Are CEO power, monitoring incentives, and dividends related?

Evidence from a regulated industry

Abstract

The existing literature on CEO entrenchment and dividend policy argues that entrenched managers tend to distribute higher payout ratios to discourage monitoring from minority shareholders. Similarly, in Western Europe dividends dampen expropriation of minority shareholders in group-affiliated firms. But what happens if monitoring from regulatory authorities is in conflict with the interest of minority shareholders? We investigate the role of CEO power on bank dividend policy for a sample of 109 listed banks in Western Europe for the period 2005-2010. We employ three main proxies for CEO power: board duality, CEO tenure, and unforced CEO turnover events. We provide evidence that CEO power is associated with lower dividend payout ratios. External monitoring from a widely-held financial institution has a positive effect on dividend payout ratios, while monitoring from the government has a negative effect on dividend payout ratios. These results support the view that banking regulators are prevalently concerned about the safety of the bank, and powerful bank CEOs can afford to distribute low payout ratios, at the expense of minority shareholders. Entrenched bank CEOs catch two birds with a stone by paying lower dividend payout ratios: They reduce undesired attention from the banking regulators, and increase the amount of excess cash available for private benefits. The results are robust to different econometric techniques, including fixed-effect panel data estimators, and a combination of difference-in-differences with matching techniques.

JEL codes: *G21, G35*

Keywords: *CEO power, dividends, entrenchment, corporate governance, banks*

1 Introduction

Powerful CEOs can invest in non-value maximizing projects (i.e. projects with a negative Net Present Value, NPV) to increase their own utility (e.g. for empire-building objectives).[1] Shareholders can monitor CEOs to prevent expropriation, but monitoring can be too costly if ownership is dispersed and a free-rider problem arises (Shleifer and Vishny (1986)). A partial solution to this problem is provided by dividends. Dividends can be a monitoring device for shareholders, because they reduce the amount of cash that CEOs can dissipate in non-value maximizing projects (Jensen (1986)) and increase the frequency at which firms seek funds on the capital market, which subjects CEOs to stronger scrutiny from outside investors (Easterbrook (1984)).

The literature on non-financial firms documents that CEO entrenchment leads to higher dividend payout ratios in the U.S. (Hu and Kumar (2004)). This finding is ascribed to the incentive to discourage monitoring from minority shareholders when the CEO is entrenched. In firms where corporate governance is weak, dividends are a pre-commitment device: A promise to pay regularly cash to shareholders reduces agency costs, since it decreases the likelihood that cash will be wasted on projects that increase the private benefits of the CEO without maximizing shareholder value (John and Knyazeva (2006)). However, the incentive to pay larger dividends depends on whether the entrenched CEOs can fend off take-over threats (Stulz (1988)), and in general it becomes smaller as the level of shareholder monitoring on the CEO decreases. A possible reason for poor shareholder monitoring is weak protection of the rights of minority shareholders (La Porta et al. (2000)). Such might be the case in certain countries of Western Europe, where the market for corporate control is relatively inefficient. However, the existing literature on dividend payout ratios and expropriation in Western Europe documents that dividends dampen expropriation in group-affiliated firms (Faccio et al. (2001)): Investors anticipate the risk of expropriation from the controlling shareholder, and require higher dividend payout ratios.

The evidence provided by Hu and Kumar (2004) and Faccio et al. (2001) points towards a positive relation between dividend payout ratios and CEO power in Western Europe. Building upon this literature, we intend to answer the following question: Are CEO power and dividend payout ratios positively related for banks in Western Europe?

When the firm is a bank, the objectives of managers and shareholders can enter into conflict with the objectives of other powerful stakeholders, such as depositors and regulators.[2] Monitoring from minority shareholders is not the only concern of bank CEOs, and monitoring from regulators may acquire a more prominent role. Regulators may favor low ratios of dividends to equity, since large ratios would increase default probability, and high dividend payout ratios may attract more scrutiny from regulators.

Because of the regulatory monitoring, the relation between CEO power and payout ratios in banks is not necessarily positive. Banks with entrenched CEOs may in fact have *lower* payout ratios to deter scrutiny from regulators. This idiosyncrasy of the banking sector warrants an investigation of the role of dividends in shaping the dynamics of the agent-principal relation in banking. To this day, however, a study of the relation between CEO power and dividends in banks is still missing.

This issue is important because the dynamics of CEO power are strongly intertwined with the role of corporate governance[3] in financial institutions. This topic has recently drawn much attention from academics and policy makers alike (Erkens et al. (2012); Arnaboldi and Casu (2011)), because poor

[1] Alternatively, bank CEOs can decide not to take projects with positive NPV (Vallascas and Hagendorff (2012)).
[2] Bank executives are subject to the scrutiny of different stakeholders. Schaeck et al. (2012) provide evidence of shareholder discipline for risky institutions, while there is no evidence of discipline from debt holders and regulators.
[3] Corporate governance can be defined as 'the allocation of authority and responsibilities, i.e. the manner in which the business and affairs of a bank are governed by its board and senior management' (BIS (2010), p. 5).

corporate governance can increase the probability of bank failures,[4] with potentially large negative externalities due to contagion risk, disruption of the payment system, and costs deriving from deposit insurance (BIS (2010); Mülbert (2010)).[5]

The interest in dividend policy of banks has become stronger as a result of the recent financial crisis, because of the importance of retaining earnings for bank soundness, especially during recessions (Financial Stability Board (2009)). Recent developments in banking regulation impose restrictions on dividends for undercapitalized banks (Caruana (2010)).[6] In this paper, we investigate the association between CEO power and dividend payout ratios in banks from fifteen countries in Western Europe that are members of the European Union (EU-15). We restrict the analysis to countries in the EU to improve homogeneity in the regulatory framework. We employ three main proxies for CEO power: board duality, CEO tenure, and unforced CEO turnovers. We also control for other standard determinants of dividend payout ratios, such as size, profitability, and growth opportunities (Fama and French (2001)).[7]

We offer several contributions to the literature. First, we bring to bear a new hand-collected dataset on bank ownership structure and corporate governance for 109 listed banks from EU-15 countries and combine this dataset with data collected from Bankscope on dividends and other variables that are believed to influence dividend payout ratios. This unique dataset allows us to investigate the impact of CEO power on dividend payout ratios, allowing for standard determinants of the dividend payout ratio, including variables related to ownership structure and corporate governance. Unlike much of the previous literature on dividend policy, we can exploit information on government ownership and government officials on the board.

Second, we find that powerful CEOs tend to distribute lower payout ratios. In particular, we find a negative relation between board duality and payout ratios and between CEO tenure and payout ratios, and a positive relation between unforced CEO turnovers and payout ratios. The results are robust to different econometric specifications (including different sets of control variables and using different econometric techniques), although the results for CEO tenure are weaker. We show that endogeneity in the form of reverse causality is unlikely to drive our results. Using a combination of difference-in-differences and matching techniques, we find confirmation that board duality negatively affects dividend payout ratios, while unforced CEO turnover events positively affect dividend payout ratios.

Third, we provide robust evidence that when a widely-held financial institution is the largest owner of the bank dividend payout ratios increase, indicating that external monitoring from other financial institutions can reduce expropriation. This is consistent with Faccio et al (2001), who document that in Western Europe affiliation to a group can dampen expropriation. On the other hand, when the government is the largest owner or there is a government official on the board, payout ratios are lower, suggesting that the government is incentivized to put bank safety and the interest of creditors before the interest of minority shareholders.

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[4] Since CEOs tend to be risk-averse (Smith and Stulz (1985)), entrenchment should reduce bank risk taking. Entrenchment can thus reduce the probability of bank default and, in the presence of government-sponsored safety nets (such as deposit insurance), may benefit the public as a whole. Recent contributions provide evidence of a nexus between CEO power and bank risk-taking (Pathan (2009)), and CEO compensation incentives and bank risk-taking (Hagendorff and Vallascas (2011)). Fahlenbrach and Stulz (2011) find that banks with CEOs whose incentives were better aligned to those of shareholders did not perform better during the crisis. Their findings are at odds with the view that lack of alignment between CEOs and shareholder incentives was at the root of the financial crisis.

[5] For these reasons, bank directors should comply with higher and broader standards of care (Macey and O'Hara (2003)).

[6] For instance, Abreu and Gulamhussen (2013) study the determinants of dividend payout ratios during the financial crisis for U.S. bank holding companies, while Acharya et al. (2011) find evidence of risk-shifting via dividend payments during the financial crisis.

