

Employee stock ownership plan in European banks: The role of supportive measures

Isabelle Distinguin^a, Laetitia Lepetit^a, Phan Huy Hieu Tran^{a1}

^a *Université de Limoges, LAPE, 5 rue Félix Eboué, 87031 Limoges Cedex, France*

Preliminary version, May, 2019

Abstract

We investigate whether the different government supportive measures (legal, fiscal and political measures) are effective in promoting ESOPs for European banks, by taking into account the different nature of the conflicts of interest in widely-held and controlled banks. Legal measures appear to be the most effective measures for both controlled and widely-held banks. However, our findings show empirical evidence that the effectiveness of the ESOP measures is different in controlled and widely-held banks according to the strength of the conflicts of interest between insiders and outsiders. Opacity affects the effectiveness of political measures for both controlled and widely-held banks but in opposite ways. We furthermore find that supportive measures are effective to promote ESOPs in controlled banks only if they are located in countries with strong levels of shareholder protection. For widely-held banks, the supportive measures are effective to promote ESOPs adoption, independently of the level of shareholder protection.

JEL Classification: G21, G28

Keywords: Employee stock option plans; banks; ownership concentration.

¹ Corresponding author: H. Tran; email: phan-huy-hieu.tran@unilim.fr

1. Introduction

Promoting employee financial participation plans has long been a target of the European Commission. By using large-survey data on European firms, the Commission has shown evidence that employee stock ownership plans (ESOPs) enhance productivity and employment of firms (European Commission, 2000; 2003; 2014). These results are confirmed by the existing empirical literature (e.g., Dhillon & Ramírez, 1994; Jones & Kato, 1995; Ding & Sun, 2001; Cin & Smith, 2002; Lampel, Bhalla, & Jha, 2012). It provides arguments to the European Commission to recommend that EU member States build a legal framework to facilitate the adoption of ESOPs, implement tax and financial incentives to give incentives to companies and employees to participate in ESOPs, and run campaigns to enhance the social attitudes regarding ESOPs. All these supportive measures should play an important role in increasing the number of firms and employees participating in ESOPs.

However, the decision of a firm to adopt an ESOP can be driven by its ownership structure. ESOPs which turn employees into shareholders change the balance of power between insiders (managers or majority shareholders) and outsiders (minority shareholders). Therefore, insiders and outsiders vote for or against an ESOP implementation by taking into account the potential impact of the ESOPs on their bargaining power.

In widely-held firms, the agency conflict is between managers and shareholders. The managers' major interest is to maximize job security. They therefore behave in a risk-averse manner against the interest of shareholders who want more risk to maximize profits (Amihud & Lev, 1981). In such a situation, the presence of an ESOP which turn managers into employee-shareholders should be considered as an effective mechanism to mitigate this agency conflict. However, Gamble (2000) argues that shareholders can also regard ESOPs as a strategy of management to protect their positions. When managers own shares via ESOPs, shareholders may find it difficult to organize a vote against management proposals or generate adequate momentum to replace top-level managers. In line with this argument, some studies find that the market reacts negatively when ESOPs are seen as a management entrenchment mechanism. Gordon & Pound (1990) find that ESOPs implementation in the presence of takeover activity reduces firm's value. Share value also reduces if ESOPs are structured to transfer control away from outside shareholders. Chang (1990) and Dhillon & Ramírez (1994) find a significant negative market response in case of firms using ESOPs as anti-takeover tactics.

In firms having concentrated ownership structures, as prevalent in continental Europe (La Porta et al., 1998), the presence of large shareholders who can act to replace ineffective managers if companies are not profitable forces managers to become less risk-averse (Hill & Snell, 1988).

The conflict of interest switches from managers *versus* shareholders to majority *versus* minority shareholders, as large shareholders have incentives to maximize their own benefits at the cost of other shareholders (Shleifer & Vishny, 1997). Park & Song (1995) find that the market reacts more favorably to an ESOP adoption when there is the presence of controlling shareholders who have the capability to mitigate the influence of inefficient managers.

The existing literature shows that the strength of the conflict of interest between insiders and outsiders depends on two factors, the degree of opacity and the level of shareholder protection. These two factors can therefore influence the decision of banks to adopt an ESOP and might also affect the effectiveness of the ESOP supportive measures introduced by policy makers. Indeed, Lepetit, Meslier and Wardhana (2017) find that the degree of opacity and the level of shareholder protection influence the opportunistic behavior of majority shareholders on expropriating minority shareholders. They prove that banks with concentrated ownership pay lower dividends when they have high degrees of opacity, in order to extract higher levels of private benefits. They also find that higher shareholder protection helps to constrain this expropriation behavior of majority shareholders. Some studies also find a significant relationship between the degree of opacity and dividend payments (e.g. Eije & Megginson, 2008; Li & Zhao, 2008; Brockman & Unlu 2011). In addition, La Porta et al. (2007) find that in countries with stronger levels of shareholder protection, minority shareholders use their legal powers to force companies to disgorge cash, thus precluding insiders to expropriate minority shareholders. This result proves that shareholder protection changes the behavior of both minority and majority shareholders.

The ESOPs supportive measures recommended by the European Commission are for firms in general, without taking into account that the unique characteristics of banking firms might require specific policies. Banks are different from nonfinancial firms due to their specific regulation, capital structure (deposit funding with high leverage) and their inherent complexity and opacity (Morgan, 2002). In addition, banks have a unique place in the economy as intermediaries between investors and companies, allowing them to obtain significant private and proprietary information. Public policy is focused on trying to ensure that banks' insiders do not misuse this information for their own benefit (Avci, Schipani, & Seyhun, 2018). The higher degree of opacity of banks compared to non-financial firms might strengthen the conflicts of interest between insiders and outsiders in both widely-held banks and banks controlled by majority shareholders (controlled banks).

Thus, our paper contributes to the existing empirical literature by analyzing whether the different government supportive measures (legal, fiscal and political measures) are effective in

promoting ESOPs for banks, by taking into account the different nature of the conflicts of interest in widely-held and controlled banks. We furthermore investigate whether the strength of the conflicts of interest between insiders and outsiders, measured through the degree of opacity and the level of shareholder protection, influences the effectiveness of ESOP supportive measures. In widely-held banks, the adoption of an ESOP might be perceived by shareholders as a strategy of managers to entrench their position. In this context, higher degrees of opacity might strengthen the shareholders' concern about the management entrenchment problem, and then decrease the effectiveness of the supportive measures. In addition, strong shareholder protection might facilitate shareholders to have more voting power to veto the managers' proposals to adopt an ESOP. In banks with concentrated ownership structure, the signaling theory shows that majority shareholders have incentives to signal minority shareholders that they will refrain from expropriation (e.g., Benartzi et al., 2012; Lemmon & Lins, 2003; Claessens et al., 2002). We then expect that majority shareholders have incentives to use the ESOPs adoption to send a positive signal to minority shareholders that they have no intention to expropriate them. When banks are more opaque, majority shareholders might have more motivation to send the signal. We also expect the supportive measures to be more effective when shareholder protection is strong. In this case, the business laws favour minority shareholders vis-à-vis majority shareholders in the corporate decision making process, including the voting process. It might then facilitates minority shareholders to vote for an ESOP adoption in order to align the interest of managers with theirs.

We consider publicly traded European banks to conduct our investigation. We focus on a European dataset which provides a substantial amount of variability between individual levels of ownership concentration given the lack of regulatory limitations on the percentage of bank capital owned by a single entity in Europe. Using logit regressions, our results show that the supportive measures have a positive and significant impact on the ESOPs adoption for both controlled and widely-held banks. These results support the recommendation of the European Commission to use incentive measures to promote ESOPs, in which we find that a comprehensive legal framework is the most effective measure. While we do not find evidence that the ownership structure has a direct influence on the decision of a bank to adopt an ESOP, we show that the strength of the conflicts of interest between insiders and outsiders influences the effectiveness of the ESOP measures differently in controlled and widely-held banks. Indeed, we find that the degree of bank opacity affects the effectiveness of political measures for both controlled and widely-held banks but in opposite ways: it reduces the effectiveness of political measures in widely-held bank while increasing it in controlled banks. Our results further show

that the level of shareholders protection is crucial for controlled banks since supportive measures are effective to promote ESOPs for these banks only if they are located in countries with strong levels of shareholder protection. By contrast, for widely-held banks, the supportive measures are effective to promote ESOPs adoption, independently of the level of shareholder protection.

The rest of our paper is organized as follows: Section 2 develops the hypotheses tested; Section 3 describes our sample and variables construction; Section 4 presents the econometric specifications used to test our hypotheses. Section 5 presents our empirical results; Section 6 provides robustness tests; and Section 7 concludes.

