, harmonization, and consistency in the day-to-day supervision, supervisory actions, corrective measures, and application of regulations and supervisory policies.

2.2. Bank misconduct

Not all instances of bank misconduct are detected or followed by sanctions. In some cases, different misconduct events may be related to a single sanction. The absence of data about specific acts of misconduct has led the growing literature on bank misconduct to approximate bank misbehavior by detecting penalties, sanctions, and enforcement actions issued by regulatory authorities (Arnaboldi et al., 2021). While in the US researchers exploit enforcement actions as a proxy of bank misconduct, this information is not available for European banks; therefore, sanctions represent the best approximation available for misconduct, as they likely refer to the most serious events (Arnaboldi et al., 2021; Guerello et al., 2019). Under these assumptions, we consider misconduct that is detected and sanctioned as our main variable of interest.

The cost of pecuniary penalties and the number of sanctions are not disclosed by banks in their balance sheets. Information given in bank reports differs by country and sometimes banks include these costs among their other expenses. To overcome this limitation, we created an original and proprietary database by hand-collecting sanctions issued by the ECB and all the NCAs participating in the SSM. Sanctions imposed by the ECB are retrieved from the ECB Banking Supervision website, while those issued by NCAs are retrieved from each national website, forming a database comprising 251 sanctions.⁴ Sanctions may depend on local regulatory enforcement and intensity and on the general culture of a country. Accordingly, we focus only on European countries and, in particular, on banks that have been under the same supervisory authority since at least 2015, although European countries knew already in 2008–2009 that the banking union would be created in the near future. The sample definition accounts for these issues.

For each detected misconduct, we collect information about the amount and year in which the sanction was imposed. The 251 sanctions refer to 61 banks that received at least one sanction (55 % of the total). Table 1 reports the breakdown of sanctions by year and country. Over the last few years, the number of detected instances of misconduct has increased, and there are some countries in which the collected number

of sanctions was higher (e.g., Italy, France, and Spain), while for other countries no sanctions were found (Latvia and The Netherlands).

2.3. Country governance effectiveness and country differences

“Governance consists of the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them” (Worldwide Governance Indicators).⁵ We collect several indicators from the Worldwide Governance Indicators database (Kaufmann and Kraay, 2022): voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption (Kaufmann et al., 2011; Li and Wahid, 2018). The Worldwide Governance Indicators are in units of a standard normal distribution, with mean zero, standard deviation of one, and running from approximately -2.5 to 2.5 , with higher values corresponding to better governance (Kaufmann and Kraay, 2022). Following Karolyi and Taboada (2015) and Nguyen (2021), we run a principal component analysis (PCA), obtaining an index that measures the overall quality of a country's governance. As shown in Table 2 (see Section 2.6), the value of the indicator obtained from the PCA analysis, i.e., PCA_CONTEXT, spans between -5.71 and 3.91 ; the higher the value, the higher the country's governance quality. Table A1 of the online appendix displays the evolution of the PCA_CONTEXT indicator over the years and across countries.

Fig. 1 shows the yearly distribution and evolution of country governance quality (PCA_CONTEXT) across key European countries: Austria, Belgium, France, Germany, Italy, The Netherlands, Portugal, and Spain. Overall, the quality of governance remains relatively stable throughout the observed period, with declines noted in Austria, Belgium, and France. A widespread drop is evident in nearly all countries in 2019, except for Italy and France. Italy consistently shows the lowest score on this aggregate indicator, while The Netherlands posts the highest one. The most intriguing aspect of this indicator is the variation observed between countries, despite all of them being part of the Eurozone and adhering to similar regulations and social values.⁶

To consider macroeconomic differences among European countries, we gather a set of macroeconomic indicators, including GDP growth at the national level, the financial development index, and the inflation rate. The GDP growth data (GDP_GROWTH) comes from the World Development Indicators (World Bank Database, 2022: <https://databank.worldbank.org/source/world-development-indicators>), while the financial development index (FINANCIAL_DEV_INDEX) from the International Monetary Fund (IMF) database. The inflation rate (INFLATION), as well as the interest rate on the main refinancing operations (ECB_RATE)—which represents the primary source of liquidity for the banking system, are obtained from the ECB website.

To test the second and third hypotheses, we also consider firms' demand for loans and banks' supply of loans across European countries (BLS_demand_loans and BLS_supply_loans), gathering data from the ECB's Bank Lending Survey (BLS). Moreover, to estimate the credibility of each country's deposit insurance scheme, from the EBA's website we gathered data on the Deposit Guarantee Scheme (DGS), which shows the level of deposits covered by a DGS in each member state (often called “covered deposits”). Thus, we calculated the EU average percentage of covered deposits and created a dummy variable named

⁴ The number of sanctions considered in our study, related to the number of banks analyzed, is in line with that of previous studies. For example, Arnaboldi et al. (2021) analyzed 146 sanctions on 83 European banks during the 2008–2018 period. Altunbas et al. (2018) studied a sample of 960 banks over the 1998–2015 period for a total of 867 litigations. Nguyen et al. (2016) collected 244 enforcement actions on a sample of 533 banks for the 2000–2013 period.

⁵ <https://info.worldbank.org/governance/wgi/>.

⁶ Figure A1 in the online appendix illustrates the evolution of the PCA_CONTEXT indicator for the other countries included in our analysis. Table A1 in the online appendix displays how the PCA_CONTEXT indicator has changed across all the countries and in our sample over the years.

Table 1

Distribution of sanctions across years and countries and number of news items at country level.

Country	N. banks	N. banks %	N. News	N of sanctions												Total	Proportion of sanctions (%)
				2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			
AT	7	6.42	7	0	0	0	0	0	0	0	0	2	2	6	10	3.98	
BE	6	5.50	26	0	0	0	0	1	1	0	3	0	0	1	6	2.39	
CY	3	2.75	0	0	1	0	0	0	0	0	2	0	0	0	3	1.20	
DE	21	19.27	409	0	1	2	2	2	0	0	0	0	1	1	9	3.59	
EE	2	1.83	1	0	0	0	0	0	0	1	1	0	1	0	3	1.20	
ES	12	11.01	28	0	1	0	0	0	0	0	0	2	10	7	20	7.97	
FI	3	2.75	17	0	0	0	0	0	0	0	0	1	1	0	2	0.80	
FR	10	9.17	51	1	1	0	1	3	2	0	3	12	7	5	35	13.94	
GR	4	3.67	1	0	4	0	0	0	0	0	0	0	0	1	5	1.99	
IE	6	5.50	396	0	2	0	2	3	1	0	1	2	4	3	18	7.17	
IT	11	10.09	282	11	13	23	18	10	13	6	7	6	4	9	120	47.81	
LT	3	2.75	0	0	0	0	0	0	0	0	0	0	1	1	2	0.80	
LU	5	4.59	4	0	0	0	0	0	0	0	0	0	0	3	3	1.20	
LV	3	2.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
MT	3	2.75	1	0	1	0	2	1	0	0	0	1	0	0	5	1.99	
NL	7	6.42	4	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
PT	2	1.83	0	0	0	0	0	0	0	0	0	3	3	3	9	3.59	
SI	1	0.92	0	0	0	0	0	0	0	0	0	0	0	1	1	0.40	
Total	109	100	1227	12	24	25	25	20	17	7	17	29	34	42	251	100	

Note: AT (Austria), BE (Belgium), CY (Cyprus), DE (German), EE (Estonia), ES (Spain), FI (Finland), FR (France), GR (Greece), IE (Ireland), IT (Italy), LT (Lithuania), LU (Luxembourg), LV (Latvia), MT (Malta), NL (the Netherlands), PT (Portugal), SI (Slovenia).

This table presents the distribution of sanctions across different years and countries, along with the number of banks and misconduct news items in each country. The first column indicates the country code. The second column specifies the number of significant banks for each country. The third column shows the proportion of banks from each country in relation to the total sample. The fourth column indicates the number of misconduct news items for each country. The fifth through sixteenth columns display the number of sanctions for each country in each specific year. The final column provides the proportion of total sanctions for each country relative to the total number of sanctions imposed on the banks under investigation.

DEPOSIT_GUARANTEE. This variable assumes value 1 and indicates high credibility if a country's percentage is above the mean, and low credibility otherwise. This information is only available from 2015 onward, so for the earlier years, we used the 2015 dummy as a reference.

The definitions of the variables are listed in Table A2 of the online appendix.

2.4. Media coverage of bank sanctions

To measure media coverage of bank sanctions, we collect information about news published by the most important international newspapers over the 2009–2019 time horizon. We use the LexisNexis database, which is a multi-region resource covering a wide range of sources, including the latest news articles, publication archives, and blogs. This electronic news archive covers a wide variety of newspapers and newswire feeds, providing access to one of the largest news services in the world and enabling users to collect news from international, national, and local newspapers (e.g., *The New York Times*, *Financial Times*, *The Guardian*). As suggested in the literature (Kearney and Liu, 2014), to decrease the likelihood of obtaining biased sentiment from sources that do not represent the overall market, it is more appropriate to use wider news sources rather than a restricted set of specific newspapers.

Note that unlike text-analysis measures related to tone and sentiment (Henry, 2008; Loughran and McDonald, 2011; Tetlock, 2007), a misconduct dictionary with which to apply the bag-of-words method is not available in the literature. Thus, the keywords to be used to compose an original misconduct dictionary are selected after conducting a qualitative analysis of scientific research papers dealing with misconduct in the banking sector and an analysis of the main sentences related to sanctions. We thus manually analyze the empirical papers available in the literature and the most relevant sentences issued by supervisory authorities to investigate the underlying episodes related to penalties and fines. We then retain the most recurring words for the dictionary.