[7] Blau and Fuller (2008) develop a model that emphasizes the trade-off between dividends and financial flexibility. Managers that believe the firm has good future growth opportunities may desire a higher level of financial flexibility.

Overall, our findings complement previous research on dividends and expropriation in Western Europe (Faccio et al. (2001)), as well as recent developments in the banking literature regarding dividend policy in banks (Abreu and Gulamhussen (2013); Acharya et al. (2011)), and bank CEO incentives (Hagendorff and Vallascas (2011)).

The rest of the paper is structured as follows. Section 2 reviews the literature and develops the hypotheses. Section 3 describes the methodology and the data set. Section 4 reports the results and robustness checks. Section 5 summarizes and concludes.

2 Literature review and hypotheses

2.1 The entrenchment hypothesis: 'Monitoring' and 'expropriation'

The entrenchment hypothesis argues that entrenched managers who fear disciplinary actions tend to pay higher dividends as a protection against such actions (Zwiebel (1996); Fluck (1999); Allen et al. (2000)). This hypothesis is grounded in the principle that dividends are paid to decrease agency costs between managers and shareholders (Easterbrook (1984) and Jensen (1986)).[8] By paying dividends, managers increase the utility of minority shareholders and decrease monitoring incentives.[9] The literature on non-financial firms supports the entrenchment hypothesis (Hu and Kumar (2004)). Following this 'monitoring' perspective of the entrenchment hypothesis, we can derive the following testable hypothesis for the relation between CEO power and dividend payout ratios:

H1: Monitoring perspective - *CEO power increases dividend payout ratios.*

Hypothesis H1 derives from the prediction that entrenched CEOs employ dividends as a device to discourage monitoring from minority shareholders. However, the incentive to pay dividends as a monitoring device is negligible for CEOs that can fend off take-over threats (Stulz (1988)). In general, entrenched CEOs are less incentivized to pay large amounts of dividends in the absence of monitoring from minority shareholders (Hu and Kumar (2004)). This may be the case if minority shareholders are not adequately protected by regulation (La Porta et al. (2000)).

The incentive to pay dividends is, *ceteris paribus*, weaker in banking than in non-financial industries because of important bank stakeholders with objectives in conflict with generous dividend policies. In particular, the optimal payout ratio in banking may be lower as a result of monitoring from bank regulators that aim to preserve bank soundness. *Ceteris paribus*, a low dividend payout ratio reduces the potential loss for the deposit insurance provider, and in the case of a capital shortfall the regulator is incentivized to exert monitoring pressure on the bank (see, among others, Pennacchi (1987)). A low dividend payout ratio, therefore, can decrease the strength of regulatory monitoring on the CEO.

We argue that in Western Europe, a combination of weak protection of minority shareholders and regulatory monitoring may allow entrenched bank CEOs to pay lower dividend payout ratios than CEOs with less power. These considerations lead to an 'expropriation' perspective of the entrenchment hypothesis:

H2: Expropriation perspective - *CEO power decreases dividend payout ratios.*

[8] Alternative hypotheses relating to dividend policy are the signaling hypothesis (Bhattacharya (1979); Litzenberger and Ramaswami (1982); John and Williams (1985); Miller and Rock (1985)), and the free-cash flow hypothesis (Jensen (1986)).

[9] Dividends can mitigate the conflict between strong and weak stakeholders (Bøhren et al. (2012)). This is in line with the 'substitute model' for dividends: Dividends are paid by insiders to establish a good reputation and reduce the conflict with minority shareholders (La Porta et al. (2000)). According to the 'outcome model', dividends are the 'outcome' of regulation that protects the right of minority shareholders (La Porta et al. (2000)).

We employ three main proxies for CEO power: *Board Duality*, *CEO Tenure* and *Unforced CEO Turnover*. The first is a dummy variable which takes on the value one if the CEO chairs the board, and zero otherwise. *CEO Tenure* is the natural logarithm of the number of years for which the CEO has been in office. Finkelstein and Hambrick (1989) argue that some determinants of CEO power take time to develop, and for this reason CEO power tends to increase with tenure.[10] Since the relationship between tenure and dividend payout ratios may be nonlinear (Hu and Kumar (2004)), we consider the natural logarithm of tenure (in years). While board duality and CEO tenure increase CEO power, CEO turnover events should decrease it. This is because the new CEO may need some time to entrench herself and pursue policies that do not maximize shareholder value. However, CEO turnover may depend on dividends, since dividend cuts may lead to CEO dismissal (Schaeck et al. (2012)). For this reason, we consider only unforced CEO turnovers as proxy for CEO power, by creating a dummy equal to one if a turnover that cannot be defined as a forced turnover takes place, and zero otherwise (*CEO Unforced Turnover*). In the appendix (Section A.4) we give a more detailed explanation of how we distinguish between forced and unforced CEO turnovers.

According to H1, *Board Duality* and *CEO Tenure* should be positively related to dividend payout ratios, while *CEO Unforced Turnover* should be negatively related to dividend payout ratios. Conversely, H2 predicts a negative coefficient for *Board Duality* and *CEO Tenure* and a positive coefficient for *CEO Unforced Turnover*.

In addition to monitoring from regulators, pressure from the government could also lead to lower dividend payout ratios, as a result of potential political and reputational damage of bank failures (Brown and Dinç (2005)). In Section 2.2, we further examine the impact of government interventions on dividend payout ratios, in the form of both government ownership and presence of government officials on the board.

2.2 Other factors related to corporate governance and ownership structure

A potential determinant of the relation between dividend payout ratios and CEO entrenchment is the level of external monitoring (Hu and Kumar (2004)). Large investors are able to exert stronger monitoring than minority shareholders, and therefore large shareholders on the board and institutional investor ownership may act as substitute monitoring devices for dividends. We therefore expect that when a large bank shareholder is on the board, or when the largest bank shareholder is a widely-held institutional investor, dividend payout ratios are lower. We construct the following dummy variables: a dummy *Large Owner on the Management Board* (Laeven and Levine (2009)), which takes on the value one if an owner holding at least 10% of bank shares is on the management board, and zero otherwise; and the dummies *Widely-held Financial Institution as the Largest Owner* and *Widely-held Non-Financial Corporation as the Largest Owner*. These dummies take on the value one if an institutional investor (financial institution or non-financial corporation) is the largest shareholder and zero otherwise. We expect the coefficients on these dummies to be negative if this 'substitute monitoring device' story applies.

However, such hypothesis is at odds with some of the recent findings in the empirical literature. As Khan (2006) points out, the presence of large institutional investors may lead to *larger* dividend payouts if this is in line with their preferred payout policy. Similarly, Short et al. (2002) find that institutional investors are positively associated with dividend payout ratios. Khan (2006) and Short et al. (2006) findings may be consistent with an 'expropriation reduction' hypothesis. It can be argued that the presence of institutional investors increases the degree of protection of minority shareholders, reducing the probability of expropriation. Faccio et al. (2001) find that in the specific case of Western Europe, group-affiliated corporations (corporations controlled by widely held financial institutions or non-financial corporations) pay larger dividend payout ratios. Moreover, external monitoring from widely-

[10] *CEO Tenure* may also increase moral hazard, since for CEOs close to retirement reputational damages resulting from dismissal are less important (Murphy (1986); Hu and Kumar (2004)).

held institutional investors may push entrenched managers with inferior investment opportunities to make higher payouts (Hu and Kumar (2004)). Large owners on the management board may also increase the intensity of external monitoring on entrenched managers. Following these arguments, the coefficients on the dummies *Large Owner on the Management Board*, *Widely-held Financial Institution as the Largest Owner*, and *Widely-held Non-Financial Corporation as the Largest Owner*, should be positive.

We also examine the effect of government ownership and the presence of a government official on the board. According to Gugler (2003), when the government acquires ownership of a firm, there is a double principal-agent problem: between the government and the citizens (the government is the agent), and between the government and the managers (the government is the principal). Since government ownership should result in even stronger agency costs, a monitoring hypothesis suggests that government ownership should lead to higher dividend payout ratios. However, the government's objective could be twofold: 1) maximizing shareholder value; 2) protecting depositors' rights. The latter objective, as mentioned above, could be a consequence of possible reputational and political damage in the case of bank liquidation,[11] or could be associated with concerns of potential losses deriving from deposit insurance schemes or other types of (implicit or explicit) guarantees. Since high dividend payout ratios can reduce the ability of a bank to pay back its creditors, government ownership may also lead to lower dividend payout ratios.