2. Hypotheses tested

The European Commission recommends to adopt legal, fiscal and political measures to promote ESOPs. However, Beatty (1995) finds that favorable tax concessions provided by the government on ESOPs increase cash flows of firms through tax saving. The annual Economic Survey of ESOPs in European Countries conducted by the European federation of employee share ownership (Mathieu, 2016) shows that some European countries consider fiscal incentives as a key element to promote ESOPs. As a result, the UK, Austria and Norway chose to double the fiscal incentives for ESOPs, while Spain, Denmark, Romania and Poland also increased fiscal incentives but with a smaller magnitude. We then expect that the three ESOPs measures are effective to promote the adoption of ESOPs, but fiscal incentives are the most effective one, leading to the following hypothesis:

H1: *Fiscal incentives are the most effective measures to promote ESOPs.*

Through ESOPs, bank employees own shares of the bank they are working for. In widely-held banks where the conflict of interest is between managers and shareholders, shareholders might be less willing to let managers own shares as it renders more difficult to change ineffective managers. Therefore, the lack of large shareholders who can intervene to replace inefficient management might make shareholders regarding ESOPs as a management entrenchment mechanism. This attitude can be moreover significantly influenced by the degree of opacity of the bank and the level of shareholder protection. Firstly, if banks are less transparent, shareholders are more afraid of being expropriated by managers. An ESOP combined with high degrees of opacity might also create more opportunities for managers to expropriate shareholders since managers could take advantage of the ESOP supportive measures to gain higher remuneration levels. Therefore, higher degrees of opacity might decrease the

effectiveness of the incentives measures to adopt an ESOP. Secondly, in countries with strong shareholder protection, the legal system favors shareholders vis-a-vis managers in the corporate decision making process, including the voting process. If shareholders in widely-held banks do not want managers to own shares through ESOPs to avoid any entrenchment behavior, the ESOPs adoption is less likely to be approved when shareholder protection is high and therefore the effectiveness of the incentives measures should be reduced. We then examine the following hypothesis.

H2: *Higher degrees of opacity or stronger levels of shareholder protection reduce the effectiveness of the ESOP supportive measures in widely-held banks.*

In controlled banks, the attitude of both majority and minority shareholders toward an ESOP adoption might depend on the degree of opacity. Majority shareholders can easily appoint bank managers through their representatives on the board of directors and these managers will then act for the benefits of majority shareholders (Davies, 2000; Sáez & Riaño, 2013). On the one hand, minority shareholders might expect that ESOPs will align the interests of managers with their own. Having managers standing on their side could reduce the risk of expropriation by majority shareholders, especially in a context of high degrees of opacity. Therefore, minority shareholders are more likely to vote for an ESOP adoption when the degree of opacity is high. In addition, from majority shareholders' point of view, by adopting an ESOP, majority shareholders can then send a positive signal to minority shareholders that they will not be expropriated. Incentives measures should be more efficient in such a context. On the other hand, minority shareholders are more dependent on financial regulations and laws to protect themselves from being mistreated by majority shareholders. In countries having weak shareholder protection, it is easier for majority shareholders to choose managers. A free rider problem occurs when majority shareholders use ESOPs and the supportive measures for ESOPs to make managers become more loyal to them, as the cost to implement ESOPs is carried by all other shareholders. However, minority shareholders in countries with strong shareholder protection have more legal power to challenge insiders' proposals. It is therefore more difficult for majority shareholders to choose managers who act on their behalf. As a result, minority shareholders could consider that the benefits of ESOPs outweigh the risk of management acting for the benefits of majority shareholders. Incentive measures might thus be more effective in such cases. We then examine the following hypothesis:

H3: *Higher degrees of opacity or stronger levels of shareholder protection increase the effectiveness of the ESOP supportive measures in controlled banks.*

3. Data and variables construction

3.1. Presentation of the sample

We use “the classification of European Union Member States based on regulatory density and support measure for employee financial participation”, provided in 2014 by the European Commission to quantify the supportive measures of each country (European Commission, 2014). We therefore consider the year 2014 to conduct our empirical analysis. Our sample consists of all publicly traded commercial banks and bank-holding companies for the year 2014 of sixteen European countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom). We manually collected data from annual reports to determine if a bank has adopted an ESOP.

For the accounting data, we extract bank financial statement data from BvD Bankscope. We use consolidated data but also consider unconsolidated data when consolidated financial reports are not available. We also extract the ownership data from BvD Bankscope to determine if a bank is widely-held or controlled by at least one majority shareholder. We combine financial data from BvD Bankscope and Bloomberg database to compute our measures of opacity.

Limiting our sample to European commercial banks and bank-holding companies which provide information about ESOPs in their annual reports, we are left with a final sample of 103 European listed banks, including 66 commercial banks and 37 bank-holding companies; Table 1 gives a breakdown of these by country.

[Insert Table 1]

2.2. The ESOP variable and the supportive measure indices

We use the dummy variable $ESOP_i$ that equals 1 if the bank i has adopted an ESOP in the year 2014 and equals 0 otherwise. We only report a bank having an ESOP in a year in two cases. First, a bank has a plan to give stock options to its employees as a part of employee participation schemes determined in the previous shareholder meeting. The number of shares received by employees will depend on bank performance. We then report banks as having an ESOP even if at the end of the year, employees have not been allocated shares due to unachieved outcome. Second, a bank has allocated shares for its employees for a given year even if there was no detailed plan in the previous shareholder meeting. There are 58 banks having ESOPs in 2014 in our sample (see Table 1).

Our objective is to investigate whether the supportive measures are effective to promote an ESOP adoption. We construct three indices to quantify each type of existing supportive measures: legal, fiscal and political measures. We use “the classification of European Union Member States based on regulatory density and support measures for employee financial participation of the European Commission” (The European Commission, 2014) to measure the degree of legal, fiscal and political supports introduced by policy maker in each country to promote ESOPs. For the country j , each type of supportive measure consists in a score that we use as a proxy for legal (*Legal index_j*), fiscal (*Fiscal index_j*), and political (*Political index_j*) measures.

The *Legal index_j* measures legal framework regarding the implementation of ESOPs. In our sample, the *Legal index_j* varies from 0 to 3. It equals to 0 if a country has no systematic regulation of employee financial participation programs and its general regulations neither promote nor inhibit the development of employee stock option plans. It equals 1 if a country has an isolated regulation on one aspect of employee stock option plans (usually company law). It equals 2 if a country has a systematic regulation of more than one aspect of employee stock option plans (usually tax and company law). It equals 3 if a country has a systematic regulation of more than one aspects of employee stock option plans and one or more additional aspects (connection to securities law, labor law, social legislation, etc.).

The *Fiscal index_j* measures tax and financial incentives for companies and employees participating in employee stock option programs. In our sample, the *Fiscal index_j* varies from 0 to 4. It equals 0 if a country has no special tax incentives and its general system of taxation neither promotes nor inhibits the development of employees. It equals 1 if a country has some tax incentives for companies and employees participating in employee programs, but their impact is not clear. It equals 2 if a country has some tax incentives and the difference between the effective tax rate on employee salary and on firm income through financial participation is significant. It equals 3 if a country has tax incentives which are applicable to most enterprises and the criteria for these tax incentives are clearly defined and not restrictive. It equals 4 if a country has effective tax incentives and, additionally, other instruments of fiscal support such as government-backed loans for employee stock option programs.

Finally, the *Political index_j* measures the attitude of the government and social partners regarding employee stock option programs. In our sample, the *Political index_j* varies from 0 to 3. It equals 0 if neither government nor social partners are interested in employee programs. It equals 1 if there is only one social partner such as a professional association supporting

employee stock option programs. It equals 2 if social partners support employee programs, so ESOPs can be seen as a part of social dialogue. It equals 3 if employee stock option programs are a part of social dialogue and are substantially supported by the government.

We furthermore sum up the three component indices to obtain a global index (*Global index_j*) measuring the total supports in a country to promote ESOPs. This *Global index_j* varies from 0 to 10. The higher the global index, the stronger is the support from the government and social partners for the development of employee stock option plans.

3.3. Ownership structure

To classify banks as either widely-held or controlled, we collected data on their ownership structure from several sources, i.e. BvD Bankscope, Thomson ONE and hand-collected annual reports, in order to obtain information as complete as possible. We follow the existing literature (La Porta et al., 1999; Claessens et al., 2000 ; Faccio & Lang, 2002) by using the control threshold of 20% of outstanding shares to distinguish between dispersed and concentrated ownership. If a bank has at least one shareholder who owns at least 20% of its outstanding shares, it will be classified as a controlled bank. Banks will be classified as widely-held banks otherwise. We compute the dummy variable *dControlled_i* that takes the value of one if the bank *i* is a controlled bank, and zero otherwise. There are 54 banks having controlling shareholders in our sample (see Table 1).