Therefore, to select EU bank misconduct news, we narrow the search by using the following keywords: "Fraud," "Corruption," "Embezzlement," "Manipulation," "Dishonesty," "Violations," "Sanctions,"

"Penalty," "Misconduct," "Misbehavior," "Misrepresentation," "Forgery," "Bribery," "Swindling," "Insider-trading," "Insider-dealing," "Price-fixing," "Discrimination," "Breach," and "Damage." Data on media coverage are then extracted by formulating queries, one for each bank in the sample, using the above-described misconduct dictionary plus the name of the institution. The language selected for extracting the data is English.⁷ We collect 1227 misconduct data points from the news reports. The distribution of news across countries is shown in Table 1.

2.5. Bank-specific characteristics

Using the S&P Global Market Intelligence database (also known as SNL Unlimited), we collect bank balance sheet data. Following previous literature (Altunbaş et al., 2018; Del Gaudio et al., 2022), we consider the following bank characteristics: i) size, measured as the natural logarithm of bank total assets (SIZE); ii) bank profitability, measured by return on assets (ROA); and iii) distance to default, measured by the z-score and given by equity over total assets plus the average of ROA, all divided by the standard deviation of ROA (ZSCORE). We use ROA and ZSCORE as a measure of banks' financial health since, in general, firms in financial distress are more likely to commit misconduct (Beasley, 1996; Cumming et al., 2015). Among the bank-specific variables we also include: i) bank risk appetite (RWA_DENSITY), proxied by risk-weighted assets over total assets; ii) cost efficiency, measured by the cost-to-income ratio (COST_INCOME); iii) bank business model, proxied by customer loans over total assets (LOANS_TA); iv) level of capital requirement, measured by the total capital ratio (TCR); and v) board turnover, calculated as the number of members that entered the board of directors per year *t* less the number of members leaving it in the previous year, divided by board size and multiplied by 100 (TURNOVER).

To test the second and third hypotheses, we also consider the growth

⁷ We also collected—for a subsample of banks operating in Italy, France, and Spain—the news in Italian, French, and Spanish. The results of this robustness check analysis are reported in Table A5 of the online appendix.

Table 2
Summary statistics and univariate analysis.

	TOTAL SAMPLE					AT LEAST ONE MISCONDUCT		NO MISCONDUCT		
Variables	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Obs	Mean	T-test
Panel A: Country governance										
PCA_CONTEXT	1332	0.051	2.205	−5.714	3.912	744	−0.562	588	0.828	***
Voice and accountability	1332	1.223	0.222	0.619	1.650	744	1.166	588	1.296	***
Political stability and absence of violence/terrorism	1332	0.658	0.397	−0.474	1.461	744	0.608	588	0.722	***
Government effectiveness	1332	1.284	0.442	0.158	2.241	744	1.155	588	1.448	***
Regulatory quality	1332	1.305	0.395	0.148	2.051	744	1.187	588	1.454	***
Rule of law	1332	1.321	0.494	0.075	2.130	744	1.190	588	1.485	***
Control of corruption	1332	1.261	0.650	−0.183	2.259	744	1.081	588	1.489	***
Panel B: Misconduct										
D_MISCONDUCT	1332	0.098	0.298	0	1	744	0.176	588	0	***
N_MISCONDUCT	1332	0.190	0.890	0	190	744	0.340	588	0	***
AMOUNT_MISCONDUCT	1332	127,463.49	1,477,422.3	0	50,000,000	744	228,200.76	588	0	**
NEWS	1332	1.084	6.37	0	122	744	1.714	588	0.287	***
NEWS_D	1332	0.138	0.345	0	1	744	0.204	588	0.054	***
Panel C: Bank-level variables										
GROWTH IN CUSTOMER DEPOSITS	923	0.046	0.268	−1.135	1.457	552	0.053	371	0.035	
ROA	1110	0.001	0.056	−1.778	0.178	632	−0.001	478	0.004	
SIZE	1111	17.882	1.863	2.197	21.607	632	18.056	479	17.653	***
RWA_DENSITY	1063	0.484	2.180	0.014	71.191	613	0.572	450	0.365	
COST_INCOME	1109	0.631	0.428	−3.85	10.108	631	0.661	478	0.592	**
LOANS_TA	1038	0.563	0.212	0	1.218	585	0.565	453	0.560	
ZSCORE	1101	47.744	138.938	−4.28	2053.892	622	26.309	479	75.578	***
TCR	1060	0.211	0.165	−0.05	1.831	612	0.196	448	0.230	***
GROWTH_GL	917	0.155	1.54	−0.992	30.797	514	0.110	403	0.212	
TURNOVER	1332	−0.009	0.141	−1.2	0.600	744	−0.012	588	−0.006	**
LTRO	1332	2.030	6.473	0	24.507	744	2.877	588	0.960	***
TLTRO	1332	2.795	7.377	0	25.609	744	3.788	588	1.537	***
Panel D: Country-level variables										
FINANCIAL_DEV_INDEX	1188	0.680	0.151	0.210	0.901	649	0.682	539	0.678	
GDP_GROWTH	1332	0.007	0.040	−0.148	0.252	744	0.007	588	0.006	
ECB_RATE	1332	0.004	0.005	0	0.013					
INFLATION	1332	0.012	0.012	−0.045	0.050	744	.010	588	0.013	
BLS_demand_for_loans	1332	−1.443	16.299	−87.500	50	744	−2.685	588	0.129	***
BLS_supply_of_loans	1332	2.378	9.448	−25	80	744	3.375	588	1.116	**
DEPOSIT_GUARANTEE	1332	0.611	0.488	0	1	744	0.707	588	0.490	***

This table shows the summary statistics for all variables used in the empirical analysis for all the banks (total sample), i.e., those that received at least one sanction and banks that did not receive sanctions, over the period 2009–2019. Panel A describes the country governance indicators. PCA_CONTEXT is the result of the PCA of the six governance effectiveness indices proposed by the World Bank Database: voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. Panel B describes the misconduct variables. D_MISCONDUCT is a dummy variable equal to 1 if a bank received a sanction in year t , and 0 otherwise; N_MISCONDUCT is the natural logarithm of the number of sanctions received by a bank each year; AMOUNT_MISCONDUCT is the total amount (in euros) of sanctions received by banks; and NEWS is the natural logarithm of the number of news items related to bank misconduct. Panel C describes bank-specific variables. ROA is return on assets; SIZE is the natural logarithm of bank total assets; RWA is risk-weighted assets over total assets; COST_INCOME is the cost-to-income ratio; LOANS_TA is the value of customer loans over total assets; ZSCORE is the ratio between the sum of bank capitalization (equity/total assets) plus ROA, divided by the standard deviation of ROA; TCR is the total capital ratio; and TURNOVER is board turnover. LTRO is the natural logarithm of the amount of LTRO funding in banks' balance sheets; TLTRO is the natural logarithm of the amount of TLTRO funding in banks' balance sheets. Panel D displays country-level variables. FINANCIAL_DEV_INDEX summarizes how developed financial institutions and financial markets are in terms of their debt, access, and efficiency; GDP_GROWTH is the growth of GDP year on year; ECB_RATE is the marginal refinancing rate; INFLATION is the Euro area annual inflation rate; BLS_demand_loans is country demand for gross loans; BLS_offer_loans is the country offer of gross loans; DEPOSIT_GUARANTEE is a dummy variable which assumes a value of 1 and indicates high credibility if a country's percentage of covered deposits is above the EU mean, and 0 otherwise. The last column shows the statistical significance of the test of difference in means. Detailed definitions of all variables are provided in the online appendix. *, **, and *** represent p-values of <0.05, <0.01, and <0.001, respectively.

in lending activity, measured by growth of gross loans (GROWTH_GL). During the period under investigation, the European economy experienced a period of highly expansionary monetary policy, which encouraged banks to secure funding from the ECB rather than relying on customer deposits. Therefore, using the Bloomberg database, we gather information on the extent of ECB funding used by banks during this period, specifically through longer-term refinancing operations (LTRO) and targeted longer-term refinancing operations (TLTRO), which are initiatives designed to provide financial support to credit institutions.

2.6. Descriptive statistics

Table 2 reports descriptive statistics for the total sample and the univariate analysis on the two subsamples, i.e., banks that received at least one sanction during the investigation period and banks that did not

receive sanctions during the investigation period. Our data report the fact that banks belonging to the former subsample are larger than those belonging to the latter; moreover, they show lower profitability (−0.1 % on average) and lower cost efficiency. In terms of stability, distance to default is lower for banks that received at least one sanction, and the same is observed for regulatory capital. For corporate governance, banks that received at least one sanction have higher turnover than banks that did not receive sanctions. The variables related to LTRO and TLTRO, which measure banks' additional liquidity obtained from the ECB, show that it was higher for banks that received at least one sanction than for non-sanctioned banks. We observe, as expected, that media coverage is higher for banks that received at least one sanction than for non-sanctioned banks.