We measure the effect of government ownership with a dummy variable *Government as the Largest Owner*. This dummy takes on the value one if the government is the largest shareholder and zero otherwise. The coefficient on *Government as the Largest Owner* could be positive or negative, depending on whether the 'double principal-agent problem' or the desire to protect bank soundness and depositors prevails. We employ an additional measure for the effect of government intervention on bank dividend policy: *Government Official on the Board*.[12] This is a dummy variable which equals one when there is at least one government official on the board, and zero otherwise.

3. Methodology and Data

This section describes the methodology and data set. Section 3.1 describes the econometric framework and the main variables of our models. Section 3.2 describes the data set.

3.1 Methodology

The literature on the entrenchment hypothesis for non-financial firms is heterogeneous in terms of econometric methodology and dependent variable chosen for the empirical analysis. Since regulators are prevalently concerned about the safety of the bank, and common equity is a key component of the regulatory capital ratios in banking, we employ the ratio dividend to equity as dependent variable, following previous literature on bank dividend policy.[13] Using equity in the denominator rather than earnings has an additional advantage: it eliminates the problem of dealing with negative dividend payout ratios (Acharya et al. (2012); Onali (2010)).

The baseline specifications to test H1 and H2 (regarding the relation between CEO power and dividend payout ratios) are as follows:

[11] Iannotta et al. (2013) find that government-owned banks face strong political pressure and may pursue objectives different from profit maximization: During election years, government-owned banks display higher lending growth and lower profitability than private banks. Higher lending growth is consistent with the government objective to favor political supporters.

[12] In the appendix (Section A.1) we give a more detailed definition of the variable *Government Official on the Board*.

[13] Adjusting for share repurchases does not change substantially our results.

$$DPE_{i,t} = f(X_{i,t}, C_{i,t}) \qquad [1]$$

Where $i = 1,2,\ldots,N$ labels panel units (banks), $t = 1,2,\ldots, T_i$ labels time periods (years), $X_{i,t}$ is the chosen proxy for CEO power and $C_{i,t}$ is a vector of control variables to account for bank-level and country-level characteristics. The dependent variable, *DPE*, is dividends to equity.

Our bank-level control variables are: *Bank Size*, *Tier1 Capital*, *Growth Opportunities*, and *Profitability*.[14] We proxy for *Bank Size* using the natural logarithm of book value of total bank assets. Large firms tend to pay more dividends (Fama and French (2001)). Thus, we expect the coefficient on *Bank Size* to be positive. The variable *Tier1 Capital* proxies for the impact of capital requirements deriving from the Basle Accord (1988 and subsequent revisions). It is constructed as a ratio of Tier 1 capital to risk-weighted assets. We expect a positive coefficient on *Tier 1 Capital*: For banks close to the minimum capital requirement, scrutiny from regulators should discourage generous dividend policies. We measure *Growth Opportunities* as market value of bank equity divided by book value of bank equity, which also proxies for the quality of a bank investment opportunity set (Hu and Kumar (2004)). Since poor investment opportunities should exacerbate CEO incentives to discourage monitoring, for unregulated firms *Growth Opportunities* should have a negative effect on *DPE*. However, in banks the expected relation may be positive if monitoring from regulators is more important than monitoring from minority shareholders: Only banks with good investment opportunities may afford to pay high payout ratios. Thus, we do not predict the sign of the coefficient for *Growth Opportunities*. We proxy for bank *Profitability* using a ratio of net income to average total assets (Fama and French (2001)). Finally, we use *GDP per Head* (natural logarithm of country GDP her head) to account for differences in time-varying country-level economic conditions,[15] and year dummies to account for unobservable, time-varying effects for the European banking industry, which are assumed to have the same impact on dividend policy in all observed banks.

To test H1 and H2 allowing for the effects of the additional variables listed in Section 2.2 we modify *[1]* as follows

$$DPE_{i,t} = f(X_{i,t}, Q_{i,t}, C_{i,t}) \qquad [2]$$

Where $Q_{i,t}$ is vector of variables controlling for the impact of different characteristics of bank i's ownership structure or board. We insert each variable one at a time in our multivariate regressions, to reduce the degree of imperfect collinearity which may increase standard errors. The introduction of $Q_{i,t}$ allows testing the impact of corporate governance variables other than CEO power on dividend payout ratios.

To allow for unobservable, time-invariant bank-specific characteristics, for all specifications we employ a Within-Group model (also named Fixed-Effect model): [16]

$$\begin{aligned} y_{i,t} - \bar{y}_i + \bar{\bar{y}} &= \alpha + \gamma_t + \boldsymbol{\beta}\left(\mathbf{x_{i,t}} - \bar{\mathbf{x}}_\mathbf{i} + \bar{\bar{\mathbf{x}}}\right) + \left(\varepsilon_{i,t} - \bar{\varepsilon}_i + \bar{\bar{\varepsilon}}\right) \\ \varepsilon_{i,t} &= u_{i,t} + v_i \end{aligned} \qquad [3]$$

[14] Size, profitability and growth opportunities are believed to be the main drivers of dividend policy for non-financial firms (Fama and French (2001)). Onali (2012) employs *Tier 1 Capital* as a proxy for capital requirements.

[15] We cannot employ country dummies, since their coefficients would be unidentified in fixed-effect regressions.

[16] Hausman tests suggest that the WG model be preferred to the Random Effect model.

where $y_{i,t}$ is the dependent variable, $\mathbf{x_{i,t}}$ is a vector of explanatory variables, v_i is the time-invariant component of the error term for bank i, $u_{i,t}$ is the idiosyncratic component of the error term, and γ_t are year dummies. Moreover, $\bar{y}_i = \sum_{t=1}^{T_i} y_{i,t} / T_i, \bar{\bar{y}} = \sum_{i=1}^{N} \sum_{t=1}^{T_i} y_{i,t} / NT_i$,[17] and similarly for $\mathbf{x}_{i,t}$ and $u_{i,t}$.

Endogeneity is unlikely to affect our analysis. As argued by Saunders, Strock, and Travlos (1990), banks can adjust their ownership structure and board characteristics only in the long run. However, dividends can easily be adjusted in the short run. As a result, it is unlikely that changes in dividend payout ratios cause short-run changes in bank ownership structure and board characteristics, rendering the probability of endogeneity trivial. Hu and Kumar (2004) also argue that corporate governance mechanisms and ownership structure that determine managerial entrenchment are exogenous in the short and medium run. We adjust the standard errors using the 'Huber sandwich estimator'.[18]

3.2 Data and descriptive statistics

We build a new hand-collected data set with information on board composition and ownership structure for 109 listed banks (commercial banks, Bank Holding Companies, and cooperative banks)[19] located in 15 EU countries for the period 2005-2010.[20]

We start with the universe of European publicly quoted banks listed on Bankscope (EU-15). For the sake of comparability, we focus on banks which use International Financial Reporting Standards (IFRS) as accounting standards. We home in on institutions classified as: commercial banks, cooperative banks, and bank holdings and holding companies. A total number of 127 banks satisfy these selection criteria. Next, we exclude institutions for which data on gross loans is unavailable (6, resulting in 121 remaining banks).[21] Finally, to allow hand-collection of information on corporate governance and ownership structure, we stipulate that there is at least one annual report (available on the bank's web site) [22] for the period 2005–2010. These criteria result in a sample of 109 banks.

The sample banks are mostly located in Italy, consistent with Vallascas and Hagendorff (2012).[23] Data availability for bank ownership structure varies considerably depending on the country. For Finland, Ireland, the Netherlands, Portugal, Spain, Sweden, and the UK, information on ownership structure and in particular on insider ownership is generally available (e.g., number of shares held by the CEO, management board members, and members of the Board of Directors, henceforth BoD). For Austria, Belgium, Denmark, France, Germany, and Italy ownership structure data is generally available, but insider ownership data is scarce. Finally, for Greece and Luxembourg, data on ownership structure is generally available, but there is no information on insider ownership.[24]

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[17] Adding the grand means $\bar{\bar{y}}$, $\bar{\bar{\mathbf{x}}}$, and $\bar{\bar{\varepsilon}}$ has the desirable advantage to provide an intercept estimate (Cameron and Trivedi (2010)).

[18] Since the average number of observations available for each bank is less than five, and for consistency with the managerial entrenchment literature for non-financial firms (e.g. Farinha (2003), and Hu and Kumar (2004)), we refrain from using a partial-adjustment model *á la* Lintner (1956).

[19] All cooperative banks in our sample are publicly traded and, therefore, are partly owned by non-members. In Section 4.3, we offer robustness tests excluding cooperative banks from the sample.