3.4. Opacity composite index

The first indicator we use to measure the strength of the conflict of interest between insiders and outsiders is an index measuring the degree of opacity faced by outsiders. We measure the degree of opacity by computing a composite index following Lepetit, Meslier and Wardhana (2017). The index measures four components of opacity: (*EF_i*) measures the disconnection between insiders' and outsiders' information about firms' financial condition by computing the analyst forecast error (see Lepetit, Meslier and Wardhana (2017) for details); (*EM_i*) measures accounting opacity and is computed by the degree of earnings management of banks (see Lepetit, Meslier and Wardhana (2017) for details); (*MF_i*) is the negative of the ratio of short term and long term market funding to total assets measuring banks' exposure to the market discipline; (*Loan_i*) is the ratio of loans to total assets as bank loans are opaque (Campbell & Kracaw, 1980; Berlin & Loeys, 1988; Diamond, 1991). We associate each of these four components *EF_i*, *EM_i*, *MF_i* and *Loan_i*, with the value of one for the first decile, the value of two

for the second decile and so on. We then sum these four proxies and we divide it by four to scale our composite index $Opacity_i$. This index ranges from 1 to 10, with the most transparent bank having a value of 1 and the most opaque bank having a value of 10. Higher opacity indicates that there is higher information asymmetry between insiders and outsiders. We also compute the dummy variable $dHighOpacity_i$ taking the value of one if the index $Opacity_i$ of a bank is greater than the sample median value and zero otherwise, to differentiate banks with relatively higher and lower degrees of opacity.

3.5. Shareholder protection index

We also follow La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) by proxying the strength of the conflict of interest between insiders and outsiders with the anti-director index ($RADI_j$) computed by La Porta et al. (1998) and revised by Djankov, La Porta, et al. (2008). This index measures the level of shareholder rights for each country, i.e. the legal protection of shareholders against expropriation by managers through several measures; it takes 1 for each following component of the commercial laws of a country including (1) vote by mail is allowed; (2) shareholders are not required to deposit shares before annual shareholders' meeting; (3) cumulative voting is allowed; (4) minority shareholders have legal mechanisms against perceived oppression by the board; (5) shareholders have pre-emptive rights that can be waived only by shareholders' vote, and (6) the minimum percentage of share capital that allows a shareholder to call for a special shareholders' meeting is no more than 10%. The shareholder protection index ($RADI_j$) varies from 0 (for weak protection countries) to 6 (for strong protection countries). We compute the dummy variable $dHighRADI_j$ that takes the value of one if the index $RADI_j$ for the country j is higher than the sample median.

Table 2 shows the average value of the supportive measure indices and the shareholder protection index by country.

[Insert Table 2]

4. Methodology

4.1. Empirical specifications

Specification to test hypothesis H1

We use a logit model to investigate the direct impact of the ESOP supportive measures, as well as the nature and the strength of the conflicts of interest between insiders and outsiders on the ESOPs adoption, as follows:

$$\begin{aligned}
\text{Pro } \{ESOP_i = 1\} = & \Phi (\alpha + \beta_1 * \text{Index}_j + \beta_2 * dControlled_i \\
& + \beta_3 * \text{Index}_j * dControlled_i + \beta_4 * RADI_j \\
& + \beta_5 * \text{Opacity}_i + \sum \beta_k * \text{Control Variables}_i) \quad (1)
\end{aligned}$$

Where $\text{Pro } \{ESOP_i = 1\}$ denotes the probability of a bank adopting an ESOP. $ESOP_i = 1$ means that the i^{th} bank has adopted an ESOP in 2014. $\Phi(\cdot)$ denotes the cumulated logistic distribution function. Maximum likelihood estimators of the coefficients ($\alpha, \beta_1, \beta_2, \dots, \beta_k$) are used and robust Huber-White covariance matrix estimation allows for possible misspecification of the error term distribution. $Index_j$ represents one of the supportive measure index: *Global index_j*, *Legal index_j*, *Fiscal index_j*, or *Political index_j*. We first use the *Global index_j* to examine the impact of the total supportive measure in general. Then, we replace it by *Legal index_j*, *Fiscal index_j* and *Political index_j*, respectively in order to examine the impact of each type of the supportive measures on ESOP adoption. As the index variables are highly correlated, we introduce them in the Equation (1) one by one.

We expect the total supportive measure (Global index) as well as each of its components (Legal, Fiscal and Political index) to impact positively and significantly the probability of a bank adopting an ESOP. We expect to find the coefficient of the fiscal index to be the largest among the three indices to be in line with the hypothesis H1 that the fiscal incentives are the most effective measure.

We furthermore expect the dummy variable $dControlled_i$ to be associated with a positive and significant coefficient. We expect that majority shareholders of controlled banks are more likely to adopt an ESOP to signal they will not expropriate minority, while shareholders of widely-held banks might be more reluctant to adopt an ESOP because of being afraid that it will facilitate the entrenchment of managers. The direct impact of the two proxies measuring the strength of the conflict of interest between insiders and outsiders, $Opacity_i$ and $RADI_j$, is not clear as we expect a negative effect on the probability to adopt an ESOP for widely-held banks and a positive impact for controlled banks.

We control for individual effects that might also influence the decision of a bank to adopt an ESOP (*Control Variables_i*). We include a measure of size, profitability, capital structure and insolvency risk. We measure bank size ($Size_i$) through the natural logarithm of total assets and use the return on equity (ROE_i) to measure the profitability. We expect that larger and more profitable banks are more likely to adopt ESOPs. Large banks can use ESOPs as an incentive

program to enhance employee productivity and they can also adopt ESOPs to create an image of a responsible firm which cares about its employees. Moreover, large banks can afford to implement ESOPs due to their financial resources. It is also understandable that shareholders of a profitable bank are more likely to be generous by granting shares for the employees. The equity to total assets ratio (EQ_TA_i) is expected to affect negatively the probability of a bank having an ESOP. Financing by equity is more costly than using debt instruments. When a bank has a high level of equity ratio, it has less incentives to increase its scale of equity. Then, this bank is less likely to adopt an ESOP. We compute a $Zscore$ ratio ($Zscore_i$) to measure a bank's solvability following Laeven and Levine (2009), Hadad et al. (2011), Lepetit and Strobel (2013) and Lepetit and Strobel (2015). A higher Z-score indicates that the bank is more stable, and thus, it has a lower risk of insolvability. Because Z-score is skewed, we use the natural logarithm of Z-score to measure bank's insolvency risk. We expect banks with lower default risk ($Zscore_i$ ratio is high) to be more likely to adopt an ESOP. ESOPs are usually adopted as long-term incentive schemes in which shareholders set the targets for bank's managers in a long-term vision rather than concentrating on short-term outcomes. Moreover, bank employees have privileged information about bank performance and thus, they will only participate in an ESOP when they are optimistic about the future of the bank.

In order to solve any potential endogeneity problems, we use the one-year lagged value of bank-level variables including size, ROE, the equity ratio and the Zscore.

Table 3 provides the definition, the data sources and the descriptive statistics of variables. Extreme bank-year observations are winsorized (1% lowest and highest values). The matrix of correlations between variables is shown in Table A1 in the Appendix.

[Insert Table 3]

Specification to test hypotheses H2 and H3

We further investigate whether the effectiveness of the supportive measures is affected by the strength of the conflict of interest in widely-held and controlled banks. We expect to find that higher degrees of opacity and stronger levels of shareholder protection reduce the effectiveness of the supportive measures in widely-held banks to be consistent with the hypothesis H2. In contrast, we expect higher degrees of opacity and stronger levels of shareholder protection to increase the effectiveness of the supportive measures in controlled banks to be in line with the hypothesis H3. For this, we augment the Equation (1) with interaction terms between the

supportive measures, the dummy variable $dControlled_i$ and the variable used to measure the strength of the conflicts of interest ($StrengthConflict$), as follows:

$$\begin{aligned} \text{Pro } \{ESOP_i = 1\} = & \Phi (\alpha + \beta_1 * \text{Index}_j + \beta_2 * \text{Index}_j * \text{StrengthConflict} \\ & + \beta_3 * \text{Index}_j * dControlled_i \\ & + \beta_4 * \text{Index}_j * dControlled_i * \text{StrengthConflict} \\ & + \sum \beta_k * \text{Control Variables}_i) \quad (2) \end{aligned}$$

Index_j represents one of the supportive measure index: $Global\ index_j$, $Legal\ index_j$, $Fiscal\ index_j$ or $Political\ index_j$. $StrengthConflict$ is either the dummy variable $dHighOpacity_i$ taking the value of one for banks with relatively high degrees of opacity, or the dummy variable $dHighRADI_j$ taking the value of one for banks located in countries with relatively strong levels of shareholder protection.

To be in line with hypothesis H2, we expect the effectiveness of the ESOP measures to be reduced in widely-held banks having either higher degrees of opacity or located in countries with stronger levels of shareholder protection (β_1 positive and significant and $\beta_1 + \beta_2$ either non-significant or positive and significant but smaller than β_1). On the contrary, we expect the effectiveness of ESOP measures to be increased in controlled banks with either higher degrees of opacity or in countries with stronger levels of shareholder protection ($\beta_1 + \beta_3$ non-significant or positive and significant but smaller than $\beta_1 + \beta_2 + \beta_3 + \beta_4$).