With respect to our key independent variables, for the macroeconomic context, the data show that banks involved in at least one

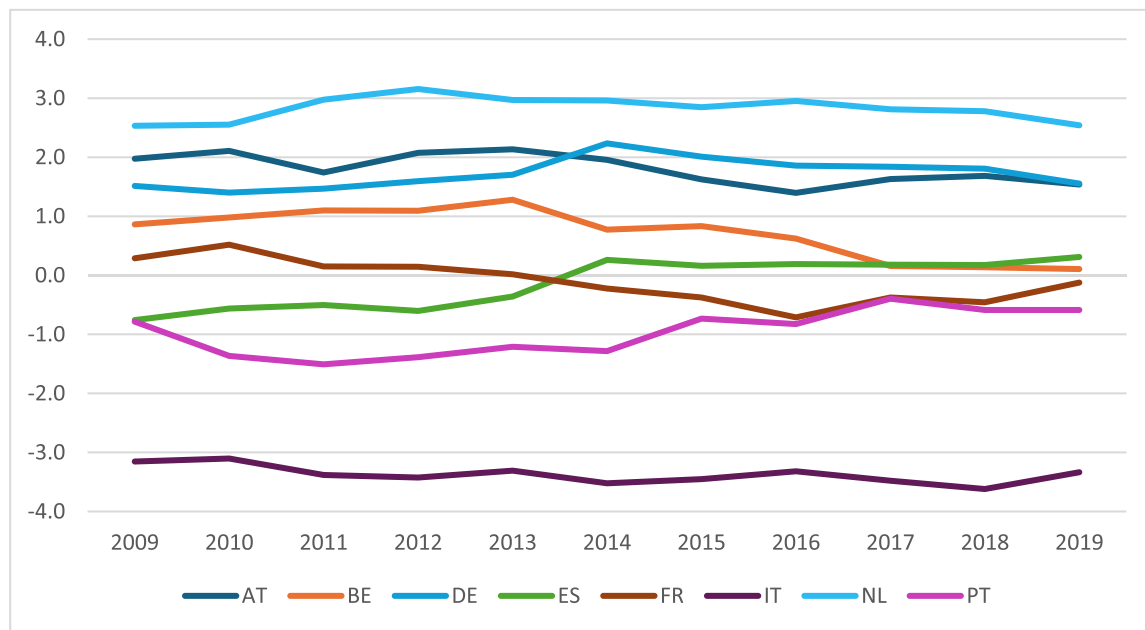


Fig. 1. Evolution of the PCA CONTEXT variable for the main European countries. The figure shows the evolution of country governance quality among the main European countries, e.g., Austria (AT), Belgium (BE), France (FR), Germany (DE), Italy (IT), The Netherlands (NL), Portugal (PT), and Spain (ES), from 2009 to 2019. The trends are identified through PCA applied to World Governance Indicators including voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. The indicator varies among these countries even though they are all part of the Eurozone and follow similar regulations and social values. Source: own elaboration.

detected misconduct operated in a country with below-average governance efficiency. This is confirmed by observing the average value of each component of the World Bank indicators, i.e., voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. In all these cases, the indicator levels are lower for countries where banks engaged in at least one detected misconduct. GDP growth and the inflation rate appear similar in the two groups, while the financial development index seems to be higher for countries in which banks engaging in detected misconduct cases operate, although the difference is not statistically significant. The Bank Lending Survey (BLS) indicators show that the supply of gross loans is higher, while the demand for gross loans is lower, in countries where sanctioned banks operate compared to countries where non-sanctioned banks are located. Moreover, as shown in Table A3 reported in the online appendix, the correlations between the variables are low.

3. Methods

3.1. Bank misconduct and country governance effectiveness

To test our research hypotheses, we run several regression models. First, to test H_1 , i.e. *the better a country's governance, the lower the probability of detected bank misconducts (deterrent effect)*, the independent variable considered is a dummy variable equal to 1 if a bank received a sanction in year t , and 0 otherwise; this is the first proxy of detected bank misconduct ($D_MISCONDUCT$). The first probit regression model tests the existence of a positive relationship between country governance efficiency and the probability of detected bank misconduct. We model the dummy variable, rather than the amount in euros of fines or the natural logarithm of the number of fines received in each year, for several reasons. Second, due to the susceptibility to regulatory bias for political reasons, the amount in euros of fines may not be a good measure of the misconduct severity (Arnaboldi et al., 2021). Moreover, the amount may derive from a negotiation between sanctioned banks and

the authorities; therefore, this measure may also depend on the ability of a bank to negotiate. In any case, the logarithm of the total amount of sanctions is used in previous studies such as Cumming et al. (2015), Liu (2018), and Arnaboldi et al. (2021); therefore, in the robustness check section, we use these dependent variables alternatively. Our second regression is a panel fixed effects regression where the dependent variable is the natural logarithm of the number of sanctions received by a bank each year; this is a proxy of bank sanctioned misconduct in each year ($N_MISCONDUCT$).

We run the following regression model with time and robust standard errors clustered at the bank level:

$$MISCONDUCT_{i,t} = \alpha_0 + \sum_{k=1}^K \alpha_k X_{kit-1} + \sum_{k=1}^K \beta_k S_{kit-1} + Y + \varepsilon_{it}, \quad (1)$$

where $MISCONDUCT$ can assume a value as a dummy variable equal to 1 if a bank is sanctioned, and 0 if it is not, or a continuous variable that represents the logarithm of the number of sanctions related to detected misconduct by the bank in a specific year. α_0 is a constant and K denotes the number of explanatory variables. $X_{k,t-1}$ is the vector of macroeconomic variables at time $t-1$ and country k , which includes the variables displayed in Section 2.3 and refers to country governance effectiveness measures, GDP growth, the financial development index, the inflation rate, and the marginal refinancing rate.⁸ S_{kit-1} is the vector of bank-specific characteristics of bank i in country k at time t , and variables are included in the selection equation at time $t-1$ and refer to the variables described in Section 2.5. The vector includes ROA, SIZE, RWA_DENSITY, COST_INCOME, LOANS_TA, ZSCORE, TCR, and TURNOVER. Y refers to year dummies. ε_{it} is an identically and independently distributed error term.

To measure governance effectiveness at the country level, in the

⁸ We do not use country fixed effects because including these, along with country-level variables, can cause issues with overidentification and multicollinearity.

regression model we first include the global index obtained using PCA (PCA_CONTEXT), which simultaneously considers voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. In a second probit regression model, we enter each country governance measure one by one to investigate the relationship between specific indicators of country governance effectiveness and bank misconduct. Lastly, we use panel fixed effects regressions to study the relationship between country governance and the natural logarithm of the number of bank sanctions.

3.2. Bank misconduct and bank deposits

To test our second research hypothesis, H_2 , where we explore whether *detected bank misconduct has an inverse relationship with bank deposits*, we run several regression models using growth in customer deposits as the dependent variable. To test H_3 , i.e. the *media coverage amplifies the inverse relationship between detected bank misconduct and bank deposit growth*, we consider media coverage of bank misconduct.

We run instrumental variable regressions to consider the possible endogeneity bias that can arise both from misconduct and from media news. As regards the former, we are aware that detected bank misconduct can depend on several characteristics of the bank and country governance quality. On the other hand, media coverage may depend on media freedom in a specific country. Thompson et al. (1987) study the determinants of media coverage, finding that larger firms are more likely to receive media coverage. Evidence of the media's tendency to cover larger firms to a greater extent than smaller firms is confirmed by Miller (2006), who shows that the media plays a watchdog role for large firms, which will likely attract greater readership and thus media revenues. Nevertheless, the possible existence of a link between media coverage and bank size does not represent an issue in our empirical strategy, because in our sample we include only the largest banks operating in Europe and banks that are considered systemically important, placing them under the same supervisory authority. Since our sample is composed of the largest European banks, all under the ECB supervision, they are likely to receive similar media attention, especially when they commit misconduct. All variables at the bank level are set at time $t-1$ to control for possible problems of endogeneity. Accordingly, we posit the following equation:

$$DEP = \alpha_0 + MISCONDUCT_{kit-1} + NEWS_{kit-1} + MISCONDUCT_{kit-1} \# NEWS_{kit-1} + \sum_{k=1}^K \alpha_k \Omega_{kit-1} + \sum_{k=1}^K \beta_k \Lambda_{kit-1} + Y_t + C_i + \varepsilon_{it} \quad (2)$$

where DEP is the dependent variable, growth in customer deposits; α_0 is a constant; and K denotes the number of explanatory variables.⁹ MISCONDUCT is our variable of interest and can assume both the value of a dummy variable (equal to 1 if the bank received a sanction in a specific year, and 0 if it did not) or it can be the natural logarithm of the number of sanctions received in a year by a specific bank.

⁹ We do not differentiate between secured and unsecured customer deposits because, as emphasized by the EBA (2023), 96% of customer deposits in the European banking system are fully covered by DGS. Therefore, in our analysis we assumed that all customer deposits in our sample are secured. Furthermore, in terms of the quality of DGS across different countries, all Euro-area banking systems have DGS that reimburse depositors up to a certain amount (100,000 euros) to compensate for bank failures. A fundamental principle underlying DGS is that they are entirely funded by banks, with no taxpayer funds being utilized.

The variable $NEWS_{kit-1}$ refers to media coverage and is the natural logarithm of the number of news items reported by newspapers on misconduct or the inappropriate behavior of a bank. $MISCONDUCT_{kit-1} \# NEWS_{kit-1}$ is the interaction between misconduct and the natural logarithm of the number of news items (or alternatively a dummy variable equal to 1 if at least one news item is published, and 0 otherwise) at time $t-1$, which detects the moderating effect of news on customer deposits.

Ω_{kit-1} is the vector of macroeconomic variables, which includes GDP growth and the ECB rate. Given the possibility that the decrease in customer deposits may be influenced by the bank's decision to reduce credit supply or by a decrease in loan demand, we also incorporate $BLS_supply_loans_{kit-1}$ and $BLS_demand_loans_{kit-1}$. The vector also includes the dummy variable, which captures the level of credibility of the country DGS (DEPOSIT_GUARANTEE). All the macroeconomic variables are inserted at time $t-1$ and country k .

Λ_{kit-1} is the vector of bank-specific characteristics and includes the bank's SIZE, RWA_DENSITY, TCR, COST_INCOME, GROWTH_GL, ZSCORE, and the natural logarithm of the amount of LTRO and TLTRO. The variables are described in Section 2.5. Y_t represents year dummies and C_i the country fixed effects. ε_{it} is an identically and independently distributed error term. As reported above, detected misconduct and news can be endogenous variables and thus must be instrumented. As instrumental variables, we consider board turnover with regard to misconduct, and the World Press Freedom Index with regard to news. Earlier research indicates that directors often resign from the boards of companies dealing with bankruptcy, lawsuits, or financial fraud, as staying on these stigmatized boards could damage their standing among their peers, prompting them to engage in blame avoidance departures (Gilson, 1989; Wiesenfeld et al., 2008). The World Press Freedom Index compares the level of freedom enjoyed by journalists and the media in 180 countries and territories and varies from 0 to 100, with a higher score corresponding to greater freedom of the press. This indicator is related to corporate misconduct (Nguyen, 2021) while not directly affecting depositors' behavior.