[20] We collect information from different sources: bank annual reports (including notes to financial statements), corporate governance reports, and other documents available from the web sites of the banks, banking regulators and authorities, and other publicly available sources.

[21] Our purpose is to exclude firms that are not in the lending business, as in Fahlenbrach and Stulz (2011).

[22] The data is collected on an annual basis.

[23] The geographic distribution of our sample differs from that of Vallascas and Hagendorff (2012) due to different selection criteria. In particular, Vallascas and Hagendorff (2012) stipulate that data on CEO compensation be available for at least five years.

[24] Two Greek banks do not disclose any information on ownership structure.

Table 1 presents the main steps of our sample construction. Our final sample is an unbalanced panel with 598 bank-year observations. Table 2 provides a breakdown of the number of banks per country and type of bank, and the sample representativeness relative to the population of listed banks in the EU-15 over the sample period.

[Insert Table 1 here]

[Insert Table 2 here]

We calculate the dividend payout ratio (*DPE*) as dividends paid for a given year divided by bank equity.[25] Table 3 reports statistics for *DPE* and proxies for the variables listed in Sections 2.1 and 2.2. We reduce the effect of outliers by winsorizing all continuous variables at the 5th and 95th percentile. Winsorizing is common in studies dealing with financial ratios, because observations for which the denominator is close to zero may create severe outliers (Jacobson et al. (2011)). In the specific case of *DPE*, for which the numerator is small relative to the denominator, relatively small reductions in equity can result in large fluctuations of *DPE*. We prefer winsorizing to trimming as it retains more information.[26]

We report the statistics for the variables before (Panel A) and after (Panel B) excluding observations for which data on the control variables and the proxy for CEO power are missing. For Panel A, the number of observations (banks) ranges from 507 (90) to 598 (109). For Panel B, the number of observations is between 449 and 537, depending on the specification. The sample characteristics do not change substantially from Panel A to Panel B. This suggests that sample selection bias due to lack of data for the control variables is unlikely to bear an influence on our findings.

[Insert Table 3 here]

Figure 1 shows the geographical distribution of *DPE*, at the beginning (2005) and end (2010) of the sample period. The reduction in the mean of *DPE* occurred to a similar extent in most countries, with sharper declines for the countries that were most affected by the crisis (in particular, the PIIGS). For Portugal, the mean *DPE* dropped from 4.77% in 2005 to 0.50% in 2010. For Italy the mean of *DPE* dropped from 4.48% to 2.36% and for Spain from 5.22% to 3.22% (with peaks in 2007 of 4.99% and 6.64%, respectively). For Greece the mean *DPE* was 1.83% in 2005, 4.35% in 2007, and 0% in 2010. However, Irish banks were the most affected: the mean *DPE* was 7.95% in 2005 and 0% in 2010. On the other hand, for Germany the drop was relatively small (from 3.27% in 2005 to 3.09% in 2010). In the subsequent multivariate analysis, we investigate whether the crisis has had a significant impact with robustness tests.

[Insert Figure 1 here]

[25] Only five banks do not paid dividends at all during the sample period.

[26] Some of the variables present considerable skewness and leptokurtosis even after winsorization at the 1st and 99th percentile. For instance, the sample skewness and kurtosis for *DPE* is 3.48 and 21.42 without winsorization, respectively. These values drop to 2.80 and 13.67 after winsorization at the 1st and 99th percentile, suggesting that outliers may bear a strong influence on estimation even after winsorizing. On the other hand, after winsorizing at the 5th and 95th percentile, *DPE* has a kurtosis of around 3. In unreported tests, we also inspect more closely the influence of winsorization on the distribution of the residuals of the WG regressions, and conclude that winsorizing at the 5th and 95th percentile results in in a much higher goodness-of-fit than winsorizing at the 1st and 99th percentile. In particular, the R-squared within increases by around 6-7%.

4. Results

In this section, we report the results of the WG regressions. We employ the econometric procedure described in Section 3.1 to investigate whether CEO power results in lower or higher payout ratios due to managerial entrenchment. Section 4.1 reports the main results. Section 4.2 reports robustness checks.

4.1 Main results

Tables 4-6 report the results for six WG regressions. All regressions include $C_{i,t}$ and year dummies.

In Table 4, the coefficient on *Board Duality* is negative and highly significant for all regressions except for one (the specification including *Government as the Largest Owner*, for which the coefficient is insignificant). For cases where the coefficient on *Board Duality* is significant, it goes from –1.223 to –1.803. This implies that board duality decreases *DPE* by at least 1.223%. Considering that the average *DPE* in our sample is 3.441%, the economic impact of *Board Duality* is significant. A negative coefficient on *Board Duality* supports H2 and refutes H1. Therefore, these results are consistent with expropriation in the form of lower dividend payout ratios, at the expense of minority shareholders.

The results for *CEO Tenure* are reported in Table 5. The coefficients on *CEO Tenure* are negative. However, they are only weakly significant in four of the six regressions. The coefficients on the other variables are very close to those in Table 4. Although weaker, these results substantially confirm that powerful CEOs tend to distribute lower dividend payout ratios. The coefficients on *CEO Tenure* ranges between –0.307 and –0.370. Thus, starting from the average value for *CEO Tenure* (1.409, or around 4 years) an increase in *CEO Tenure* by one standard deviation (0.899, or around 2.5 years) brings about a decrease in *DPE* by at least 0.332%. This decrease is almost 10% the average *DPE* in our sample, and therefore it is economically significant.

As said before, while board duality and CEO tenure increase CEO power, we expect that unforced CEO turnover events decrease it, because it takes time for the new CEO to attain entrenchment. Therefore, we expect that a positive coefficient on *CEO Unforced Turnover*. The results for *CEO Unforced Turnover* are reported in Table 6 and confirm our hypothesis. The lower bound for the coefficient on *CEO Unforced Turnover* is 0.492, implying that when there is an unforced turnover *DPE* increases by at least 0.492%, which is economically significant. The sign and significance of the coefficients on the other explanatory variables remains substantially the same as those in Tables 4, and 5.

For all three proxies we report results supporting the negative relation between CEO power and payout ratios. Our findings differ starkly from those reported in the literature on the role of CEO entrenchment in U.S. firms: Hu and Kumar (2004) report a significant positive relation between managerial entrenchment and dividend payouts. Such discrepancy suggests that Western European banks do not use dividends as a monitoring device. These results are also in contrast with Pan (2006) and Harford et al. (2006).

These results are consistent with the view that for Western European banks entrenched CEOs do not have a strong incentive to pay large dividends. Such incentive is strong for U.S. firms because even for entrenched CEOs excess cash can lead to removal of power, because of possible hostile takeovers (Harford et al. (2006), John and Knyazeva (2006), Feng et al. (2007)). In Western Europe minority shareholders regulation is weaker and more difficult to enforce than in the U.S. (La Porta et al. (2000)). In addition to this, monitoring from the regulators deters high dividend payout ratios for banks. A poor market for corporate control and regulators' concern for bank safety lead to a negative relation between CEO power and dividend payout ratios.

The results for the other variables are as follows. The coefficients on *Widely-held Financial Institution as the Largest Owner* are positive and significant. However, the coefficient on *Widely-Held*

Non-Financial Corporation as the Largest Owner is insignificant. These results suggest that the effect of institutional investors as largest shareholders of the bank depends on whether the investor is a financial institution or a non-financial corporation. The coefficient on *Large Owner on the Management Board* is insignificant. Finally, the coefficients on *Government as the Largest Owner* and on *Government Official on the Board* are negative and significant.[27]

[Insert Tables 4-6 here]

4.2 Robustness checks

In this section we report robustness checks to examine the sensitivity of our results to a variety of econometric specifications.

Reverse causality concerns

A possible concern for the results reported in Section 4.1 is reverse causality between dividend payout ratios and CEO power. While this concern is relatively weak for *Board Duality* (a change in payout ratios is unlikely to lead to a higher probability for the CEO to become the chairman), a dividend cut may reduce CEO tenure, because it may increase the probability of dismissal (Schaeck et al. (2012)). To address this concern, we repeat the estimations after lagging all the explanatory variables (including the controls) by one period. To exclude the possibility that causality runs in the opposite direction, we also run regressions where *Board Duality*, *CEO Tenure*, and *CEO Unforced Turnover* are the *dependent* variables, and the lag of *DPE* is the main explanatory variable. In Table 7 we report our estimation results, which confirm our main findings qualitatively and quantitatively for *Board Duality*, while the coefficients on the first lag of *CEO Tenure* and *CEO Unforced Turnover* are insignificant, but maintain the expected sign (negative for the former and positive for the latter). It is not surprising that the coefficients on the lag of *CEO Tenure* and *CEO Unforced Turnover* are insignificant, since using the lag rather than the current value of these variables is likely to introduce noise in the data.[28] As for the issue of reverse causality, in the regressions on *Board Duality*, *CEO Tenure*, and *CEO Unforced Turnover* the lag of *DPE* is insignificant, suggesting that reverse causality should not be a serious problem.