5. Results

5.1. The effectiveness of supportive measures for controlled and widely-held banks

The results for Equation (1) are given in Table 4. They show the impact of the supportive measures on the ESOPs adoption in widely-held banks and controlled banks.

The results show that the *Global index* and each of its component (*Legal index*, *Fiscal index* and *Political index*) have a positive and significant impact on the probability of a bank adopting an ESOP for both controlled and widely-held banks. Supportive measures are effective to promote the ESOPs implementation in European banks and their impact is higher for widely-held banks. However, our results reject the hypothesis H1 that financial measures are more effective than legal and political measures. We find that, among the three types of supportive measures, legal measures have the strongest impact on the ESOPs adoption for both controlled and widely-held banks.

The results also show that there is no significant difference in the probability of the ESOPs adoption between controlled and widely-held banks as the coefficient associated with the dummy variable *dControlled* is not significant. It indicates that the impacts of the type of the conflicts of interest itself - between managers and shareholders in widely-held banks and between majority and minority shareholders in controlled banks – on the decision of the bank to adopt an ESOP are not significantly different. This is not consistent with our expectation that the incentives to adopt an ESOP is stronger in controlled banks compared to widely-held banks. We furthermore find that the degree of opacity (*Opacity*) has no significant direct impact on the decision of a bank to adopt an ESOP, meanwhile the level of shareholder protection (*RADI*) has a negative and significant impact on the ESOPs adoption. This indicates that in countries with stronger levels of shareholder protection, the law favors minority shareholders vis-a-vis managers and majority shareholders. Minority shareholders are more protected from the risk of being expropriated by insiders, and they might then just consider an ESOP as an extra expense for them and vote against its implementation.

Regarding the control variables, they have no significant impact on the decision of a bank to adopt an ESOP.

[Insert Table 4]

5.2. The role of the strength of the conflicts of interest on the effectiveness of supportive measures

We examine whether the strength of the conflicts of interest, measured by the degree of opacity (*dHighOpacity*) and the level of shareholder protection (*dHighRADI*), has different impacts on the effectiveness of the supportive measures in controlled and widely-held banks. Table 5 presents the estimation results for Equation (2) when we consider the degree of opacity to measure the strength of the conflict; we also report Wald tests in Table 6. Similarly, Tables 7 and 8 present the estimation results and Wald tests when the level of shareholder protection is used to measure the strength of the conflict of interest.

We can see from Table 6 that for widely-held banks, the effectiveness of the political supportive measures is reduced by the degree of opacity. This is consistent with our hypothesis H2. In widely-held banks, shareholders fear manager's entrenchment behavior and this is exacerbated by bank opacity. This argument is strengthened since our results prove that bank opacity does not affect the effectiveness of fiscal and legal measures, only political measures lose their ability to increase the probability to adopt an ESOP. In fact, political measures are used to enhance the

attitude of stakeholders regarding the ESOPs implementation. Therefore, in this case, their effectiveness is strongly dependent on the attitude of shareholders regarding ESOPs. When shareholders are afraid of managerial entrenchment problem, the effectiveness of political measures is sharply reduced. However, the effectiveness of legal and fiscal measures which are imposed by policy makers, is barely affected.

For controlled banks, the effectiveness of political measures is stronger with higher degrees of opacity as expected in hypothesis H3. Surprisingly, fiscal measures are effective only when opacity is low. Similarly to the results obtained for widely-held banks, legal measures are effective whatever the degree of opacity.

Regarding the level of shareholder protection, we can see from Table 8 that political, fiscal and legal supportive measures are only effective for controlled banks located in countries with strong levels of shareholder protection. Our results are therefore consistent with the hypothesis H3. These results indicate that supportive measures provide incentives for controlled banks to implement an ESOP, and these incentives become effective only when minority shareholders have sufficient legal power to reduce the risk that managers are appointed by large shareholders to work for their interest. For widely-held banks, we find that the effectiveness of supportive measures is not affected by the level of shareholder protection. This result does not support the hypothesis H2 that the effectiveness of the supportive measures in widely-held banks is decreased by stronger levels of shareholder protection.

[Insert Tables 5 to 8]

6. Robustness checks

We conduct several robustness checks to probe the strength of our results.

We first examine whether the results vary differently by year. We use data of the ESOPs adoption in 2013 to re-conduct our regressions. The result are shown in Table A2 in the Appendix. We find that our results are unchanged.

We next use another measure of the degree of opacity based on market data instead of accounting data. We follow Anderson, Duru and Reeb (2009) and calculate the natural logarithm of the average daily trading volumes during the fiscal year, and bid-ask spread as the difference of ask price and bid price over the average of bid and ask prices. Ranking each of these proxies from the value of 1 (for banks with high trading volume, or small bid-ask spread) to the value of 10 (for banks with low trading volumes, or high bid-ask spreads). We take the average of these two proxies to capture the degree of opacity of each bank, with the most

transparent bank having a value of 1 and the most opaque bank having a value of 10. The results of the alternative regressions are shown in Table A3. These results confirm the robustness of our results about the impact of the degree of opacity on the effectiveness of the supportive measures except that political measures are effective for controlled banks whatever the degree of opacity. We finally use a probit model instead of a logit to run Equations (1) and (2). Our main conclusions remain unchanged (see Tables A4-A6).

7. Conclusion

We empirically examine the effectiveness of the supportive measures (legal, fiscal and political measures) recommended by the European Commission to promote the ESOPs adoption in European countries. We furthermore examine whether the effectiveness of these supportive measures are different in widely-held banks and in banks with controlling shareholders, depending on the strength of the conflicts of interest between insiders and outsiders. For this, we manually collected the data of the ESOPs adoption in the annual reports of listed European banks.

Our findings show empirical evidence that the different supportive measures are effective to promote the ESOPs adoption in European banks for both controlled and widely-held banks. However, our results reject the common idea that the fiscal incentives are the most effective measures. Legal measures appear to be the most effective. We furthermore do not find evidence that the ownership structure has a direct influence on the decision of a bank to adopt an ESOP. Our results therefore indicate that the type of the conflicts of interest does not influence directly the decision of a bank to adopt an ESOP. However, we find that the effectiveness of the ESOP measures are different in controlled and widely-held banks according to the strength of the conflicts between insiders and outsiders. On the one hand, if we consider the degree of opacity as a proxy for the strength of the conflicts, we find that it affects the effectiveness of political measures for both controlled and widely-held banks but in opposite ways. In widely-held banks, shareholders fear manager's entrenchment behavior when the degree of opacity is higher. As a result, that limits the effectiveness of political supportive measures. By contrast, for controlled banks, by adopting an ESOP, majority shareholders can send a positive signal to minority shareholders that they will not be expropriated. This seems to improve the effectiveness of political supportive measures when bank opacity is high. On the other hand, we find that the level of shareholder protection, that can also be considered as a proxy to measure of the strength of the conflicts, has an impact on the effectiveness of supportive measures but only for controlled banks. Supportive measures are effective to promote ESOPs in controlled banks only

in countries having strong levels of shareholder protection. These results indicate that supportive measures provide incentives for controlled banks to implement an ESOP, but it is only true when minority shareholders have sufficient legal power to constrain the decisions of majority shareholders. For widely-held banks, we find that all supportive measures are effective to promote the ESOPs adoption, independently of the level of shareholder protection.

Our findings have critical policy implications for the European Commission. We provide empirical evidence that the introduction of supportive measures by itself, is not enough. It is necessary to enhance shareholder protection to increase the effectiveness of supportive measures in controlled banks. Our findings also suggest that policy makers should concentrate on building a comprehensive legal framework for ESOPs since it is the most effective measure to promote the ESOPs adoption.

