Political Connections, Bank Deposits, and Formal Deposit Insurance: Evidence from an Emerging Economy

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Political connections, bank deposits, and formal deposit insurance: Evidence from an emerging economy

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Abstract

This paper investigates the impact of banks' political connections on their ability to collect deposits under two different deposit insurance regimes (blanket guarantee and limited guarantee). We estimate a simultaneous equations model of supply and demand for funds using quarterly data for Indonesian banks from 2002 to 2008. We find that, regardless of their type (state-owned or private entities), politically connected banks are able to attract deposits more easily than their non-connected counterparts. We also show that this effect is more pronounced after the implementation of formal deposit insurance with limited coverage. Our findings have various policy implications. Formal deposit insurance might have improved market discipline, as highlighted by earlier studies, but it has also exacerbated the issue of political connections in the banking sector.

JEL Classification: G28, D72

Keywords: Banking; Political connections; Bank Deposits; Funds; Deposit insurance system; Indonesia

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Abstract

This paper investigates the impact of banks' political connections on their ability to collect deposits under two different deposit insurance regimes (blanket guarantee and limited guarantee). We estimate a simultaneous equations model of supply and demand for funds using quarterly data for Indonesian banks from 2002 to 2008. We find that, regardless of their type (state-owned or private entities), politically connected banks are able to attract deposits more easily than their non-connected counterparts. We also show that this effect is more pronounced after the implementation of formal deposit insurance with limited coverage. Our findings have various policy implications. Formal deposit insurance might have improved market discipline, as highlighted by earlier studies, but it has also exacerbated the issue of political connections in the banking sector.

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1. Introduction

Worldwide, politics remarkably influences business, particularly in countries with high level of corruption, weak legal systems and poor governance (Faccio, 2006). Three main channels of political influence on business have been outlined in the literature. Firstly, the grabbing hand theory (Shleifer and Vishny, 1994, 1998) states that public firms are exploited to fulfill the interests of politicians and bureaucrats under their control. Secondly, the rent seeking theory posits that bureaucrats rent their position by providing privileges to businessmen and they take advantage of their position by receiving bribes (Krueger, 1974). Finally, the last channel concerns politically connected firms, those with political figures on their board or those which have close relationships with whom possesses political power.

Studies on politically connected firms show that political linkages are likely to affect firms either positively or negatively. On the one hand, some empirical studies find that the benefits of political connections are i) an easier access to financial resources such as bank loans or others funds at more convenient conditions (Charumilind *et al.*, 2006; Claessens *et al.*, 2008; Fraser *et al.*, 2006; Khwaja and Mian, 2005; Li *et al.*, 2008); ii) a build up confidence in the legal system (Li *et al*., 2008); iii) an improved performance (Johnson and Mitton, 2003); iv) a higher probability of being bailed out (Faccio *et al*., 2006); v) an increase in firm value by, for example, increasing its stock value (Goldman *et al*., 2009), and vi) a lower cost of equity capital (Boubakri *et al*., 2012). On the other hand, some studies find negative impacts of being politically connected firms such as i) lower quality of accounting information (e.g. reported earnings (Chaney *et al*., 2011)); ii) lower qualifications of the appointed managers and directors (Boubakri et al., 2012; Leuz and Oberholzer-Gee, 2006); iii) a decrease in long term performance because of lower managerial incentives and/or inefficiency (Claessens *et al.*, 2008; Fan *et al.*, 2007); and iv) a higher cost of debt (Bliss and Gul, 2012).

If the literature on political connections of non-financial firms is well documented, the impact of being a politically connected bank is less studied. Most papers on the role of politics in the banking industry study profitability, lending behavior and risk-taking of state-owned (government) banks compared to private banks. Molyneux and Thornton (1992) find that government ownership has a positive impact on bank profitability. Sapienza (2004) documents that state-owned banks charge lower interest rates than private banks to similar or identical firms. Moreover, the lending behavior of state-owned banks is influenced by the electoral performance of the party affiliated with the bank. Dinc (2005) concludes that

government banks increase their lending in election years relatively to private banks particularly in developing countries.