[Insert Table 7 here]

[27] The coefficients on the control variables are either insignificant or with a sign consistent with expectations. In particular, the coefficient on *Growth Opportunities* tends to be positive, consistent with the view that only banks with good investment opportunities can afford high payout ratios.

[28] Consider an example using *CEO Unforced Turnover* as a proxy for CEO power. Assume that in period *t* the CEO of bank *i* has been replaced (the value for *CEO Unforced Turnover* is one), and the new less-powerful CEO accepts to increase the payout ratio. This will have a positive effect on the coefficient on *CEO Unforced Turnover*, consistent with expectations. However, the lag of *CEO Unforced Turnover* (whose value is zero) will have a negative effect on the estimated coefficient (since the increase in *DPE* will be associated with a low value for *CEO Unforced Turnover*). Therefore, using the lag rather than the current value for *CEO Unforced Turnover* introduces noise in the data that is likely to be the reason for our insignificant result. The same thing is likely to occur for *CEO Tenure*, since replacement of a CEO will result automatically in shorter tenure. If tenure of the departing CEO is, for instance, 10 years in period $t - 1$, using the lag rather than the current value of *CEO Tenure* introduces noise in the data, since a large payout ratio at time *t* (due to a very short tenure for the new CEO) is associated with the observation for *CEO Tenure* at time $t - 1$ (which reflects long tenure). These effects are unlikely to occur for *Board Duality*. Unless there is a CEO turnover, it is unlikely that a CEO will gain or lose a substantial amount of power in one year simply because she has been nominated (or dismissed as) Chairman of the board.

Difference-in-Differences with matching

To further examine the issue of endogeneity, we employ matching techniques in combination with a Difference-in-Differences (DID) approach. Matching techniques can overcome several problems of a multiple regression framework. In particular, they are not sensitive to functional form, and increase comparability of the units in the treatment and control group, improving identification of causal effects. However, matching techniques do not allow for differences in the two groups due to unobservable characteristics. On the other hand, DID can allow for such differences, by incorporating bank fixed effects, time effects, and their interaction in the analysis. In so doing, it can correctly identify the remaining effect for each bank over time.

We define two groups of banks as the treatment and control group, respectively: The banks in the treatment group are defined as those for which there in an event of increased CEO power in year *t* (i.e. *Board Duality* or *CEO Unforced Turnover* equals 1); the banks in the control group are defined as those for which there are no such events in year *t*. To allow for inertia in the treatment effects, we consider the effects of the treatment over three years (i.e. the year of the event and the following two years). Therefore, we have a DID setup whereby we compare the average outcome for treated and untreated banks ($w = 1$ for the former and $w = 0$ for the latter) before and after the treatment ($\tau = 0$ before and $\tau = 1$ after). The interaction term $I = w \times \tau$ is the variable of interest to determine whether the treatment has had an effect on the treated banks or not. In our setup, $I_{i,t} = 1$ for bank i at time t if for such bank the CEO power proxy (*Board Duality* or *CEO Unforced Turnover*) takes on the value one in that year or in any of the two previous years, and $I_{i,t} = 0$ otherwise.

The usual DID approach entails running the OLS regression (Bertrand et al. (2004)):

$$DPE_{i,t} = A_i + B_t + \beta I_{i.t} + cC_{i.t} + e_{i,t} \qquad [4]$$

Where A_i and B_t are fixed effects for banks and years, respectively, $C_{i.t}$ are control variables, and $e_{i,t}$ is an error term. The coefficient β is the estimated impact of the treatment. Since we have different periods for treatments across different treated banks, we follow Bertrand et al. (2004) and run an OLS regression of *DPE* on bank dummies and year dummies. The residuals are employed in the following analysis for identification of the treatment effects. While Bertrand et al. (2004) suggest that the second stage be simply an OLS regression on the resulting residuals, we combine the DID procedure with matching techniques to further increase the reliability of our results. Through matching, we are able to discern the effect of the treatment through a comparison of the outcome for each treated bank with the outcome for a group of banks with similar observable characteristics. This is a clear improvement over a simple comparison of the overall mean of the outcome for treated and untreated banks in the pre- and post-treatment periods (i.e. simple DID approach).

In particular, to allow for the possibility that the two groups differ in the probability of receiving treatment, we employ the Nearest Neighbor Matching (NNM) estimator (Abadie and Imbens (2002)), which permits adjusting for differences (in observable characteristics) between the treatment and control group (Abadie et al. (2004)). We match the treatment observations with observations that as similar as possible along the following dimensions:

- For *Board Duality*, we choose two covariates: an index of the degree of shareholder protection against possible abuse of power from insiders (*Anti-Director Rights*)[29] and the

[29] We construct this index as follows. We assign a value of zero for countries for which none of the following conditions exists: (1) it is possible for shareholders to send via mail their proxy vote; (2) there is no requirement for shareholders to deposit their shares before the general shareholders' meeting; (3) it is permitted to cumulate votes as well as to have proportional representation of minorities in the board of directors; (4) an oppressed minorities mechanism is in place; (5) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting is less than or equal to 10 percent; or (6) shareholders have preemptive

ratio of bank credit to GDP (*Bank Credit*). These variables are constructed according to Beck et al. (2001) and Levine (2002). The variable *Anti-Director Rights* could decrease the probability of receiving treatment, since high values for this index suggest that the rights of minority shareholders are well protected. On the other hand, high values for *Bank Credit* could increase the probability of receiving the treatment, since in bank-based countries the market for corporate control may be ineffective (Köke (2004)).

- For *CEO Unforced Turnover*, we choose one covariate: the age of the CEO (*CEO Age*), which is expected to increase the probability of an unforced turnover because of retirement.
- For both proxies, we also match on the variables previously employed as controls ($C_{i,t}$). This is to increase the plausibility of the assumption of unconfoundness (i.e. conditional on the covariates used for the matching, treatment is basically randomized).[30]

In our estimations, we report the results for two and four matches, and we adjust for finite-sample bias due to inexact matching (this bias increases with the number of covariates) and for heteroskedastic errors (Abadie et al. (2004)). Table 8 reports the results for the Sample Average Treatment Effect (SATE) resulting from the DID associated with NNM. The results strongly support the previous findings with respect to both *Board Duality* and *CEO Unforced Turnover*. The coefficients for SATE are negative and significant for the all seven specifications with *Board Duality*, and positive and significant for all seven specifications with *CEO Unforced Turnover*.

[Insert Table 8 here]

Other robustness checks

We perform additional robustness tests to check the sensitivity of our results to the specification of our models. The results of these tests are not reported, but are available upon request from the authors.

First, we investigate the effect of board independence on dividend payout ratios. Sharma (2011) provides evidence that board independence affects the propensity to pay dividends. Boards with a large number of independent directors[31] should be able to exert stronger monitoring on entrenched CEOs. Internal monitoring from independent directors could lead to higher payout ratios (Hu and Kumar (2004)). However, higher board independence could be an alternative monitoring mechanism to dividends. We construct a dummy variable *Strong Board Independence*, equal to one if at least 50% of the board members consist of independent directors, and zero otherwise. The coefficient on *Strong Board Independence* is negative and significant or weakly significant for the regressions on *Board Duality*, *CEO Tenure*, and *CEO Unforced Turnover* suggesting that independent directors may act as alternative monitoring devices. The coefficients on *Board Duality*, *CEO Tenure*, *CEO Unforced Turnover*, and the other variables remain virtually the same as those reported Tables 4–6.

Second, we investigate the effect of being close to the capital requirements on dividend payout ratios. Recent contributions (Onali (2012)) find that for banks whose regulatory capital ratio is close the minimum requirement payout ratios are lower. We include a dummy variable, *Capital Requirements*, which takes on the value one if *Tier 1 Capital* is less than six percent, and zero otherwise. *Capital Requirements* enters all the regressions with a negative coefficient. The coefficient is negative significant at the 5% level in most cases, confirming Onali's findings. The coefficients on *Board Duality*, *CEO tenure*, *CEO Unforced Turnover* and the other variables remain virtually unaltered.