To check the exclusion restriction, we run a univariate regression in which we use the growth of customer deposits as the dependent variable and the instrument as the independent variable. The results do not show any statistically significant relationship between turnover and the dependent variable. We apply the same procedure for the instrumental

variable media freedom, confirming the validity of the instrument. Moreover, the quality of our instruments is assessed using the Sargan test (1958) and, as reported in the Results section, the p-values in all cases indicate that we can reject the null hypothesis, confirming the adequacy of our instrumental variables.

4. Results

4.1. Deterrent role of country governance

Table 3 (Model 1 to Model 3) reports the results of the probit regressions, where the dependent variable is 1 if the bank engages in misconduct and consequently receives a sanction at time t , and 0 otherwise. These regression models enable us to detect the bank-specific and macroeconomic characteristics that determine a bank's probability of misconduct. We report margins because they are more informative than odds ratios and relative risks. Models 4 to 6 display the

Table 3

The deterrent effect of country governance on bank misconduct.

Variables	D_MISCONDUCT			N_MISCONDUCT		
	(1)	(2)	(3)	(4)	(5)	(6)
PCA_CONTEXT _{t-1}	−0.028*** (0.009)	−0.029*** (0.008)	−0.028*** (0.008)	−0.034** (0.015)	−0.035** (0.014)	−0.036*** (0.014)
ROA _{t-1}	0.102 (1.087)	−0.093 (1.122)	0.192 (1.111)	−0.089 (0.818)	0.026 (0.966)	0.203 (1.010)
SIZE _{t-1}	0.007 (0.009)	0.003 (0.011)	0.005 (0.010)	0.004 (0.011)	−0.006 (0.017)	−0.006 (0.017)
RWA_DENSITY _{t-1}	−0.004 (0.004)	−0.004 (0.003)	−0.002 (0.003)	−0.004 (0.003)	−0.005 (0.004)	−0.005 (0.004)
COST_INCOME _{t-1}	−0.029 (0.040)	−0.030 (0.040)	−0.015 (0.025)	−0.017 (0.017)	−0.016 (0.017)	−0.014 (0.017)
LOANS_TA _{t-1}	−0.229* (0.117)	−0.224** (0.114)	−0.185* (0.103)	−0.364* (0.203)	−0.359* (0.200)	−0.352* (0.200)
ZSCORE _{t-1}	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.000)
TCR _{t-1}	−0.056 (0.097)	−0.056 (0.097)	−0.019 (0.089)	−0.090 (0.098)	−0.100 (0.104)	−0.084 (0.099)
TURNOVER _{t-1}	0.086 (0.070)	0.078 (0.072)	0.106 (0.070)	0.064 (0.045)	0.062 (0.047)	0.082* (0.048)
FINANCIAL_DEV_INDEX _{t-1}		0.133 (0.120)	0.149 (0.105)		0.234* (0.138)	0.250* (0.136)
GDP_GROWTH _{t-1}		0.028 (0.035)	0.028 (0.033)		−0.013 (0.041)	−0.018 (0.041)
ECB_RATE _{t-1}		−0.043 (0.034)	−0.0367 (0.032)		0.144*** (0.045)	−0.021 (0.036)
INFLATION _{t-1}		0.437 (1.605)	1.507 (1.193)		1.704 (1.451)	1.928** (0.972)
TIME FE	YES	YES	NO	YES	YES	NO
Pseudo R ² , R ²	0.142	0.153	0.082	0.315	0.315	0.321
Observations	893	868	966	994	966	966

This table presents average marginal effects of coefficient estimates from probit regressions and coefficient estimates from panel fixed effect regressions. The dependent variable is detected bank misconduct, measured as D_MISCONDUCT (dummy variable equal to 1 if a bank received a sanction in year *t*, and 0 otherwise) or N_MISCONDUCT (the natural logarithm of the number of sanctions received by a bank each year). PCA_CONTEXT is the main independent variable and is the result of the PCA of the six governance effectiveness indices proposed by the World Bank Database. The set of bank-specific control variables comprises ROA, SIZE, RWA_DENSITY, COST_INCOME, LOANS_TA, ZSCORE, TCR, and TURNOVER; these are included in the models at *t*-1. The set of country control variables includes FINANCIAL_DEV_INDEX, GDP_GROWTH, ECB_RATE, and INFLATION; these are included in the models at time *t*-1 and country *k*. We include time fixed effects in columns 1, 2, 4, and 5. Standard errors (in parentheses) are clustered at bank level. Detailed definitions of all variables are provided in the online appendix. Statistical significance at the 10 %, 5 %, and 1 % levels is denoted by *, **, and ***, respectively.

findings referring to the panel fixed effects regressions where the dependent variable is the natural logarithm of the number of sanctions.

In all models, we include variables referring to country governance effectiveness and bank-specific characteristics. In Models 2, 3, 5, and 6, we add GDP growth, the financial development index, the inflation rate, and the ECB rate. Moreover, these models differ with regard to the types of fixed effects included (Models 2 and 5 include time fixed effects).

Our findings show that the quality of country governance matters in determining detected bank misconduct. The higher the quality of country governance, the lower the probability of detected bank misconduct. This result is confirmed in all models tested. In the light of these results, we accept *H*₁, which posits that the macroeconomic context matters regarding the probability of detected bank misconduct, in that the more efficient country governance is, the lower the probability and the number of detected misdeeds. These findings are confirmed both when we consider the dummy variable and when we observe the natural logarithm of the number of sanctions received in each year.

The results suggest that for each one-unit increase in the PCA_CONTEXT variable, the likelihood of detecting at least one instance of bank misconduct or the number of misdeeds in each year drops by about 3 percentage points. In economic terms, a one-standard deviation increase in the PCA_CONTEXT is associated with a decrease of 6.2 percentage points in the probability of bank misconduct (−0.028×2.205). In the European countries under analysis, despite the shared commonalities among them—such as political, economic, legal, cultural, environmental, and security frameworks, there are still significant variations in terms of PCA. For example, the stark differences in governance quality

between Greece and Finland (Table A1 and Fig. A1-Panel A of the online appendix) might translate into a >25 percentage points lower probability of bank misconduct in Finland compared to Greece over a one-year period.

Moreover, our findings show that, in general, banks with a higher loan to total assets ratio are less likely to engage in misconduct and inappropriate behavior. As Wehinger (2013) suggests, it is the type of activity, rather than size, that determines an institution's soundness. Accordingly, banks more focused on lending – i.e., those with a more traditional business model – may be less exposed to misconduct due to their closer relationships with clients, which reduces the likelihood of asymmetric information, as well as their cautious approach to compensation (following the principle that 'boring banking is good banking') (Wehinger, 2013).

In the second step of our analysis, we more deeply investigate the role played by the macroeconomic context, exploring the influence of each component of the country governance index. When we run the probit regression (Table 4), our results show that all six governance indicators have an inverse and statistically significant relationship with the probability of bank misconduct, revealing that each indicator plays a key role in reducing the probability of detected bank misconduct.

The results indicate that among various country governance indicators, voice and accountability—which encompass citizen participation in government selection, freedom of expression, and free media—are critical in creating an environment that likely impacts bank misconduct. An increase of one unit in this indicator is associated with about a 30-percentage-point reduction in the likelihood of a bank committing at least one misconduct in a given year. Countries with

Table 4

The deterrent effect of country governance (six indicators) on bank misconduct (D_MISCONDUCT).

Variables	D_MISCONDUCT					
	(1)	(2)	(3)	(4)	(5)	(6)
Voice and accountability t_{-1}	−0.294*** (0.081)					
Political stability and absence of violence/terrorism t_{-1}		−0.091** (0.038)				
Government effectiveness t_{-1}			−0.156*** (0.040)			
Regulatory quality t_{-1}				−0.142*** (0.045)		
Rule of law t_{-1}					−0.113*** (0.037)	
Control of corruption t_{-1}						−0.105*** (0.026)
BANK CONTROLS	YES	YES	YES	YES	YES	YES
COUNTRY CONTROLS	YES	YES	YES	YES	YES	YES
TIME FE	YES	YES	YES	YES	YES	YES
Pseudo R ²	0.151	0.118	0.162	0.143	0.144	0.163
Observations	868	868	868	868	868	868

This table presents average marginal effects of coefficient estimates from probit regressions. The dependent variable is detected bank misconduct, measured as D_MISCONDUCT (dummy variable equal to 1 if a bank received a sanction in year t , and 0 otherwise). The main independent variables are the country governance measures (voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption), which are inserted in the models one by one. The set of bank-specific control variables comprises ROA, SIZE, RWA_DENSITY, COST_INCOME, LOANS_TA, ZSCORE, TCR, and TURNOVER; these are included in the models at $t-1$. The set of country control variables includes FINANCIAL_DEV_INDEX, GDP_GROWTH, ECB_RATE, and INFLATION; these are included in the models at time $t-1$ and country k . We include time fixed effects in all the columns. Standard errors (in parentheses) are clustered at bank level. Detailed definitions of all variables are provided in the online appendix. Statistical significance at the 10 %, 5 %, and 1 % levels is denoted by *, **, and ***, respectively.

strong voice and accountability often have more transparent institutions and robust oversight mechanisms, helping to deter bank misconduct. Consistently with earlier studies examining how country governance indicators influence bank behavior (Bermpei, 2018; Curti and Mihov, 2018; Kamarudin et al., 2020; Wang et al., 2022), government effectiveness and regulatory quality are also key factors in shaping financial institutions' conduct. On the other hand, political stability and/or politically motivated violence/terrorism is the least significant indicator in determining environments conducive to bank misconduct, with a one-unit increase in this indicator leading to only a 9-percentage-point reduction in bank misconduct.

Congruently, when we consider the number of sanctions as a dependent variable, the results obtained from the panel fixed effects regressions show that all the governance indicators have a significant inverse relationship with the dependent variable (Table 5). Therefore, our findings suggest that the quality of country governance plays a deterrent role and reduces the probability that a bank will engage in misconduct.