References

- A.Gordon, L., & Pound, J. (1990). ESOPs and corporate control. *Journal of Financial Economics*, 525-555.
- Alzahrani, M., & Lasfer, M. (2012). Investor protection, taxation, and dividends. *Journal of Corporate Finance*, 745-762.
- Amihud, Y., & Lev, B. (1981). Risk Reduction as a Managerial Motive for Conglomerate Mergers. *The Bell Journal of Economics*, 605-617.
- Anderson, R. C., Duru, A., & Reeb, D. M. (2009). Founders, heirs, and corporate opacity in the United States. *Journal of Financial Economics*, 205-222.
- Avci, S. B., Schipani, C. A., & Seyhun, H. N. (2018). Eliminating Conflicts of Interests in Banks: The Significance of the Volcker Rule. *Yale Journal on Regulation*.
- Beatty, A. (1995). The cash flow and informational effects of employee stock ownership plans. *Journal of Financial Economics*, 211-240.
- Bebchuk, L. A., & Spamann, H. (2010). Regulating Bankers' Pay. *Georgetown Law Journal*, 247-287.
- Bebchuk, L. A., Cohen, A., & Spamann, H. (2010). The Wages of Failure: Executive Compensation at Bear Stearns and Lehman 2000-2008. *Yale Journal on Regulation*, 257-282.
- Benartzi, S., Michaely, R., & Thaler, R. (2012). Do Changes in Dividends Signal the Future or the Past? *The Journal of Finance*.
- Berlin, M., & Loeyes, J. (1988). Bond Covenants and Delegated Monitoring. *The Journal of Finance*, 397-412.
- Blasi, J., Conte, M., & Kruse, D. (1996). Employee Stock Ownership and Corporate Performance among Public Companies. *Industrial and Labor Relations Review*, 60-79.
- Bouvatier, V., Lepetit, L., & Strobel, F. (2014). Bank income smoothing, ownership concentration and the regulatory environment. *Journal of Banking & Finance*, 253-270.
- Brockman, P., & Unlu, E. (2011). Earned/contributed capital, dividend policy, and disclosure quality: An international study. *Journal of Banking & Finance*, 1610-1625.
- Campbell, T. S., & Kracaw, W. A. (1980). Information Production, Market Signalling, and the Theory of Financial Intermediation. *The Journal of Finance*, 863-882.
- Chang, S. (1990). Employee Stock Ownership Plans and Shareholder Wealth: An Empirical Investigation. *Financial Management*, 48-58.
- Chang, X., Fu, K., Low, A., & Zhang, W. (2015). Non-executive employee stock options and corporate innovation. *Journal of Financial Economics*, 168-188.
- Chen, D., Jian, M., & Xu, M. (2009). Dividends for tunneling in a regulated economy: The case of China. *Pacific-Basin Finance Journal*, 209-223.
- Cin, B.-c., & Smith, S. C. (2002). Employee Stock Ownership and Participation in South Korea: Incidence, Productivity Effects, and Prospects. *Review of Development Economics*, 263-283.
- Claessens, S., Djankov, S., & Lang, L. H. (2000). The separation of ownership and control in East Asian Corporations. *Journal of Financial Economics*, 81-112.
- Claessens, S., Djankov, S., Fan, J. P., & Lang, L. H. (2002). Disentangling the Incentive and Entrenchment Effects of Large Shareholdings. *The Journal of Finance*, 2741-2771.
- D.Hadad, M., Agusman, A., S.Monroe, G., Gasbarro, D., & KentonZumwalt, J. (2011). Market discipline, financial crisis and regulatory changes: Evidence from Indonesian banks. *Journal of Banking & Finance*, 1552-1562.

- Davies, P. L. (2000). *The Board of Directors: Composition, Structure, Duties and Powers*. Paper on Company Law Reform in OECD Countries: A Comparative Outlook of Current Trends.
- Dewatripont, M., & Tirole, J. (1994). A Theory of Debt and Equity: Diversity of Securities and Manager-Shareholder Congruence. *The Quarterly Journal of Economics*, 1027-1054.
- Dewatripont, M., & Tirole, J. (1994). *The Prudential Regulation of Banks*. MIT Press, Cambridge, MA.
- Dhillon, U. S., & Ramírez, G. G. (1994). Employee stock ownership and corporate control: An empirical study. *Journal of Banking & Finance*, 9-25.
- Diamond, D. W. (1991). Monitoring and Reputation: The Choice between Bank Loans and Directly Placed Debt. *Journal of Political Economy*, 689-721.
- Ding, D. K., & Sun, Q. (2001). Causes and effects of employee stock option plans: Evidence from Singapore. *Pacific-Basin Finance Journal*, 563-599.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, 430-465.
- Eije, H. v., & Megginson, W. L. (2008). Dividends and share repurchases in the European Union. *Journal of Financial Economics*, 347-374.
- European Commission. (1997). *1997b. Report from the Commission: PEPPER II Promotion of participation by employed persons in profits and enterprise results (including equity participation) in Member States. COM(96)697 final, 8 January 1997.*
- European Commission. (2000). *A company perspective on financial participation in the European Union: objectives and obstacles.*
- European Commission. (2003). *The legal and administrative environment for Employee Stock Options in the EU.*
- European Commission. (2014). *The Promotion of Employee Ownership and Participation.*
- Faccio, M., & Lang, L. H. (2002). The ultimate ownership of Western European corporations. *Journal of Financial Economics*, 365-395.
- Fang, H., Nofsinger, J. R., & Quan, J. (2015). The effects of employee stock option plans on operating performance in Chinese firms. *Journal of Banking & Finance*, 141-159.
- Gamble, J. E. (2000). Management commitment to innovation and esop stock concentration. *Journal of Business Venturing*, 433-447.
- Goergen, M., & Renneboog, L. (2001). Investment policy, internal financing and ownership concentration in the UK. *Journal of Corporate Finance*, 257-284.
- Gropp, R., & Köhler, M. (2010). Bank Owners or Bank Managers: Who is Keen on Risk? Evidence from the Financial Crisis. *ZEW - Centre for European Economic Research Discussion Paper*, 10-013.
- Hand, J. R. (2008). Give everyone a prize? Employee stock options in private venture-backed firms. *Journal of Business Venturing*, 385-404.
- Hill, C. W., & Snell, S. A. (1988). External Control, Corporate Strategy and Firm Performance in Research-intensive Industries. *Strategic Management Journal*, 577 - 590.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*. Thousand Oaks, California: Sage Publications.
- Jones, D. C., & Kato, T. (1995). The Productivity Effects of Employee Stock-Ownership Plans and Bonuses: Evidence from Japanese Panel Data. *The American Economic Review*, 391-414.
- Kim, K. Y., & Patel, P. C. (2017). Employee ownership and firm performance: A variance decomposition analysis of European firms. *Journal of Business Research*, 248-254.

- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2002). Government Ownership of Banks. *The Journal of Finance*, 265-301.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and Finance. *Journal of Political Economy*, 1113–1155.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (2007). Agency Problems and Dividend Policies around the World. *The Journal of Finance*.
- Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics*, 259–275.
- Lampel, J., Bhalla, A., & Jha, P. (2012). *THE EMPLOYEE OWNERSHIP, Benefits and consequences*. London: the Department for Business Innovation and Skills, Cass Business School.
- Lemmon, M. L., & Lins, K. V. (2003). Ownership Structure, Corporate Governance, and Firm Value: Evidence from the East Asian Financial Crisis. *The Journal of Finance*.
- Lepetit, L., & Strobel, F. (2013, July). Bank insolvency risk and time-varying Z-score measures. *Journal of International Financial Markets, Institutions and Money*, 73-87.
- Lepetit, L., & Strobel, F. (2015, May). Bank insolvency risk and Z-score measures: A refinement. *Finance Research Letters*, 214-224.
- Lepetit, L., Meslier, C., & Wardhana, L. I. (2017). Reducing agency conflicts through bank dividend payout decisions: the role of opacity and ownership structure. *Applied Economics*.
- Lepetit, L., Saghi-Zedek, N., & Tarazi, A. (2015). Excess control rights, bank capital structure adjustments, and lending. *Journal of Financial Economics*, 574-591.
- Li, K., & Zhao, X. (2008). Asymmetric Information and Dividend Policy. *Financial Management*, 673-694.
- Mathieu, M. (2016). *Annual Economic Survey of Employee Share Ownership in European Countries*. The European Federation of Employee Share Ownership. Retrieved from the European Federation of Employee Share Ownership: <http://www.efesonline.org/Annual%20Economic%20Survey/Presentation.htm>
- Meng, R., Ning, X., Zhou, X., & Zhu, H. (2011). Do ESOPs enhance firm performance? Evidence from China's reform experiment. *Journal of Banking & Finance*, 1541–1551.
- Morgan, D. P. (2002). Rating Banks: Risk and Uncertainty in an Opaque Industry. *American Economic Review*, 874–888.
- Oyer, P., & Schaefer, S. (2005). Why do some firms give stock options to all employees?: An empirical examination of alternative theories. *Journal of Financial Economics*, 99–133.
- Park, S., & Song, M. H. (1995). Employee Stock Ownership Plans, Firm Performance, and Monitoring by Outside Blockholders. *Financial Management*.
- Peng, L., & Röell, A. (2008). Executive pay and shareholder litigation. *Review of Finance*, 141-184.
- Porta, R. L., Lopez-De-Silanes, F., & Shleifer, A. (1999). Corporate Ownership Around the World. *The Journal of Finance*, 471-517.
- Renneboog, L. (2000). Ownership, managerial control and the governance of companies listed on the Brussels stock exchange. *Journal of Banking & Finance*, 1959–1995.
- S.Dhillon, U., & G.Ramírez, G. (1994). Employee stock ownership and corporate control: An empirical study. *Journal of Banking & Finance*, 9-25.
- Sáez, M. I., & Riaño, D. (2013). Corporate Governance and the Shareholders' Meeting: Voting and Litigation. *European Business Organization Law Review*, 343–399.
- Shleifer, A., & Vishny, R. W. (1997). A Survey of Corporate Governance. *The Journal of Finance* , 737–783.