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rights that can be waived only by a shareholders' vote. For every condition that is satisfied, we add one to the value of the index. Therefore, the index can take on values from zero to six.

[30] Moreover, since the probability of receiving treatment may also depend on other bank characteristics related to corporate governance and ownership structure, for robustness we match also on the following variables (one for each specification, for consistency with the previous analysis): *Large Owner on the Management Board*, *Widely-held Financial Institution as the Largest Owner*, *Widely-held Non-Financial Corporation as the Largest Owner*, *Government as the Largest Owner*, and *Government Official on the Board*.

[31] In the appendix (Section A.3) we give a more detailed explanation of how we define 'independent directors'.

Third, we include a dummy variable, *Crisis*, which takes on the value one for the years 2008 and 2009, and zero otherwise.[32] The dummy is insignificant in most cases. The reason for this is that during the crisis bank share prices dropped, and therefore the effect of the crisis is already picked up by the control variable *Growth Opportunities* (market-to-book ratio).[33] When *Growth Opportunities* is excluded from the regressions, the coefficient on *Crisis* becomes negative and significant for most of the specifications. The coefficients on *Board Duality*, *CEO Tenure*, *CEO Unforced Turnover*, and the other variables remain virtually unaltered.

Fourth, we exclude from the sample Italian banks, which are the most numerous in the sample, and the results remain qualitatively the same as those reported in Tables 4–6. Similarly, when we exclude from the sample the 11 cooperative banks, the results remain substantially the same as those reported in Tables 4–6.

Finally, we assess the sensitivity of our results to changes in our econometric specification.

First, to allow for outliers without winsorizing the response variable (*DPE*), we employ quantile regressions, with both bank and year fixed effects. We run the regressions so that the conditional median of *DPE* (*not* winsorized) is estimated, instead of the conditional mean. The results confirm those reported in Tables 4–6. The coefficients remain significant. Second, since for a significant number of observations *DPE* is equal to zero (about 20% of the total number of observations), we repeat the analysis using a Tobit model, with both bank and year fixed effects, as before.[34] The results remain substantially the same as those reported in Tables 4–6. Third, we take the natural logarithm of *DPE* to reduce skewness and kurtosis, instead of winsorizing *DPE*. The results remain qualitatively the same as those reported in Tables 4–6.

5. Conclusions

In this paper, we have investigated the effect of CEO power on dividend policy in banks from EU-15 (Western Europe) countries. We have taken advantage of a unique and painstakingly hand-collected data set with information on board (BoD and management board) composition and ownership structure for European listed banks for the period 2005-2010. This data set has been merged with data from Bankscope and bank annual reports with information on dividends and other financial characteristics of the banks.

According to the managerial entrenchment literature, dividend payout ratios are positively related to CEO power (Hu and Kumar (2004)), since dividends discourage monitoring from minority shareholders. In Western Europe, dividends dampen expropriation of minority shareholders (Faccio et al. (2001)), consistent with a positive relation between dividend payout ratios and expropriation incentives. However, due to monitoring from banking regulators, who dislike generous dividend policies, the relation between CEO power and dividend payout ratios in Western European banks may be *negative*. Entrenched bank CEOs may catch two birds with a stone by paying lower dividend payout ratios: In doing so, they are less likely to attract undesired attention from the banking regulators, and can employ excess cash for non-value maximizing project that may increase their personal utility.

Our main findings document a negative relation between board duality and dividend payout ratios and between CEO tenure and payout ratios, and a positive relation between unforced CEO turnover events and dividend payout ratios. The results for board duality and unforced CEO turnover events hold

[32] To avoid multicollinearity, we exclude the year dummies.
[33] The average of *Growth Opportunities* for *Crisis* =1 is 0.92, while for *Crisis* = 0 it is 1.54.
[34] The estimates of unconditional fixed effect estimators for binary-choice models are known to be biased, due to the 'incidental parameters problem'. However, Greene (2004) shows that the slope estimates for the unconditional fixed effect Tobit estimator are virtually unbiased.

even when we employ a combination of difference-in-differences and matching techniques to sharpen identification of the causality between CEO power and dividend payout ratios.

We also document that when a widely-held financial institution is the largest owner of the bank, payout ratios increase. This finding is in line with the evidence reported by Faccio et al. (2001) for firms in Western Europe: Group-affiliated firms have larger dividend payout ratios than firms that are not affiliated to any group. In line with the view that regulators may put the interest of depositors before that of bank shareholders, we find that banks where government is the largest shareholder, or where there is a government official on the board, make lower dividend payout ratios. In conclusion, these results are consistent with the view that for Western European banks entrenched CEOs do not have a strong incentive to pay large dividends, because of a combination of weak minority shareholders regulation, an inefficient market for corporate control, and the concern of bank regulators' for bank soundness. These factors lead to a negative relation between CEO power and dividend payout ratios.

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Appendix

Definition of government officials, board members, independent directors, and Unforced CEO Turnovers

In this section we briefly describe the criteria employed to determine whether there is a government official on the BoD and whether a member of the BoD is 'independent'.

A.1 Government Officials

We qualify a board member as a government representative any person who is described in the annual report of the bank by one of the following combination of words: 'Government commissioner', 'Government representative', 'State commissioner', 'Representatives of the Regulatory Authority', 'State commissioner', and 'Deputy state commissioner'. In certain cases, the government official is identified by a combination of words that includes the name of the state/country. For instance, for Lloyds Banking Group Plc, the government official is identified by the words 'Board Representative for Scotland', while for Alpha Bank AE, the government official is identified by the words 'representative of the Hellenic Republic'. For 13 banks in our sample the variable *Government Official on the Board* is equal to one in at least one year during the sample period, for a total of 39 bank-year observations (as reported in Table 3, for which 7% of the total available observations for *Government Official on the Board* (554) take on the value one). Out of this 39 observations, 31 refer to the period 2008-2010, suggesting that in most cases government officials were appointed as a result of the financial crisis and the recent sovereign debt crisis in the EU. The countries for which the dummy variable is equal to one in at least one year are: Austria, Belgium, Greece, Sweden, and the UK.

A.2 Board members

EU banks can have a one-tier or a two-tier corporate governance structure (or board structure). Two-tier corporate governance structure is a corporate structure with two boards of directors. The management and monitoring function are performed by the two boards in a separate fashion in the two-tier case, and by different members of the board in the one-tier case (Arnaboldi and Casu (2011)).

The definitions of one-tier and two-tier structure change according to the country. For the banks in our sample, the management function is performed by a board usually named 'management board' or 'executive board', while the monitoring function is performed by a board usually named 'Board of Directors', or 'non-executive supervisory board'.

For banks with a two-tier board structure, we use the following keywords to identify members of the 'management board': 'Management board', 'Executive board', 'Executive management', 'Executive team', 'Executive committee', 'Board of Directors', 'CEO & CFO', 'Managing director', and 'General manager'. For banks a with one-tier board structure we use the following keywords to identify members of the 'management board': 'Executive committee', 'Management committee', 'Delegated committee', 'Executive board', Management board', 'General management', 'General manager', 'Management', 'General directors', 'Group executive management', and 'Group executive committee'.

For banks with a two-tier board structure, we use the following keywords to identify members of the 'supervisory board': 'Supervisory board', 'Board of Directors', 'Advisory board'. As explained in section A.3, we consider all members of the 'supervisory board' as 'independent directors' for banks with a two-tier board structure.

For banks with a one-tier board structure, we use the criteria set out in section A.3 to identify 'independent directors', i.e. directors with a monitoring role.

A.3 Independent directors

We define 'independent directors' as reported in a bank's annual report. A member of the BoD is deemed to be independent if such person does not have any business or personal relations with the company or its management board and these relations would constitute a conflict of interests. In many cases, banks self-report the degree of board independence of their own BoD. This is usually defined as the number of independent directors divided by number of BoD members *excluding* employee representatives and government representatives. We use the same approach for board independence calculation for comparability of the results across different banks. For example, in Nordea Bank's annual report, independent directors are defined as '[…] the number of Board members who are independent in relation to the Company and its executive management as well as independent in relation to the Company's major shareholders.' For banks with a two-tier corporate governance structure, we consider as independent directors the members of the supervisory board. For banks with a one-tier board structure, we define independent directors according to the criteria listed above.