4.2. Effect of misconduct on bank deposits

After observing the role of the macroeconomic context in predicting

Table 5

The deterrent effect of country governance (six indicators) on bank misconduct (N_MISCONDUCT).

Variables	N_MISCONDUCT					
	(1)	(2)	(3)	(4)	(5)	(6)
Voice and accountability t_{-1}	−1.774*** (0.484)					
Political stability and absence of violence/terrorism t_{-1}		−0.536** (0.211)				
Government effectiveness t_{-1}			−0.939*** (0.246)			
Regulatory quality t_{-1}				−0.855*** (0.265)		
Rule of law t_{-1}					−0.680*** (0.215)	
Control of corruption t_{-1}						−0.628*** (0.158)
BANK CONTROLS	YES	YES	YES	YES	YES	YES
COUNTRY CONTROLS	YES	YES	YES	YES	YES	YES
TIME FE	YES	YES	YES	YES	YES	YES
R ²	0.316	0.321	0.314	0.317	0.316	0.314
Observations	966	966	966	966	966	966

This table presents coefficient estimates from panel fixed effects regressions. The dependent variable is detected bank misconduct, measured as N_MISCONDUCT (the logarithm of the number of sanctions received by a bank each year). The main independent variables are the country governance measures (voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption), which are inserted in the models one by one. The set of bank-specific control variables comprises ROA, SIZE, RWA_DENSITY, COST_INCOME, LOANS_TA, ZSCORE, TCR, and TURNOVER; these are included in the models at $t-1$. The set of country control variables includes FINANCIAL_DEV_INDEX, GDP_GROWTH, ECB_RATE, and INFLATION; these are included in the models at time $t-1$ and country k . We include time fixed effects in all the columns. Standard errors (in parentheses) are clustered at bank level. Detailed definitions of all variables are provided in the online appendix. Statistical significance at the 10 %, 5 %, and 1 % levels is denoted by *, **, and ***, respectively.

Table 6
Effect of detected bank misconduct and media coverage on bank deposits.

Variables	GROWTH IN CUSTOMER DEPOSITS			
	(1)	(2)	(3)	(4)
D_MISCONDUCT _{t-1}	−0.997** (0.391)	−1.100** (0.495)		
N_MISCONDUCT _{t-1}			−1.373*** (0.443)	−1.373** (0.563)
NEWS _{t-1}	−1.932*** (0.563)	−2.572*** (0.788)	−2.277*** (0.650)	−3.195*** (0.966)
D_MISCONDUCT _{t-1} × NEWS _{t-1}		−2.463 (1.579)		
N_MISCONDUCT _{t-1} × NEWS _{t-1}				−4.182* (2.567)
SIZE _{t-1}	−0.041 (0.026)	−0.038 (0.034)	−0.074** (0.032)	−0.085* (0.045)
RWA_DENSITY _{t-1}	−0.334 (0.222)	−0.0374 (0.297)	−0.827*** (0.307)	−0.851** (0.428)
TCR _{t-1}	−0.642*** (0.196)	−0.817*** (0.260)	−0.888*** (0.233)	−1.130*** (0.351)
COST_INCOME _{t-1}	−0.061 (0.046)	−0.078 (0.062)	−0.085 (0.058)	−0.100 (0.077)
GROWTH_GL _{t-1}	−0.045*** (0.012)	−0.046*** (0.017)	−0.049*** (0.014)	−0.046* (0.024)
ZSCORE _{t-1}	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
TLTRO _{t-1}	−0.005 (0.004)	−0.006 (0.006)	−0.006 (0.005)	−0.005 (0.008)
LTRO _{t-1}	−0.007* (0.004)	−0.011** (0.006)	−0.006 (0.005)	−0.012* (0.007)
GDP_GROWTH _{t-1}	0.001 (0.002)	0.000 (0.002)	0.002 (0.002)	−0.000 (0.003)
BLS_demand_loans _{t-1}	0.002 (0.002)	0.002 (0.003)	0.004 (0.003)	0.005 (0.004)
BLS_supply_loans _{t-1}	0.033 (0.045)	0.037 (0.059)	0.017 (0.054)	0.019 (0.074)
DEPOSIT_GUARANTEE	0.079 (0.098)	0.114 (0.115)	0.193 (0.120)	0.220 (0.136)
ECB_rate _{t-1}	−1.367 (1.818)	−2.974 (2.474)	−2.230 (2.260)	−4.578 (3.539)
Constant	1.658*** (0.532)	1.699** (0.690)	2.593*** (0.682)	2.898*** (0.978)
TIME FE	YES	YES	YES	YES
COUNTRY FE	YES	YES	YES	YES
Sargan test (p-value)	0.338	0.421	0.124	0.122
Adj. R ²	0.529	0.663	0.691	0.681
Observations	749	749	749	749

This table presents 2SLS IV model estimation results. The dependent variable is the bank growth in customer deposits year on year. The instrumental variable of D_MISCONDUCT and N_MISCONDUCT is board turnover, while the instrumental variable of NEWS is media freedom. The main independent variables are detected bank misconduct, measured as D_MISCONDUCT (dummy variable equal to 1 if a bank received a sanction in year *t*, and 0 otherwise), N_MISCONDUCT (the logarithm of the number of sanctions received by a bank each year), and NEWS (the logarithm of the number of news items related to a bank's misconduct). The table reports the results of the interaction between bank misconduct and NEWS. The set of bank-specific control variables comprises SIZE, RWA_DENSITY, TCR, COST_INCOME, GROWTH_GL, ZSCORE, TLRO, and LTRO; these are included in the models at *t*-1. The set of country control variables includes GDP_GROWTH, BLS_demand_loans, BLS_offer_loans, DEPOSIT_GUARANTEE, and ECB_RATE; these are included (except DEPOSIT_GUARANTEE) in the models at time *t*-1 and country *k*. We include time and country fixed effects in all the columns. Standard errors (in parentheses) are clustered at bank level. Detailed definitions of all variables are provided in the online appendix. Statistical significance at the 10 %, 5 %, and 1 % levels is denoted by *, **, and ***, respectively.

the probability of detected bank misconduct, in Table 6 we report second-stage results on the effect of detected bank misconduct on customer deposits while first-stage results are reported in Table A4 of the online appendix.

In this analysis, the dependent variable is growth in customer

deposits, which measures the change in bank funding from customers each year. We use a 2SLS regression model, where detected misconduct and news are instrumented. Our results show a statistically significant inverse relationship between detected misconduct and the customer deposits ratio, suggesting that customers tend to reduce their deposits after the detected misconduct. We find that a 1 unit increase in N_MISCONDUCT is associated with an approximately 1.4 % decline in customer deposit growth. In economic terms, a one-standard deviation increase in the independent variable is thus associated with an approximately 1.22 % decline in customer deposit growth (−1.373×0.890). This finding enhances existing research by demonstrating that detected misconduct is an underlying factor influencing depositor behavior, different from the disruptive bank run phenomenon and contributing to the risk of a more gradual “bank walk,” regardless of deposit insurance. Misconduct likely affects depositors' perceptions of a bank's reputation, potentially prompting them to move their deposits.

Moreover, we observe that the higher the media coverage, the sharper the decrease in the customer deposit base. The economic effect is sizeable; a 1 % increase in the variable N_NEWS translates into an approximately 3.2 % decrease in customer deposit growth when N_NEWS increases by one standard deviation, the negative effect on customer deposit growth is roughly 20.35 % (−3.195×6.37). When we consider the interaction between detected misconduct (N_MISCONDUCT) and news, we observe a statistically significant inverse relationship between the interaction term and the dependent variable, suggesting that media coverage operates as a moderator. Our findings highlight that although misconduct itself negatively affects the amount of customer deposits in the year following the sanction, when the media highlights bank misconduct, the negative impact on customer deposits soars by about 4.2 %. Thus, the media plays an important role in influencing bank-customer behavior.

5. Additional analyses and robustness checks

5.1. Additional analyses

In exploring the effect of detected misconduct and media coverage on customer deposits, we run several additional analyses to test whether the effect of the media on bank deposits differs depending on the topic of the news. We therefore run a 2SLS regression where we divide the news into three different main topics: i) operational misconduct, which includes words such as “Breach” and “Damage”; ii) intentional dishonest acts, which include words such as “fraud,” “corruption,” “embezzlement,” “manipulation,” “dishonesty,” “violations,” “forgery,” “bribery,” and “swindling”; and c) a category that considers misconduct in general and includes words such as “misconduct,” “misbehavior,” “penalty,” “sanction,” and “misrepresentation.”¹⁰

We consider a dummy variable equal to 1 if there is news on the specific category observed, and 0 if there is not (Table 7, Models 1–3), and the natural logarithm of the number of news items for each specific category (Table 7, Models 4–6).

Our results mainly confirm previous findings, suggesting that detected misconduct negatively impacts bank funding, reducing the level of customer deposits in the year after the sanction. Interestingly, looking at the different categories of news, we find that the negative effect is amplified when the detected misconduct refers to operational misconduct and general misbehaviors. This suggests that customers are sensitive to detected misconduct, and consequently their behavior is most affected when the misconduct refers to operational misconduct, or to sanctions or penalties in general, rather than when the news refers to intentional acts.

¹⁰ The category of insider trading is not considered in this analysis because there are only six instances of insider trading among the news items and the regression model suffers a problem of multicollinearity.

Table 7

Effect of detected bank misconduct on bank deposits.