Young, M. N., Peng, M. W., Ahlstrom, D., Bruton, G. D., & Jiang, Y. (2008). Corporate Governance in Emerging Economies: A Review of the Principal–Principal Perspective. *Journal of Management Studies*.

Table 1

Number of banks having ESOPs by country and controlled banks in 2014

	Country Name	Total number of banks	Number of banks having ESOPs	Number of controlled banks
1	Austria	6	3	4
2	Belgium	2	0	2
3	Denmark	22	1	5
4	Finland	3	3	2
5	France	4	3	2
6	Germany	7	3	4
7	Greece	5	1	4
8	Ireland	2	0	1
9	Italy	13	13	8
10	Netherlands	4	3	3
11	Norway	1	0	1
12	Portugal	2	0	1
13	Spain	7	5	3
14	Sweden	3	2	2
15	Switzerland	12	11	6
16	United Kingdom	10	10	6
	Total	103	58	54

Table 2
The supportive measure indices and the shareholder protection index

		Legal index	Fiscal index	Political index	Global index	RADI
1	Austria	2	3	2	7	2.5
2	Belgium	2	2	1	5	3
3	Denmark	1	0	0	1	4
4	Finland	1	1	0	2	3.5
5	France	2	3	2	7	3.5
6	Germany	2	1	2	5	3.5
7	Greece	1	1	2	4	2
8	Ireland	2	3	3	8	5
9	Italy	2	2	2	6	2
10	Luxembourg	1	1	0	2	2
11	Netherlands	2	0	2	4	2.5
12	Norway	0	1	0	1	3.5
13	Portugal	1	0	0	1	2.5
14	Spain	2	3	1	6	5
15	Sweden	1	0	0	1	3.5
16	Switzerland	3	3	3	9	3
17	United Kingdom	3	4	3	10	5

Global index, Legal index, Fiscal index, Political index are computed using “The promotion of employee ownership and participation”, the European Commission, Oct 2014.

RADI is the revised anti-director index of Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008)

Table 3
Definition of variables and descriptive statistics

Variables	Definition	Source	Min	Max	Median	Std. Dev
<i>ESOP</i>	Employee Stock Ownership Plans. It is a dummy variable that equals to one if banks have adopted an ESOP and equals 0 otherwise.	Annual reports of banks	0	1	0.563	0.498
<i>Supportive measures</i>						
Legal index	Measuring legal framework regarding the implementation of ESOPs. The Legal index varies from 0 to 3. It equals to 0 if a country has no systematic regulation of employee financial participation programs and its general regulations neither promote nor inhibit the development of employee stock option plans. It equals 3 if a country has a systematic regulation of more than one aspects of employee stock option plans (usually tax and company law)		0	3	1.854	0.759
Fiscal index	Measuring tax and financial incentives for companies and employees participating in employee stock option programs. The Fiscal index varies from 0 to 4. It equals 0 if a country has no special tax incentives and its general system of taxation neither promotes nor inhibits the development of employees. It equals 4 if a country has effective tax incentives and, additionally, other instruments of fiscal support for employee stock option programs.		0	4	1.737	1.413
Political index	Measuring the attitude of the government and social partners regarding employee stock option programs. The Political index varies from 0 to 3. It equals to 0 if neither government nor social partners (such as professional		0	3	1.543	1.152

	associations) are interested in employee programs. It equals 3 if employee stock option programs is a part of social dialogue and is substantially supported by the government.					
Global Index	Global Index = Legal measure + Fiscal measure + Political measure. Global index measures the total state supportive measures to promote ESOPs.		1	10	5.135	3.134
Bank-level variables						
Opacity	Measuring four components of opacity: (EF) measures the disconnection between insiders' and outsiders' information about firms' financial condition by computing the analyst forecast error; (EM) measures accounting opacity and is computed by the degree of earnings management of banks; (MF) is the negative of the ratio of short term and long term market funding to total assets measuring banks' exposure to the market; (Loan) loans in total assets. Then, associating each component with the value of 1 to 10 corresponding to the decile of 1 to 10. After that, summing up four proxies, then divide it by four to scale the composite index. This index ranges from 1 to 10.	Lepetit, Meslier and Wardhana (2017)	1.5	9.5	5.473	1.630
dHighOpacity	Takes the value of one if the variable <i>Opacity</i> is higher the sample median.		0	1	0.495	0.502
Market Opacity index	Calculating the natural logarithm of the average daily trading volumes during the fiscal year, and bid-ask spread as the difference of ask price and bid price over the average of bid and ask prices. Ranking each of these proxies from the value of 1 (for banks with high trading volume, or small bid-ask spread) to the value of 10 (for banks with low trading volumes, or high bid-ask spreads). Then taking the average of these two proxies to capture the opacity level of each bank, with the most	Anderson, Duru and Reeb (2009).	1	9.5	5.219	2.637

	transparent bank has a value of 1 and the most opaque bank has a value of 10.					
dControlled	Takes the value of one if the bank is classified as a controlled banks, i.e. if at least one shareholder holds more than 10% of the outstanding share.		0	1	0.524	0.501
<i>Institutional variable</i>						
RADI	Measure the level of shareholder protection. It takes the value of 1 for each of these indicators: Vote by mail is allowed. Shareholders are not required to deposit shares before annual shareholders' meeting. Cumulative voting is allowed. Minority shareholders have legal mechanisms against perceived oppression by the board. Shareholders have pre-emptive rights that can be waived only by shareholders' vote. The minimum percentage of share capital that allows a shareholder to call for a special shareholders' meeting is no more than 10%. The index is formed by summing: (1) vote by mail; (2) shares not blocked or deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital.	Djankov, La Porta, Lopez-de-Silanes, and Shleifer et al. (2008)	2	5	3.436	1.008
dHighRADI	Takes the value of one if the variable <i>RADI</i> is higher than the sample median.		0	1	0.398	0.491
<i>Control variables</i>						
Size	Natural logarithm of Total Assets.	BankScope	12.11	21.64	17.15	2.70
Equity ratio	Total equity divided by total assets	BankScope	0.03	0.32	0.08	0.05
ROE	Return on equity ratio	BankScope	-0.89	0.27	0.028	0.16
Zscore	Measure bank's solvability. Z-score is computed by three-year moving window in estimation standard deviation of asset returns for each bank each year. A	Laeven and Levine (2009); Agusman, Dominic and Kenton (2011); Lepetit and	-0.22	6.28	3.51	1.50

	<p>higher Z-score indicates that a bank has a lower risk of insolvability. Formula to calculate: $Z\text{-Score} = \frac{\mu_{ROA(3)} + EQ_TA}{\delta_{ROA(3)}}$</p> <p>Where $\mu_{ROA(3)}$: moving mean for 3 observations of ROA EQ_TA: current value of capital-asset ratio $\delta_{ROA(3)}$: moving standard deviation for 3 observations of ROA</p>	<p>Strobel (2013) and Lepetit and Strobel (2015)</p>				
--	--	--	--	--	--	--

Table 4
Impact of the supportive measures on the ESOP adoption in widely-held banks and controlled banks
(Equation (1), Logit model)

Dependent variable: dummy ESOP

	Global index	Legal index	Fiscal index	Political index
	ESOP	ESOP	ESOP	ESOP
Index (b1)	0.698*** (3.28)	2.990*** (3.18)	1.465*** (3.46)	1.427*** (3.06)
d_Controlled (b2)	1.459 (1.09)	2.006 (1.01)	0.958 (1.00)	0.737 (0.75)
Index x d_Controlled (b3)	-0.367 (-1.48)	-1.309 (-1.20)	-0.809 (-1.64)	-0.686 (-1.20)
RADI	-0.437 (-1.58)	-0.519* (-1.82)	-0.628** (-2.16)	-0.163 (-0.62)
Opacity	0.0669 (0.33)	0.134 (0.64)	-0.0211 (-0.11)	0.0590 (0.31)
Size_lag1	0.172 (1.15)	0.234 (1.55)	0.144 (0.96)	0.225 (1.64)
EQ_TA_lag1	-2.190 (-0.35)	-2.404 (-0.37)	-1.585 (-0.25)	-1.017 (-0.17)
ROE_lag1	0.850 (0.41)	0.475 (0.22)	1.246 (0.60)	0.507 (0.26)
ZScore_lag1	0.239 (1.23)	0.183 (0.91)	0.246 (1.26)	0.273 (1.40)
Constant	-5.457* (-1.69)	-8.304** (-2.38)	-2.856 (-0.88)	-6.167** (-2.05)
Observations	103	103	103	103
b1 + b3 = 0	0.331*** 0.00594	1.680*** 0.00124	0.656*** 0.00970	0.742** 0.0194