In Table A.1 we report the average board size and the average level of board independence (percentage of independent directors on the board) for each country, as well as the proportion of banks with a one-tier or two-tier structure. All sample banks in Austria, Denmark, Finland, Germany, Netherland have a two-tier board structure. All sample banks in Belgium, Greece, Ireland, Luxembourg, Spain, Sweden, and the UK have a one-tier board structure. For France, Italy, and Portugal, we find that both the one-tier and the two-tier board structure are used. All banks in a country from 'English origin' (La Porta et al. (1998)) have a one-tier system, while all those in a country from 'German origin' have two-tier system.

A.4 Unforced CEO Turnovers

To collect data on CEO turnovers, we use LEXIS/NEXIS, and employ a key-word search procedure based on Schaeck et al. (2012) to discern between forced and unforced CEO turnovers during 2005-2010. After collecting data on the year of the CEO turnover and the CEO name, we look for CEO turnovers based on the following keywords: 'management change', 'forced resignation', 'turnover', 'separation', 'ousted', 'early retirement', 'step down', 'mandatory separation', 'voluntary separation', 'fired', 'made redundant', 'departure', 'management succession', 'executive change' and 'tenure'. These data are matched with the bank name.

Following Schaeck et al. (2012), we classify a turnover as 'forced' if the CEO is reported to have been dismissed, forced to resign or to have left the bank due to undisclosed policy differences. We define all remaining CEO turnovers as unforced, unless they meet at least one of the following criteria (Schaeck et al. (2012)):

a) the reason for the CEO turnover is declared *not* to be: death, poor health, or acceptance of a position either elsewhere or within the bank;
b) it is reported that the reason for the CEO turnover is retirement, but retirement is not announced until at least six months prior to succession.

Moreover, if a reason for the CEO turnover is not provided, we assume that the turnover is forced due to disciplining actions or due to company policy disputes.

Following criteria listed above, we classify 82 CEO turnovers, of which 18 CEO turnovers are forced (which occurred mainly in the period 2008-2010). We classify the remaining 64 CEO turnovers as unforced.

Table 1 Steps of sample construction.

	Search criterion	*Number of banks*
Step 1	Listed banks	2,454
Step 2	World region: European Union (15)	255
Step 3	Accounting standards: IFRS	187
Step 4	Specialization: Commercial banks, Cooperative banks, Bank holdings & Holding companies	127
Step 5	Information availability: gross loans	121
Step 6	Information availability (annual reports on the banks' web sites and market capitalization)	109

Table 2 Sample composition and representativeness.

Country	*Banks*	*Sample %*	*Observations*	*Sample %*
Austria	7	6%	35	6%
Belgium	3	3%	16	3%
Denmark	11	10%	64	11%
Finland	4	4%	20	3%
France	8	7%	48	8%
Germany	9	8%	54	9%
Greece	11	10%	47	8%
Ireland	2	2%	12	2%
Italy	22	20%	121	20%
Luxembourg	2	2%	8	1%
Netherlands	5	5%	25	4%
Portugal	4	4%	23	4%
Spain	8	7%	48	8%
Sweden	4	4%	24	4%
United Kingdom	9	8%	53	9%
Total:	109	100%	598	100%

		BHC	*Commercial*	*Cooperative*	*Total*
Total Bankscope sample in 2010 (listed banks, EU-15)					
1	Banks	36	95	24	155
2	Sample %	23.23	61.29	15.48	100.00
Sample banks					
3	Banks	30	68	11	109
4	Sample %	27.52	62.39	10.10	100.00
5	Representativeness, % (3/1)	83.33	71.58	45.83	70.32
Total Bankscope sample in 2010 (listed banks, EU-15)					
1	Millions of Euros	10,391,355	13,175,756	2,405,691	25,972,802
2	Share of total assets, %	40.00	50.73	9.27	100.00
Sample banks					
3	Millions of Euros	10,285,447	13,032,494	2,247,875	25,565,816
4	Share of total assets, %	40.23	50.97	8.80	100
5	Representativeness, % (3/1)	98.98	98.90	93.44	94.78

Table 3 Summary statistics for *DPE*, ownership structure and board characteristics.

		Observations		*Banks*		*Mean*		*Standard deviation*		*Minimum*		*Maximum*	
Panel		*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*
DPE	Dividends for a given year divided by bank equity (%)	598	537	109	99	3.581	3.441	3.377	3.225	0	0	11.73	11.73
Board Duality	Dummy variable: 1 if CEO chairs the board, and 0 otherwise	587	526	108	98	0.109	0.101	0.312	0.301	0	0	1	1
CEO Tenure	Natural logarithm of the number of years for which the CEO has been in office	590	530	109	99	1.430	1.409	0.906	0.899	0	0	3.434	3.434
CEO Unforced Turnover	Dummy variable: 1 if there is a CEO unforced turnover (see definition in appendix) and, 0 otherwise	598	537	109	99	0.117	0.119	0.322	0.324	0	0	1	1
Large Owner on the Management Board	Dummy variable: 1 if owner holding at least 10% of bank shares is on management board, and 0 otherwise	586	525	107	97	0.116	0.110	0.321	0.314	0	0	1	1
Widely-held Financial Institution as the Largest Owner	Dummy variable: 1 if a widely-held financial institution is the largest shareholder, and 0 otherwise	553	492	101	91	0.718	0.726	0.450	0.447	0	0	1	1
Widely-held Non-Financial Corporation as the Largest Owner	Dummy variable: 1 if a widely-held non-financial corporation is the largest shareholder, and 0 otherwise	553	492	101	91	0.022	0.018	0.146	0.134	0	0	1	1
Government as the Largest Owner	Dummy variable: 1 if the government is the largest shareholder, and 0 otherwise	553	449	101	91	0.080	0.082	0.271	0.275	0	0	1	1
Government Official on the Board	Dummy variable: 1 if there is government official on the board, and 0 otherwise	554	496	105	95	0.070	0.077	0.256	0.266	0	0	1	1

Panel A: All available observations. Panel B: only observations for which data on the control variables and the proxy for CEO power is available. DPE is winsorized at the 5th and 95th percentile.

Table 4 Results considering *Board Duality* as a proxy for CEO power.

Dependent variable: *DPE*	(1)	(2)	(3)	(4)	(5)	(6)
Board Duality	-1.489***	-1.510***	-1.223***	-1.357***	-0.701	-1.803***
	(0.501)	(0.502)	(0.449)	(0.484)	(0.448)	(0.560)
Large Owner on the Management Board		-1.856				
		(1.501)				
Widely-held Financial Institution as the Largest Owner			1.699**			
			(0.714)			
Widely-held Non-Financial Corporation as the Largest Owner				-0.535		
				(0.487)		
Government as the Largest Owner					-2.025**	
					(0.836)	
Government Official on the Board						-2.287**
						(0.974)
Controls	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES
Observations	526	515	482	482	444	494
R-squared within	0.407	0.407	0.407	0.385	0.425	0.428
Number of banks	98	96	90	90	90	94

The regressions are run using a Within-Group model for panel-data at the bank level. The dependent variable is *DPE* - dividend payout as a ratio of dividends to equity. All specifications include time dummies and the following control variables: *Size* (log of total assets of the bank), *Market-to-Book* (ratio of market value of equity to book value of equity), *Tier1 Capital* (ratio of Tier 1 capital to risk-weighted assets), *Profitability* (return on average asset), *GDP per capita* (natural logarithm of GDP per capita). The continuous variables are winsorized at the 5^{th} and 95^{th} percentile. Cluster-robust standard errors are reported in parentheses. The superscripts ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Table 5 Robustness checks: *CEO Tenure* as a proxy for CEO power.

Dependent variable: *DPE*	(1)	(2)	(3)	(4)	(5)	(6)
CEO Tenure	-0.307*	-0.307*	-0.370**	-0.366**	-0.319*	-0.315*
	(0.170)	(0.173)	(0.168)	(0.170)	(0.173)	(0.176)
Large Owner on the Management Board		-1.821				
		(1.458)				
Widely-held Financial Institution as the Largest Owner			1.745**			
			(0.735)			
Widely-held Non-Financial Corporation as the Largest Owner				-0.426		
				(0.498)		
Government as the Largest Owner					-2.136***	
					(0.795)	
Government Official on the Board						-2.152**
						(1.008)
Controls	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES
Observations	530	518	485	485	445	494
R-squared within	0.402	0.401	0.409	0.385	0.430	0.422
Number of banks	99	97	91	91	91	95

The regressions are run using a Within-Group model for panel-data at the bank level. The dependent variable is *DPE* - dividend payout as a ratio of dividends to equity. All specifications include time dummies and the following control variables: *Size* (log of total assets of the bank), *Market-to-Book* (ratio of market value of equity to book value of equity), *Tier1 Capital* (ratio of Tier 1 capital to risk-weighted assets), *Profitability* (return on average asset), *GDP per capita* (natural logarithm of GDP per capita). The continuous variables (except for *CEO Tenure*) are winsorized at the 5^{th} and 95^{th} percentile. Cluster-robust standard errors are reported in parentheses. The superscripts ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Table 6 Robustness checks: *CEO Unforced Turnover* as a proxy for CEO power.