	GROWTH IN CUSTOMER DEPOSITS						
Variables	(1)	(2)	(3)	(4)	(5)	(6)	
D_MISCONDUCT _{t-1}		0.319 (0.484)	0.651 (0.884)	0.231 (0.184)	−1.061* (0.575)	−1.602* (0.971)	−0.751 (0.640)
General misconduct news_N _{t-1}		−0.142 (0.156)					
General misconduct news_N _{t-1} #D_MISCONDUCT _{t-1}		−1.076 (0.719)					
Intentional acts news_N _{t-1}			−0.107* (0.064)				
Intentional acts news_N _{t-1} #D_MISCONDUCT _{t-1}			−0.174 (0.504)				
Operational misconduct news_N _{t-1}			−0.061 (0.058)				
Operational misconduct news_N _{t-1} #D_MISCONDUCT _{t-1}			0.257 (0.156)				
General misconduct news_D _{t-1}				−2.849** (1.334)			
General misconduct news_D _{t-1} #D_MISCONDUCT _{t-1}				−4.597* (2.546)			
Intentional acts news_D _{t-1}					−3.870*** (1.384)		
Intentional acts news_D _{t-1} #D_MISCONDUCT _{t-1}					−5.443 (5.245)		
Operational misconduct news_D _{t-1}							−3.937** (1.542)
Operational misconduct news_D _{t-1} #D_MISCONDUCT _{t-1}							−3.271 (2.450)
Constant	1.110 (0.924)	1.043 (2.022)	0.875*** (0.241)	1.196* (0.645)	2.388** (1.186)		1.923** (0.820)
BANK CONTROLS	YES	YES	YES	YES	YES	YES	YES
COUNTRY CONTROLS	YES	YES	YES	YES	YES	YES	YES
TIME FE	YES	YES	YES	YES	YES	YES	YES
COUNTRY FE	YES	YES	YES	YES	YES	YES	YES
Sargan test (p-value)	0.160	0.154	0.149	0.159	0.161		0.165
Adj. R ²	0.487	0.337	0.227	0.323	0.290		0.375
Observations	748	748	748	748	748		748

This table presents 2SLS IV model estimation results. The dependent variable is the bank growth in customer deposits year on year. The instrumental variable of D_MISCONDUCT is board turnover. The independent variable is detected bank misconduct, measured as D_MISCONDUCT (dummy variable equal to 1 if a bank received a sanction in year t , and 0 otherwise). News is observed with respect to three types of misconduct news: operational misconduct, intentional acts, and general misconduct news. It is measured as news_N (the natural logarithm of the number of news items for each specific category) (Models 1–3) or news_D (dummy variable equal to 1 if there is news on the specific category observed) (Models 4–6). The table reports the results of the interaction between D_MISCONDUCT and NEWS for the different types of news. The set of bank-specific control variables comprises SIZE, RWA_DENSITY, TCR, COST_INCOME, GROWTH_GL, ZSCORE, TLRO, and LTRO; these are included in the models at $t-1$. The set of country control variables includes GDP_GROWTH, BLS_demand_loans, BLS_offer_loans, DEPOSIT_GUARANTEE, and ECB_RATE; these are included (except DEPOSIT_GUARANTEE) in the models at time $t-1$ and country k . We include time and country fixed effects in all the columns. Standard errors (in parentheses) are adjusted for heteroscedasticity and clustered at bank level. Detailed definitions of all variables are provided in the online appendix. Statistical significance at the 10 %, 5 %, and 1 % levels is denoted by *, **, and ***, respectively.

We also collect misconduct news about Spanish, French, and Italian banks in their respective languages before running an IV regression considering this news as a quick check. The primary results are confirmed, and the results are displayed in Table A5 of the online appendix.

We also investigate the existence of any potential non-linear effect of misconduct and media coverage, individually including the squared terms for the number of fines, the amount of fines, and news coverage in the regression model where the dependent variable is deposit growth. We run the likelihood-ratio test (LRT) to test how the model with the extra squared term compares to the linear-only nested model. The p-value from the LRT indicates that the more complex model, which includes the squared term and uses an additional degree of freedom, does not significantly improve the fit compared to the simpler model. This suggests that the non-linear relationship is worse than the model with only the linear term (Table A6).

5.2. Introduction of the SSM

Our empirical strategy also considers the introduction of the SSM in 2015. As underlined by previous studies, the introduction of the SSM has

prompted supervised banks to increase their risk disclosure (Altunbaş et al., 2022). Moreover, the introduction of the SSM has had a positive effect on bank profitability (Avgeri et al., 2021) but a negative impact on bank lending behavior (Fiordelisi et al., 2017). To pursue its goals of achieving a more stable banking system with higher bank risk disclosure and ensuring effective supervision of the banking sector, among other measures, the ECB can impose sanctions on supervised banks that fail to comply with prudential requirements. Sanctioning is an important power of the ECB because it represents a precondition for the SSM to be credible and impactful. This sanctioning power is expected to foster a culture of prudential compliance among credit institutions under the ECB's supervision. Additionally, an increase in the distance between the supervisor and supervised entities may lead to a reduction in the risk of regulatory capture and thus result in a rise in the number and the severity of sanctions. Regulatory capture occurs when supervisors become dominated by the interests of the entities they regulate, leading to policies that favor industry over the public. In turn, this may result in relaxed regulations, such as the easing of capital requirements or tolerance for risky financial practices and misbehaviors, which can increase the likelihood of financial crises (Stigler, 1971). Studies have shown that close relationships between regulators and banks, such as

those emerging at national level — for instance, in the case of revolving-door employment practices, exacerbate this issue (Lucca et al., 2014). The GFC is a notable example, where regulatory capture was identified as a significant factor contributing to the inadequate oversight of financial institutions (Johnson and Kwak, 2010). Carretta et al. (2015) show that before the introduction of the SSM, different supervisory cultures in EU countries differently impacted bank stability and credit risk-taking, and Baxter (2011) and Pagliari (2012) consistently maintain that a solution to mitigate regulatory capture is the involvement of international authorities in the supervisory process. Therefore, we expect an increase in sanctions imposed on supervised banks after the introduction of the SSM, as underlined by Busetto et al. (2019), and in particular, a sharper increase for banks with headquarters in countries where the quality of governance is lower.

Fig. 2 shows the number of sanctions over the 2009–2019 period. Banks are grouped into two categories: i) banks operating in a country with very high effectiveness of country governance, i.e., those placed in the last tertile of the distribution (high-quality country governance), and ii) banks operating in a country where the effectiveness of country governance is low, i.e., those placed in the first and second tertiles of the distribution (low-quality country governance). Our data show that the former received fewer sanctions during the period observed than the latter. This suggests that banks operating in countries with higher governance effectiveness are less likely to be involved in misconduct than banks based in countries where governance effectiveness is low. Moreover, Fig. 2 underlines that, overall, the number of sanctions in euro-area countries increased after the introduction of the SSM in November 2014. This may be due to the higher efficiency of European supervision in detecting bank misconduct compared with national supervision and to the new common rules applying to the banking sectors of different countries.

This evidence suggests that banks operating in more virtuous countries, in terms of country governance, are less likely to be involved in misconduct (measured as detected misconducts) than when they operate under a common supervisory system with the same rules. This finding corroborates our first hypothesis on the importance of considering, in

addition to the “bad apples” and “bad barrels,” the context in which

Table 8

Effect of the introduction of the SSM on bank misconduct.

Variables	D_MISCONDUCT		N_MISCONDUCT	
	(1)	(2)	(3)	(4)
High-quality country governance	−1.258*** (0.390)	−1.242*** (0.381)	−0.119*** (0.022)	−0.123*** (0.022)
DUMMY_SSM	0.333*** (0.126)	0.401*** (0.140)	0.062** (0.028)	0.067** (0.030)
DUMMY_SSM#High-quality country governance	−0.752*** (0.221)	−0.729*** (0.238)	−0.099*** (0.021)	−0.115*** (0.027)
BANK CONTROLS	YES	YES	YES	YES
COUNTRY CONTROLS	NO	YES	NO	YES
Pseudo R ² , R ²	0.103	0.115	0.322	0.322
Observations	994	966	994	966

This table presents average marginal effects of coefficient estimates from probit regressions and coefficient estimates from panel fixed effect regressions. The dependent variable is detected bank misconduct, measured as D_MISCONDUCT (dummy variable equal to 1 if a bank received a sanction in year t , and 0 otherwise) or N_MISCONDUCT (the logarithm of the number of sanctions received by a bank each year). The main independent variables are High-quality country governance (dummy variable equal to 1 if the PCA_CONTEXT at the country level is higher than 66 % of the year-sample distribution, and 0 otherwise), DUMMY_SSM (dummy variable equal to 1 from 2015 to 2019, and 0 otherwise), and DUMMY_SSM#High-quality country governance (the interaction term between the two variables DUMMY_SSM and High-quality country governance). The set of bank-specific control variables comprises ROA, SIZE, RWA_DENSITY, COST_INCOME, LOANS_TA, ZSCORE, TCR, and TURNOVER; these are included in the models at $t-1$. The set of country control variables includes FINANCIAL_DEV_INDEX, GDP_GROWTH, and INFLATION; these are included in the models at time $t-1$ and country k . Standard errors (in parentheses) are clustered at bank level. Detailed definitions of all variables are provided in the online appendix. Statistical significance at the 10 %, 5 %, and 1 % levels is denoted by *, **, and ***, respectively.

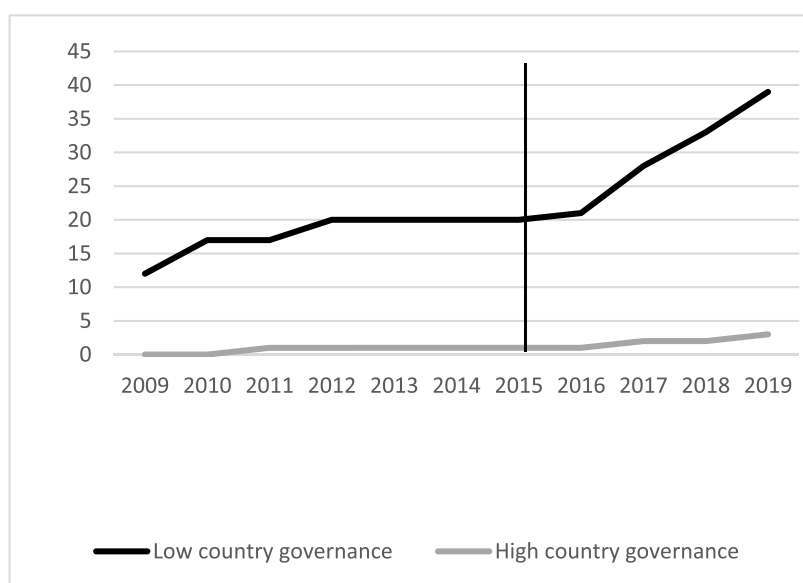


Fig. 2. Evolution of the number of detected misconducts before and after the introduction of the SSM. The figure displays the number of sanctions imposed on significant financial institutions in Europe from 2009 to 2019. Countries are clusterized after the application of PCA to World Governance Indicators which measure the following aspects of country governance: voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption. The distribution of the PCA-derived indicator allows us to categorize countries into those with high governance (top third of the distribution) and those with low governance (bottom two-thirds of the distribution). Notably, 2015 marks the first year after the implementation of the SSM.