Variables are as defined in Table 3. The standard errors are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

b1: The coefficient of the index in widely-held banks

b1 + b3: The coefficient of the index in controlled banks

Table 5
Impact of the degree of opacity on the effectiveness of the supportive measures in
widely-held and controlled banks (Equation (2), Logit model)

Dependent variable: dummy ESOP

	Index = Global index	Index = Legal index	Index = Fiscal index	Index = Political index
Index (b1)	0.841*** (3.00)	3.021*** (2.72)	1.910*** (3.10)	1.850*** (2.69)
Index x dHighOpacity (b2)	-0.272 (-0.93)	-0.405 (-0.37)	-0.711 (-1.01)	-0.898 (-1.16)
Index x dControlled (b3)	-0.503* (-1.85)	-1.526 (-1.37)	-1.211* (-1.93)	-1.184* (-1.77)
Index x dControlledx dHighOpacity (b4)	0.281 (1.24)	0.930 (1.38)	0.562 (0.89)	1.328** (1.97)
dControlled	1.643 (1.19)	1.675 (0.83)	1.403 (1.40)	0.743 (0.72)
dHighOpacity	1.244 (0.96)	0.460 (0.25)	1.229 (1.21)	0.736 (0.69)
RADI	-0.459 (-1.58)	-0.510* (-1.68)	-0.642** (-2.11)	-0.142 (-0.51)
Size_lag1	0.211 (1.37)	0.255 (1.64)	0.187 (1.21)	0.266* (1.87)
EQ_TA_lag1	-2.921 (-0.46)	-3.213 (-0.48)	-2.443 (-0.39)	-1.911 (-0.31)
ROE_lag1	0.223 (0.10)	-0.00100 (-0.00)	0.297 (0.14)	-0.000136 (-0.00)
ZScore_lag1	0.278 (1.38)	0.211 (1.02)	0.319 (1.57)	0.297 (1.47)
Constant	-6.527** (-1.99)	-7.926** (-2.26)	-4.736 (-1.46)	-7.106** (-2.36)
Observations	103	103	103	103

Variables are as defined in Table 3. The standard errors are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Table 6
Wald tests computed from Table 5

Global index	High Opacity	Low Opacity
Controlled banks	0.347** (0.0460)	0.338** (0.0247)
Widely-held banks	0.569** (0.0189)	0.841*** (3.00)

Legal index	High Opacity	Low Opacity
Controlled banks	2.020** (0.0106)	1.495** (0.0117)
Widely-held banks	2.616** (0.0131)	3.021*** (2.72)

Fiscal index	High Opacity	Low Opacity
Controlled banks	0.549 (0.123)	0.699** (0.0279)
Widely-held banks	1.199** (0.0167)	1.910*** (3.10)

Political index	High Opacity	Low Opacity
Controlled banks	1.097** (0.0270)	0.667* (0.0926)
Widely-held banks	0.952* (0.0699)	1.850*** (2.69)

A bank is classified in the cluster high/low opacity when its *Opacity* index is higher/lower than the sample median.

Table 7
Impact of the level of shareholder protection on the effectiveness of the supportive measures in widely-held and controlled banks (Equation (2), Logit model)

Dependent variable: dummy ESOP

	Index = Global index	Index = Legal index	Index = Fiscal index	Index = Political index
Index (b1)	0.670*** (2.60)	2.336** (2.27)	1.442** (2.43)	1.406** (2.49)
Index x dHighRADI (b2)	0.116 (0.36)	1.927 (1.28)	0.355 (0.48)	0.0197 (0.02)
Index x dControlled (b3)	-0.445 (-1.57)	-1.218 (-1.06)	-1.231* (-1.84)	-0.844 (-1.39)
Index x dControlled x dHighRADI (b4)	0.100 (0.41)	-0.125 (-0.16)	0.490 (0.79)	0.453 (0.61)
d_Controlled	1.660 (1.16)	1.729 (0.84)	1.335 (1.20)	0.741 (0.73)
dHighRADI	-2.127 (-1.44)	-4.717* (-1.85)	-2.992** (-2.07)	-1.112 (-1.10)
Opacity	0.949 (1.53)	0.969 (1.54)	0.847 (1.39)	0.889 (1.46)
Size_lag1	0.136 (0.88)	0.141 (0.92)	0.0815 (0.52)	0.218 (1.54)
EQ_TA_lag1	-2.513 (-0.40)	-3.324 (-0.51)	-2.094 (-0.34)	-1.133 (-0.18)
ROE_lag1	-0.364 (-0.18)	-0.483 (-0.23)	-0.406 (-0.20)	-0.328 (-0.17)
ZScore_lag1	0.247 (1.23)	0.177 (0.84)	0.253 (1.27)	0.293 (1.44)
Constant	-5.716* (-1.74)	-6.416* (-1.83)	-3.608 (-1.12)	-6.285** (-2.12)
Observations	103	103	103	103

Variables are as defined in Table 3. The standard errors are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Table 8
Wald tests computed from Table 7

Global index	High RADI	Low RADI
Controlled banks	0.441** (0.0196)	0.225 (0.161)
Widely-held banks	0.786*** (0.00638)	0.670*** (2.60)

Legal index	High RADI	Low RADI
Controlled banks	2.919** (0.0102)	1.118* (0.0531)
Widely-held banks	4.262*** (0.00449)	2.336** (2.27)

Fiscal index	High RADI	Low RADI
Controlled banks	1.056** (0.0194)	0.211 (0.536)
Widely-held banks	1.797*** (0.00264)	1.442** (2.43)

Political index	High RADI	Low RADI
Controlled banks	1.035** (0.0298)	0.562 (0.172)
Widely-held banks	1.426** (0.0357)	1.406** (2.49)

A bank is classified in the cluster high/low RADI when its *RADI index* is higher/lower than the sample median.

Appendix

Table A1: Matrix of correlations

	ESOP	Global index	Legal index	Fiscal index	Political index	dControlled	Opacity	RADI	Size	ROE	EQ_TA	ZScore
ESOP	1											
Global index	0.572***	1										
Legal index	0.581***	0.948***	1									
Fiscal index	0.531***	0.944***	0.841***	1								
Political index	0.520***	0.937***	0.887***	0.786***	1							
dControlled	0.0624	0.147	0.0994	0.126	0.180	1						
Opacity	-0.229*	-0.325***	-0.326***	-0.253**	-0.359***	-0.112	1					
RADI	-0.114	0.0477	0.0839	0.188	-0.156	-0.176	0.126	1				
Size	0.367***	0.337***	0.263**	0.362***	0.298**	0.0286	-0.450***	0.0225	1			
ROE	0.0722	0.0328	0.0713	0.0464	-0.0146	0.0270	0.297**	0.186	-0.0180	1		
EQ_TA	-0.138	0.00860	0.0559	-0.0191	0.00993	0.0970	0.360***	0.113	-0.586***	0.143	1	
ZScore	0.179	0.160	0.230*	0.148	0.103	0.0369	0.0624	0.155	-0.0261	0.464***	0.273**	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A2
Impact of the supportive measures on the ESOPs adoption in widely-held banks and
controlled banks
(Robustness check using the data of year 2013)

Dependent variable: dummy ESOP

	Global index	Legal index	Fiscal index	Political index
	ESOP	ESOP	ESOP	ESOP
Index (b1)	0.688*** (3.27)	2.981*** (3.20)	1.463*** (3.51)	1.418*** (3.09)
d_Controlled (b2)	2.238* (1.66)	3.069 (1.56)	1.584 (1.60)	1.334 (1.38)
Index x d_Controlled (b3)	-0.452* (-1.86)	-1.738 (-1.64)	-0.955** (-1.96)	-0.893 (-1.61)
RADI	-0.503* (-1.80)	-0.578** (-2.02)	-0.678** (-2.34)	-0.290 (-1.07)
Opacity	-0.00223 (-0.01)	0.0287 (0.15)	-0.0745 (-0.39)	0.0127 (0.07)
Size_lag1	0.218 (1.47)	0.248* (1.68)	0.197 (1.28)	0.289** (2.12)
EQ_TA_lag1	1.979 (0.35)	0.633 (0.11)	2.252 (0.38)	3.903 (0.71)
ROE_lag1	-0.600 (-1.26)	-0.434 (-0.93)	-0.657 (-1.37)	-0.601 (-1.26)
ZScore_lag1	-0.275 (-1.16)	-0.255 (-1.06)	-0.316 (-1.36)	-0.262 (-1.14)
Constant	-4.128 (-1.30)	-6.458* (-1.92)	-1.660 (-0.51)	-5.017* (-1.67)
Observations	101	101	101	101
b1 + b3 = 0	0.236** 0.0364	1.243** 0.0115	0.509** 0.0386	0.524* 0.0843