Dependent variable: *DPE*	(1)	(2)	(3)	(4)	(5)	(6)
CEO Unforced Turnover	0.554***	0.604***	0.492**	0.575**	0.517**	0.654***
	(0.208)	(0.217)	(0.209)	(0.220)	(0.251)	(0.240)
Large Owner on the Management Board		-1.685				
		(1.329)				
Widely-held Financial Institution as the Largest Owner			1.687**			
			(0.751)			
Widely-held Non-Financial Corporation as the Largest Owner				-0.706		
				(0.508)		
Government as the Largest Owner					-2.049**	
					(0.814)	
Government Official on the Board						-2.106**
						(1.009)
Controls	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES
Observations	461	423	423	396	434	461
R-squared within	0.425	0.426	0.411	0.448	0.449	0.425
Number of banks	99	91	91	91	95	99

The regressions are run using a Within-Group model for panel-data at the bank level. The dependent variable is *DPE* - dividend payout as a ratio of dividends to equity. All specifications include time dummies and the following control variables: *Size* (log of total assets of the bank), *Market-to-Book* (ratio of market value of equity to book value of equity), *Tier1 Capital* (ratio of Tier 1 capital to risk-weighted assets), *Profitability* (return on average asset), *GDP per capita* (natural logarithm of GDP per capita). The continuous variables (except for *CEO Tenure*) are winsorized at the 5^{th} and 95^{th} percentile. Cluster-robust standard errors are reported in parentheses. The superscripts ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Table 7 Robustness checks: Summary of results for reverse causality test.

	(1)	(2)	(3)	(4)	(5)	(6)
Year effects	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES
Additional explanatory variable	None	*Large Owner on the Management Board*	*Widely-held Financial Institution as the Largest Owner*	*Widely-held Non-Financial Corporation as the Largest Owner*	*Government as the Largest Owner*	*Government Official on the Board*
Dependent variable: *DPE – Proxy for CEO power and other explanatory variables lagged*						
Proxy for CEO power: 1. Board Duality; 2. CEO Tenure; 3. CEO Unforced Turnover						
1. *Board Duality (lagged)*	-1.474***	-1.506***	-1.334**	-1.323***	-0.319	-1.619***
	(0.455)	(0.466)	(0.553)	(0.469)	(0.601)	(0.514)
2. *CEO Tenure (lagged)*	-0.185	-0.207	-0.273	-0.261	-0.296	-0.199
	(0.162)	(0.168)	(0.175)	(0.173)	(0.179)	(0.183)
3. *CEO Unf. Turn. (lagged)*	0.224	0.270	0.341	0.372	0.381	0.341
	(0.240)	(0.246)	(0.257)	(0.249)	(0.262)	(0.276)
Dependent variable: *Board Duality – DPE and other explanatory variables lagged*						
DPE (lagged)	0.002	0.002	0.005	0.005	0.006	0.001
	(0.003)	(0.003)	(0.004)	(0.004)	(0.005)	(0.004)
Dependent variable: *CEO Tenure – DPE and other explanatory variables lagged*						
DPE (lagged)	-0.012	-0.009	-0.010	-0.013	0.005	-0.007
	(0.020)	(0.021)	(0.022)	(0.022)	(0.023)	(0.020)
Dependent variable: *CEO Unforced Turnover – DPE and other explanatory variables lagged*						
DPE (lagged)	-0.008	-0.007	-0.009	-0.006	-0.016	-0.009
	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)	(0.010)

The regressions are run using a Within-Group model for panel-data at the bank level. All explanatory variables are lagged by one period. All specifications include time dummies and the following control variables: *Size* (log of total assets of the bank), *Market-to-Book* (ratio of market value of equity to book value of equity), *Tier1 Capital* (ratio of Tier 1 capital to risk-weighted assets), *Profitability* (return on average asset), *GDP per capita* (natural logarithm of GDP per capita). The continuous variables are winsorized at the 5^{th} and 95^{th} percentile. Cluster-robust standard errors are reported in parentheses. The superscripts ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Table 8 Robustness Checks: Difference-in-differences with matching (Nearest Neighbor Matching estimator).

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: *DPE*						
			Sample Average Treatment Effects			
Two matches (m = 2)						
Treatment 1	-0.694***	-0.750***	-0.514***	-0.559***	-0.406**	-0.978***
	(0.187)	(0.188)	(0.198)	(0.198)	(0.197)	(0.207)
Treatment 2	0.348***	0.363***	0.369***	0.413***	0.444***	0.478***
	(0.129)	(0.124)	(0.13)	(0.133)	(0.133)	(0.131)
Four matches (m = 4)						
Treatment 1	-0.780***	-0.825***	-0.622***	-0.659***	-0.558**	-1.062***
	(0.219)	(0.221)	(0.236)	(0.237)	(0.236)	(0.237)
Treatment 2	0.406***	0.420***	0.455***	0.449***	0.492***	0.505***
	(0.124)	(0.12)	(0.133)	(0.129)	(0.128)	(0.12)

SATE is estimated on the residuals of a regression of *DPE* on bank and year fixed effects. The estimated SATE is bias-adjusted, and the standard errors are heteroskedasticity-robust.

The treatment, $I_{i,t}$, is defined as follows:

Treatment 1: $I_{i,t}$ *= 1 if Board Duality*$_{i,t}$ *= 1 in year t, t-1, or t-2,* and 0 otherwise.

Treatment 2: $I_{i,t}$ *= 1 if CEO Unforced Turnover*$_{i,t}$ *= 1 in year t, t-1, or t-2,* and 0 otherwise.

Therefore, the post-treatment period for treated banks (w_i = 1) can last for three years at most, and one year at least. The following covariates are used to estimate the potential outcomes for both *Treatment 1* and *Treatment 2* and for all seven specifications: *Size* (log of total assets of the bank), *Market-to-Book* (ratio of market value of equity to book value of equity), *Tier1 Capital* (ratio of Tier 1 capital to risk-weighted assets), *Profitability* (return on average asset), *GDP per capita* (natural logarithm of GDP per capita). For *Treatment 1*, the additional covariates *Bank Credit* and *Anti-Director Rights* are employed in all seven specifications. For *Treatment 2* the additional covariate *CEO Age* is employed in all seven specifications. Finally, the following additional covariates are employed for both *Treatment 1* and *Treatment 2* in specifications (2) to (6), respectively (separately for each specification): *Large Owner on the Management Board*, *Widely-held Financial Institution as the Largest Owner*, *Widely-held Non-Financial Corporation as the Largest Owner*, *Government as the Largest Owner*, and *Government Official on the Board*. The superscripts ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Table A.1 Board characteristics: country comparison.

Country	*Average size of BoD*	*Average Board Independence*	*One-tier board*	*Two-tier board*
Austria	14.20	99.16%	0%	100.00%
Belgium	18.81	32.96%	100.00%	0%
Denmark	6.51	84.09%	0%	100.00%
Finland	8.25	68.04%	20.00%	80.00%
France	13.00	48.11%	50.00%	50.00%
Germany	9.44	92.45%	0%	100.00%
Greece	13.27	26.20%	100.00%	0%
Ireland	15.00	70.76%	100.00%	0%
Italy	14.61	51.40%	87.00%	13.00%
Luxembourg	12.33	28.00%	100.00%	0%
Netherlands	8.04	93.75%	0%	100.00%
Portugal	19.00	58.49%	74.00%	26.00%
Spain	14.26	50.63%	100.00%	0%
Sweden	11.18	70.18%	100.00%	0%
United Kingdom	13.96	51.81%	100.00%	0%
Legal origin				
English	14.15	55.31%	100.00%	0%
French	14.17	50.20%	77.38%	22.62%
German	11.36	95.10%	0%	100.00%
Scandinavian	7.84	78.60%	25.96%	74.04%

Figure 1: Average *DPE* across countries at the beginning and at the end of the sample period.