Source: own elaboration.

individuals and organizations are embedded, i.e., the “bad orchard.”

In the light of this evidence, we run probit and panel fixed effects regressions. Among the independent variables, we included a dummy variable equal to 1 in the period after the introduction of the SSM, and 0 otherwise (DUMMY_SSM), substituting for PCA_CONTEXT, which is equal to 1 if a bank operates in a country with very high governance effectiveness (higher than the second tertile of the distribution calculated for each year), and 0 otherwise (high-quality country governance), and the interaction term between the two variables (DUMMY_SSM#-High-quality country governance). Our findings are reported in Table 8; they report fewer detected misconducts perpetrated by banks located in countries where governance effectiveness is very high than in countries with low governance effectiveness. Moreover, the introduction of the SSM has increased the number of detected misconducts in countries where governance effectiveness is low. When we consider the interaction between the two variables (SSM introduction and High-quality country governance), we observe that banks located in a country with higher governance effectiveness are associated with fewer cases of detected misconduct than banks based in countries with low governance effectiveness, even after the SSM introduction, and that the distance between the two groups increases. These results confirm what is shown in Fig. 2 and underpin the importance of a “good orchard” in decreasing the probability of bank misconduct. Previous studies show that bank misconduct can depend on the individual (the “bad apple”) and the organizational context in which the individual works (the “bad barrel”).

Our findings contribute to the literature by showing that the context in which an organization operates (the “bad orchard”), as proxied by country governance, also matters. These findings indicate that a better-quality *orchard* may be associated with less negative behavior.

Due to the introduction of the SSM at the end of 2014, we run an additional test to check our main results on a subperiod in which banks were all under the same regulation. We therefore run the main analysis on the subperiod from 2015 to 2019. Our results are reported in Table 9 and, although based on a shorter period, confirm our main findings. The quality of country governance is a relevant predictor of bank misconduct, supporting the first hypothesis on the role of the *orchard* in affecting bank behavior. The results are confirmed when different dependent variables are used in the analysis, i.e., the dummy sanction, the number of sanctions, and the logarithm of the total amount of sanctions in a specific year.

5.3. Robustness checks

To check the robustness of our results, we run several additional regression models using alternative measures of the dependent variable. We consider two additional variables as measures of detected bank misconduct: i) the logarithm of the sum of the amount in euros of fines received in a given year by a bank—in this case, we run a panel regression model with fixed effects (Table 10); and ii) a dummy variable equal to 1 if the bank engaged in at least one detected misconduct during

Table 9
The deterrent effect of country governance on bank misconduct during the subperiod 2015–2019.

Variables	D_MISCONDUCT (1)	N_MISCONDUCT (2)	AMOUNT_MISCONDUCT (3)
PCA_CONTEXT _{t-1}	−0.027*** (0.010)	−0.029** (0.012)	−0.370*** (0.135)
ROA _{t-1}	5.580** (2.536)	2.604 (1.714)	46.69* (23.98)
SIZE _{t-1}	0.019 (0.015)	0.017 (0.016)	0.179 (0.198)
RWA_DENSITY _{t-1}	−0.014 (0.148)	−0.022 (0.137)	0.030 (1.563)
COST_INCOME _{t-1}	−0.008 (0.125)	−0.006 (0.037)	−0.281 (0.458)
LOANS_TA _{t-1}	−0.243** (0.114)	−0.242** (0.110)	−2.653** (1.220)
ZSCORE _{t-1}	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.001)
TCR _{t-1}	−0.083 (0.109)	−0.079 (0.109)	−0.493 (1.427)
TURNOVER _{t-1}	0.038 (0.097)	0.044 (0.060)	0.439 (1.032)
FINANCIAL_DEV_INDEX _{t-1}	0.100 (0.131)	0.198* (0.114)	3.237** (1.547)
GDP_GROWTH _{t-1}	0.037 (0.048)	0.032 (0.038)	0.237 (0.478)
ECB_RATE _{t-1}	−1.014*** (0.278)	−0.343*** (0.110)	2.279 (1.507)
INFLATION _{t-1}	0.148 (3.149)	3.338* (1.860)	30.91 (34.25)
Constant		−0.187 (0.336)	−4.230 (4.313)
TIME FE	YES	YES	YES
Pseudo R ² , R ²	0.1596	0.082	0.132
Observations	488	586	586

This table presents average marginal effects of coefficient estimates from probit regressions and coefficient estimates from panel fixed effect regressions. The analysis is conducted over the time span 2015–2019 when all banks in the sample were supervised by the ECB and under the SSM. The dependent variable is detected bank misconduct, measured as D_MISCONDUCT (dummy variable equal to 1 if a bank received a sanction in year *t*, and 0 otherwise), N_MISCONDUCT (the logarithm of the number of sanctions received by a bank each year), or AMOUNT_MISCONDUCT (the logarithm of the total amount of sanctions in euros received by a bank in a specific year). PCA_CONTEXT is the main independent variable and is the result of the PCA of the six governance effectiveness indices proposed by the World Bank Database. The set of bank-specific control variables comprises ROA, SIZE, RWA_DENSITY, COST_INCOME, LOANS_TA, ZSCORE, TCR, and TURNOVER; these are included in the models at *t*-1. The set of country control variables includes FINANCIAL_DEV_INDEX, GDP_GROWTH, ECB_RATE, and INFLATION; these are included in the models at time *t*-1 and country *k*. We include time fixed effects in all the columns. Standard errors (in parentheses) are clustered at bank level. Detailed definitions of all variables are provided in the online appendix. Statistical significance at the 10 %, 5 %, and 1 % levels is denoted by *, **, and ***, respectively.

Table 10

Robustness check. The deterrent effect of country governance on bank misconduct (AMOUNT_MISCONDUCT).

Variables	AMOUNT_MISCONDUCT						
	(1)	(3)	(4)	(5)	(6)	(7)	(8)
PCA_CONTEXT _{t-1}	−0.385*** (0.119)						
Voice and accountability _{t-1}		−4.006*** (1.110)					
Political stability and absence of violence/terrorism _{t-1}			−1.285*** (0.488)				
Government effectiveness _{t-1}				−2.033*** (0.634)			
Regulatory quality _{t-1}					−1.904*** (0.609)		
Rule of law _{t-1}						−1.531*** (0.580)	
Control of corruption _{t-1}							−1.468*** (0.417)
Constant	−0.245 (3.238)	4.185 (4.035)	3.408 (4.233)	1.255 (3.428)	2.907 (3.911)	1.643 (3.574)	0.566 (3.329)
BANK CONTROLS	YES	YES	YES	YES	YES	YES	YES
COUNTRY CONTROLS	YES	YES	YES	YES	YES	YES	YES
TIME FE	YES	YES	YES	YES	YES	YES	YES
R ²	966	966	966	966	966	966	966
Observations	0.118	0.119	0.093	0.121	0.110	0.110	0.126

This table presents coefficient estimates from panel fixed effects regressions. The dependent variable is detected bank misconduct, measured as AMOUNT_MISCONDUCT (the logarithm of the total amount of sanctions in euros received by a bank in a specific year). The main independent variable is country governance, measured as PCA_CONTEXT or by the six governance indicators (voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption), which are inserted in the models one by one. The set of bank-specific control variables comprises ROA, SIZE, RWA_DENSITY, COST_INCOME, LOANS_TA, ZSCORE, TCR, and TURNOVER; these are included in the models at t-1. The set of country control variables includes FINANCIAL_DEV_INDEX, GDP_GROWTH, ECB_RATE, and INFLATION; these are included in the models at time t-1 and country k. We include time fixed effects in all the columns. Standard errors (in parentheses) are clustered at bank level. Detailed definitions of all variables are provided in the online appendix. Statistical significance at the 10 %, 5 %, and 1 % levels is denoted by *, **, and ***, respectively.

Table 11

Robustness check. The deterrent effect of country governance on bank misconduct (D_MISCONDUCT_PERIOD).