Variables are as defined in Table 3. The standard errors are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Table A3
Impact of the degree of opacity on the effectiveness of the supportive measures in
widely-held and controlled banks
(Robustness check using the opacity index based on market data)

Dependent variable: dummy ESOP

	Index = Global index	Index = Legal index	Index = Fiscal index	Index = Political index
Index (b1)	1.137*** (3.29)	3.812*** (3.24)	3.943** (2.52)	2.426*** (3.04)
Index x dHighOpacity (b2)	-0.510* (-1.87)	-1.180 (-1.49)	-2.578* (-1.83)	-1.291* (-1.74)
Index x dControlled (b3)	-0.781** (-2.26)	-2.201* (-1.79)	-3.197** (-2.07)	-1.655** (-2.03)
Index x dControlled x dHighOpacity (b4)	0.486* (1.84)	1.348* (1.83)	2.329* (1.72)	1.387* (1.85)
dControlled	2.168 (1.49)	2.241 (1.13)	2.149* (1.84)	1.067 (1.06)
dHighOpacity	1.494* (1.67)	1.226 (1.22)	1.501* (1.75)	1.107 (1.43)
RADI	-0.485 (-1.59)	-0.521* (-1.68)	-0.671** (-2.05)	-0.149 (-0.53)
Size_lag1	0.161 (1.09)	0.215 (1.40)	0.135 (0.92)	0.217 (1.53)
EQ_TA_lag1	-4.258 (-0.68)	-3.946 (-0.60)	-3.682 (-0.60)	-2.701 (-0.44)
ROE_lag1	0.714 (0.28)	0.0767 (0.03)	1.794 (0.58)	0.343 (0.15)
ZScore_lag1	0.278 (1.32)	0.202 (0.95)	0.291 (1.33)	0.293 (1.44)
Constant	-6.111** (-2.05)	-7.958** (-2.48)	-4.400 (-1.49)	-6.619** (-2.32)
Observations	103	103	103	103
Wald tests				
b1 + b2	0.627*** 0.00309	2.631*** 0.00372	1.366*** 0.00200	1.135** 0.0141
b1 + b3	0.356** 0.0101	1.611*** 0.00314	0.747** 0.0178	0.771** 0.0440
b1 + b2 + b3 + b4	0.332** 0.0241	1.779*** 0.00258	0.498 0.127	0.867** 0.0261

Variables are as defined in Table 3. The standard errors are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Table A4
Impact of the supportive measures on the ESOP adoption in widely-held banks and controlled banks
(Robustness check using Probit model, Equation (1))

Dependent variable: dummy ESOP

	Global index	Legal index	Fiscal index	Political index
	ESOP	ESOP	ESOP	ESOP
Index (b1)	0.406*** (3.66)	1.795*** (3.46)	0.844*** (3.90)	0.829*** (3.43)
d_Controlled (b2)	0.803 (1.09)	1.166 (1.08)	0.529 (0.97)	0.425 (0.77)
Index x d_Controlled (b3)	-0.201 (-1.51)	-0.773 (-1.28)	-0.446* (-1.70)	-0.386 (-1.26)
RADI	-0.269* (-1.65)	-0.307* (-1.83)	-0.381** (-2.26)	-0.117 (-0.76)
Opacity	0.0371 (0.30)	0.0791 (0.63)	-0.0164 (-0.14)	0.0274 (0.24)
Size_lag1	0.105 (1.26)	0.131 (1.58)	0.102 (1.23)	0.134* (1.71)
EQ_TA_lag1	-1.381 (-0.38)	-1.670 (-0.45)	-0.547 (-0.15)	-0.627 (-0.18)
ROE_lag1	0.531 (0.41)	0.327 (0.25)	0.826 (0.66)	0.354 (0.29)
ZScore_lag1	0.145 (1.27)	0.0976 (0.83)	0.141 (1.24)	0.162 (1.45)
Constant	-3.222* (-1.75)	-4.750** (-2.40)	-1.939 (-1.06)	-3.544** (-2.03)
Observations	103	103	103	103
b1 + b3 = 0	0.205*** 0.00400	1.022*** 0.000680	0.398*** 0.00740	0.443** 0.0173

Variables are as defined in Table 3. The standard errors are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Table A5
Impact of the degree of opacity on the effectiveness of the supportive measures
(Robustness check using Probit model, Equation (2))

Dependent variable: dummy ESOP

	Global index	Legal index	Fiscal index	Political index
	ESOP	ESOP	ESOP	ESOP
Index (b1)	0.493*** (3.15)	1.805*** (2.83)	1.067*** (3.44)	1.122*** (2.82)
Index x dHighOpacity (b2)	-0.149 (-0.89)	-0.203 (-0.32)	-0.342 (-0.89)	-0.538 (-1.21)
Index x dControlled (b3)	-0.288* (-1.89)	-0.904 (-1.42)	-0.647** (-2.02)	-0.731* (-1.91)
Index x dControlled x dHighOpacity (b4)	0.155 (1.21)	0.522 (1.34)	0.253 (0.74)	0.769** (2.02)
dControlled	0.954 (1.21)	0.991 (0.88)	0.790 (1.35)	0.498 (0.85)
dHighOpacity	0.710 (0.93)	0.227 (0.22)	0.702 (1.15)	0.463 (0.75)
RADI	-0.274 (-1.62)	-0.298* (-1.71)	-0.385** (-2.20)	-0.105 (-0.65)
Size_lag1	0.125 (1.47)	0.138 (1.63)	0.126 (1.47)	0.155* (1.94)
EQ_TA_lag1	-1.818 (-0.48)	-2.240 (-0.58)	-1.041 (-0.29)	-1.177 (-0.32)
ROE_lag1	0.129 (0.10)	0.0546 (0.04)	0.193 (0.16)	0.0103 (0.01)
ZScore_lag1	0.167 (1.42)	0.116 (0.97)	0.181 (1.52)	0.178 (1.54)
Constant	-3.855** (-2.08)	-4.439** (-2.26)	-3.034* (-1.66)	-4.138** (-2.43)
Observations	103	103	103	103
Wald tests				
b1 + b2	0.344*** 0.00957	1.602*** 0.00735	0.725** 0.0104	0.585** 0.0476
b1 + b3	0.204** 0.0198	0.901*** 0.00887	0.420** 0.0250	0.391* 0.0934
b1 + b2 + b3 + b4	0.210** 0.0396	1.220*** 0.00714	0.330 0.121	0.622** 0.0204

Variables are as defined in Table 3. The standard errors are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Table A6
Impact of the level of shareholder protection (RADI) on the effectiveness of the supportive
measures
(Robustness check using Probit model, Equation (2))

Dependent variable: dummy ESOP

	Global index	Legal index	Fiscal index	Political index
	ESOP	ESOP	ESOP	ESOP
Index (b1)	0.398*** (2.73)	1.413** (2.45)	0.815*** (2.68)	0.823** (2.54)
Index x dHighRADI (b2)	0.0358 (0.21)	0.908 (1.22)	0.175 (0.47)	-0.0265 (-0.06)
Index x dControlled (b3)	-0.256 (-1.62)	-0.723 (-1.13)	-0.683* (-1.95)	-0.491 (-1.41)
Index x dControlled x dHighRADI (b4)	0.0782 (0.61)	-0.0105 (-0.02)	0.275 (0.83)	0.319 (0.84)
d_Controlled	0.958 (1.17)	1.043 (0.90)	0.757 (1.22)	0.419 (0.72)
dHighRADI	-1.137 (-1.46)	-2.347** (-1.99)	-1.601** (-2.37)	-0.691 (-1.19)
Opacity	0.537 (1.50)	0.530 (1.46)	0.476 (1.33)	0.481 (1.38)
Size_lag1	0.0945 (1.09)	0.0978 (1.14)	0.0693 (0.79)	0.141* (1.75)
EQ_TA_lag1	-1.295 (-0.34)	-1.785 (-0.46)	-0.882 (-0.24)	-0.238 (-0.06)
ROE_lag1	-0.243 (-0.19)	-0.312 (-0.25)	-0.239 (-0.20)	-0.201 (-0.17)
ZScore_lag1	0.152 (1.29)	0.107 (0.88)	0.154 (1.33)	0.174 (1.51)
Constant	-3.669** (-1.98)	-4.106** (-2.10)	-2.506 (-1.39)	-3.924** (-2.33)
Observations	103	103	103	103
Wald tests				
b1 + b2	0.434*** 0.00231	2.320*** 0.00250	0.990*** 0.000977	0.797** 0.0124
b1 + b3	0.142 0.140	0.689** 0.0485	0.132 0.517	0.332 0.169
b1 + b2 + b3 + b4	0.256** 0.0116	1.586*** 0.00294	0.583*** 0.00835	0.625** 0.0209

Variables are as defined in Table 3. The standard errors are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.