Variables	D_MISCONDUCT_PERIOD						
	(1)	(2)	(3)	(4)	(5)	(6)	(8)
PCA_CONTEXT _{t-1}	−0.073*** (0.018)	−0.071*** (0.017)					
Voice and accountability _{t-1}			−0.679*** (0.176)				
Political stability and absence of violence/terrorism _{t-1}				−0.204* (0.107)			
Government effectiveness _{t-1}					−0.387*** (0.093)		
Regulatory quality _{t-1}						−0.429*** (0.087)	
Rule of law _{t-1}							−0.280*** (0.086)
Control of corruption _{t-1}							−0.243*** (0.058)
BANK CONTROLS	YES	YES	YES	YES	YES	YES	YES
COUNTRY CONTROLS	NO	YES	YES	YES	YES	YES	YES
TIME FE	YES	YES	YES	YES	YES	YES	YES
Pseudo R ²	0.224	0.241	0.232	0.181	0.252	0.260	0.243
Observations	994	966	966	966	966	966	966

This table presents average marginal effects of coefficient estimates from probit regressions. The dependent variable is detected bank misconduct, measured as D_MISCONDUCT_PERIOD (dummy variable equal to 1 if a bank received a sanction during the whole period observed, and 0 otherwise). The main independent variable is country governance, measured as PCA_CONTEXT or by the six governance indicators (voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption), which are inserted in the models one by one. The set of bank-specific control variables comprises ROA, SIZE, RWA_DENSITY, COST_INCOME, LOANS_TA, ZSCORE, TCR, and TURNOVER; these are included in the models at t-1. The set of country control variables includes FINANCIAL_DEV_INDEX, GDP_GROWTH, ECB_RATE, and INFLATION; these are included in the models at time t-1 and country k. We include time fixed effects in all the columns. Standard errors (in parentheses) are clustered at bank level. Detailed definitions of all variables are provided in the online appendix. Statistical significance at the 10 %, 5 %, and 1 % levels is denoted by *, **, and ***, respectively.

the period observed, and 0 otherwise (D_MISCONDUCT_PERIOD) (Table 11). In the two robustness checks, we consider both the quality of country governance using the aggregated indicator (PCA_CONTEXT) and its single components. Our results underline that, regardless of

which variable is used as the dependent one, the relationship between country governance quality and detected bank misconduct is consistently inverse and statistically significant. These findings confirm the results of our main analysis.

Table 12

Robustness check. Effect of detected bank misconduct (AMOUNT_MISCONDUCT) on bank deposits.

Variables	GROWTH IN CUSTOMER DEPOSITS	
	(1)	(2)
AMOUNT_MISCONDUCT _{t-1}	−0.101*** (0.038)	−0.118** (0.057)
NEWS _{t-1}	−2.005*** (0.606)	−2.909*** (0.940)
AMOUNT_MISCONDUCT _{t-1} #NEWS _{t-1}		−0.280* (0.197)
SIZE _{t-1}	−0.048* (0.028)	−0.048 (0.043)
RWA_DENSITY _{t-1}	−0.442* (0.262)	−0.499 (0.402)
TCR _{t-1}	−0.707*** (0.227)	−0.976*** (0.360)
COST_INCOME _{t-1}	−0.070 (0.050)	−0.093 (0.073)
GROWTH_GL _{t-1}	−0.046*** (0.013)	−0.048** (0.020)
ZSCORE _{t-1}	0.001*** (0.000)	0.001*** (0.000)
TLTRO _{t-1}	−0.005 (0.005)	−0.005 (0.007)
LTRO _{t-1}	−0.007* (0.004)	−0.014* (0.007)
GDP _{t-1}	0.001 (0.002)	−0.000 (0.003)
BLS_demand_loans _{t-1}	0.002 (0.002)	0.003 (0.003)
BLS_supply_loans _{t-1}	0.014 (0.048)	0.004 (0.072)
DEPOSITS_GUARANTEE	0.077 (0.107)	0.116 (0.138)
ECB_RATE _{t-1}	−2.428 (2.162)	−5.224 (3.800)
Constant	1.896*** (0.597)	2.049** (0.891)
TIME FE	YES	YES
COUNTRY FE	YES	YES
Sargan test (p-value)	0.342	0.118
Adj. R ²	0.583	0.879
Observations	749	749

This table presents 2SLS IV model estimation results. The dependent variable is the bank growth in customer deposits year on year. The main independent variables are detected bank misconduct, measured as AMOUNT_MISCONDUCT (the logarithm of the total amount of sanctions in euros received by a bank in a specific year) and NEWS (the logarithm of the number of news items related to a bank's misconduct). The instrumental variable of AMOUNT_MISCONDUCT is board turnover, while the instrumental variable of NEWS is media freedom. The table also reports the results of the interaction between bank misconduct and NEWS. The set of bank-specific control variables comprises SIZE, RWA_DENSITY, TCR, COST_INCOME, GROWTH_GL, ZSCORE, TLRO, and LTRO; these are included in the models at t-1. The set of country control variables includes GDP, BLS_demand_loans, BLS_offer_loans, DEPOSIT_GUARANTEE, and ECB_RATE; these are included (except DEPOSIT_GUARANTEE) in the models at time t-1 and country k. We include time and country fixed effects in all the columns. Standard errors (in parentheses) are clustered at bank level. Detailed definitions of all variables are provided in the online appendix. Statistical significance at the 10 %, 5 %, and 1 % levels is denoted by *, **, and ***, respectively.

Regarding H₂—i.e., the relationship between bank misconduct and bank funding—as additional robustness, we use a different independent variable to quantify bank misconduct, i.e., the logarithm of the total amount of fines, and we interact it with the logarithm of the number of news items. The findings are reported in Table 12 and confirm those obtained in the main analysis. In particular, we observe that the higher the amount of fines, the sharper the decrease in customer deposits. This result suggests that the severity of a bank sanction has a negative effect on customer behavior, which tends to decrease the deposit base more when the sanction is more severe. Moreover, we interact the logarithm of the total amount of fines with the number of news items to observe

whether media coverage contributes to the increase in the effect of detected misconduct on customer behavior. Our results underline that when media coverage is higher and sanctions are more severe, customers tend to decrease their deposits more.

We also run additional robustness tests, the findings of which are reported in the online appendix. Considering H₁, we perform cross-sectional regressions (Table A7). Additionally, to consider the possible presence of outliers in terms of the number and amount of sanctions, we winsorize both the variable which captures the number of sanctions (N_MISCONDUCT) and the logarithm of the amount of sanctions (AMOUNT_MISCONDUCT) and we re-run the panel fixed effects regressions (Table A8). We also run the analyses excluding either Italy or Germany, as they respectively show the highest number of misconducts and the highest number of banks (Table A9). All the results corroborate our main findings.

Regarding H₂, we conduct another IV regression where we replace the dependent variable, using the ratio of bank deposits to nationwide deposits in the banking system. This enables us to control for possible endogeneity problems stemming from the fact that all banks are significant at the national and system-wide levels and that sanctions can affect a country's GDP growth through changes in bank deposits (Table A10). Controlling for endogeneity problem, we run an alternative regression model, i.e., the two-step Heckman regression model. This regression model enables us to define the inverse Mills ratio (IMR) from the first step and to include it in the second step to manage the endogeneity issue (Table A11). Moreover, we verify the impact on customer deposits of misconduct, after winsorizing both the variable that captures the number of sanctions (N_MISCONDUCT) and the logarithm of the sanction amount (AMOUNT_MISCONDUCT) (Table A12). Lastly, we run the analysis excluding Ireland (Table A13). The results confirm the findings of our main analysis.¹¹

6. Discussion and conclusions

Bank misconduct causes major reputational and profitability issues, remaining a critical focus for supervisors. Despite regulatory interventions, misconduct persists. Sociological studies suggest that misconduct stems from individual behavior (“bad apple”), organizational flaws (“bad barrel”), or broader contexts (“bad orchard”) (Punch, 2003). Our findings contribute to the debate on the determinants of misconduct in banking, showing that the “bad orchard” is a crucial factor in determining bank misconduct. We find that the better a country's governance, the lower the probability of detected bank misconduct. Considering the consequences of the detected bank misconduct, our findings show that growth in customer deposits is lower for banks which engaged in misconduct compared with those not involved in misconduct and that depositor reaction is stronger when media coverage is high. The reduction in deposit growth highlights a potential “refinancing risk” for the banks reported for misconduct. If banks experience slower deposit growth or even deposit withdrawals, they may face challenges in securing stable and sufficient funding, particularly if misconduct-related reputational damage erodes depositor confidence.

Our results hold relevant policy implications both for regulators and banks. First, to reduce bank misconduct and strengthen financial stability, policymakers and governments should not only improve bank regulation but also improve the quality of country governance. Second, our findings underline the benefits associated with the European banking union and the SSM, suggesting the relevance of the harmonization of regulation at the European level. Bank misconduct erodes

¹¹ As further analyses, we run regression models in which we include the interaction between bank fixed effect and time fixed effect and, alternatively, the interaction between country fixed effect and time fixed effect. Our main results are confirmed. These results are not reported but are available upon request.

customer trust, creating a perception of increased risk and prompting customers to seek more secure banking alternatives, which can result in significant deposit withdrawals. This outflow of deposits can lead to liquidity constraints and potentially destabilize the bank. Additionally, negative media coverage and public scrutiny further damage the bank's reputation, causing customers to lose confidence and exacerbating the decline in deposits.

Addressing these challenges requires stronger monitoring and auditing to prevent misconduct and maintain customer trust. Transparent actions, better governance, and ethical practices are vital for restoring depositor confidence and ensuring the bank's stability.

A promising avenue for future research involves investigating the impact of additional features of banks' deposits, such as customer type and deposit maturity. This exploration could reveal whether the influence of media coverage in amplifying the inverse relationship between detected bank misconduct and bank deposit growth is influenced by specific deposit characteristics. Moreover, both deposit withdrawals and lending constraints might interact to create a reinforcing cycle of instability for misconduct-affected banks. Future research could build on our findings by examining the interplay between deposit growth and lending in banks affected by misconduct. Specifically, it would be valuable to study whether reductions in deposit growth translate into constrained lending, and if so, how this dynamic varies across different types of banks (e.g., large vs. small banks, retail-focused vs. corporate-focused banks). Additionally, further development could explore whether deposit withdrawals drive lending reductions directly, or if other factors such as capital structure changes or liquidity pressures contribute more significantly.

CRediT authorship contribution statement

Alessandro Carretta: Writing – review & editing, Supervision, Project administration, Conceptualization. **Doriana Cucinelli:** Writing – review & editing, Writing – original draft, Software, Methodology, Formal analysis, Data curation, Conceptualization. **Lucrezia Fattobene:** Writing – review & editing, Writing – original draft, Project administration, Data curation, Conceptualization. **Paola Schwizer:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Conceptualization.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.jbankfin.2025.107434](https://doi.org/10.1016/j.jbankfin.2025.107434).

Data availability

Data will be made available on request.

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