In this paper, we study the role played by banks' political connections in attracting deposits and whether this might be influenced by the type of deposit insurance system in place. Specifically, we question whether formal insurance with limited coverage – which is expected to credibly exclude some creditors – outweighs, to some extent, the benefits of being politically connected or if it provides more value to political connections. We start by investigating whether bank political connections effectively impact the supply of funds, i.e. facilitates the access to deposit funding. It is generally considered that banks invest in such connections because they expect that the benefit they would receive is higher than the cost that they would bear. Particularly in an unsophisticated and turbulent banking environment, being politically connected could be a valuable resource for banks, enabling them to more easily obtain resources under the form of deposits[1]. Depositors might perceive these banks as less risky because banks' political connections are expected to implicitly guarantee that the government would rescue them[2] in case of distress and thus depositors could recover their funds more easily.

We then introduce a change in the regulatory environment and more specifically in the deposit insurance system. We question whether this potential added value of being politically connected is identical under a blanket guarantee regime and a limited guarantee system. Looking at both environments will reveal insights on the effectiveness or not of the implementation of deposit insurance with limited coverage. By credibly excluding some creditors, formal deposit insurance is expected to increase the monitoring efforts of bank creditors and market participants. Several studies examine depositors' behavior when a blanket guarantee system is replaced with a limited guarantee system. For instance, Imai (2006) finds that the deposit insurance reform in Japan, from a blanket guarantee system to a limited guarantee system, has enhanced market discipline by increasing the sensitivity of deposit interest rates and by increasing the sensitivity of deposit quantity to default risk. However, this paper also concludes that the reform led to more frequent and more generous too big to fail policies. Hadad *et al*. (2011) obtain mixed results with regard to market discipline while considering regulatory changes in Indonesia after the 1997/1998 financial

[1] Collecting deposits is an important activity for banks. Banks have specific characteristics in how they fund their assets by collecting deposits from the public, then use these deposits to finance their loans to generate income. Therefore, they need to attract more deposits to support their increased lending activities as deposits are considered as cheaper and more stable funds than other sources of funding.

[2] Faccio *et al.* (2006) show that politically connected firms are more likely to be bailed out.

crisis. Concerning the adoption of a blanket guarantee system and later on by the limited guarantee system, they show that the need for market discipline in the banking industry has been lessened. In the present paper we address the issue of the credibility of the explicit deposit insurance and therefore of the effectiveness of market discipline – i.e. depositors believe that banks might fail – by studying whether the added value of being politically connected is different during the blanket guarantee scheme and the limited guarantee system. If explicit deposit insurance credibly excludes some creditors and insolvent banks do actually fail (no bail-out policy) political connections will have less value. If however, insolvent banks can still, to some extent, benefit from some sort of support, political connections will have more value.

We study the case of Indonesian banks, which have undergone two regulatory changes regarding deposit insurance during the time period we cover. We take advantage of the introduction of a limited guarantee (LG) system in Indonesian banking that has replaced a blanket guarantee scheme (BGS). When the 1997/1998 financial crisis was at its height, the Indonesian government closed 16 small banks, which led to bank runs in almost all banks. To prevent the collapse of the overall banking system, the government consequently had to inject a very large amount of last resort loans (Kane and McLeod, 2002; Djiwandono, 2004). Thus, to restore depositors' confidence, a blanket guarantee of all deposits and other liabilities (except equity and subordinated debt) was introduced in January 1998 (Kane and McLeod, 2002; McLeod, 2005; Hadad *et al*., 2011). The BGS applied to all commercial banks in Indonesia, except for the branch offices of foreign banks. In other words there was an explicit insurance that all banks would be bailed out, except the foreign ones[3]. Then, after several improvements in the banking system such as the increase in minimum capital requirements[4], the implementations of related lending limitations[5], Central Bank independency[6], and good

[3] Banks that participate in the BGS have to pay a fixed-rate premium of 0.25% of deposits per year. The Indonesian Bank Restructuring Agency (IBRA) was assigned to manage the BGS (Hadad *et al*., 2011).

[4] The regulation with regard to capital requirement has changed twice since the 1997/1998 financial crisis. In November 1998, the minimum CAR was temporarily reduced from 8% to 4% of the risk weighted assets, it then returned to 8% in December 2001 (Hadad *et al*., 2011)

[5] In January 2005, the Central Bank enforced a strict regulation on bank's lending limitation to its related parties. The maximum related lending is 10% of bank capital. A related party is defined as any natural person or company/entity exercising control over the bank, whether directly or indirectly, through ownership, management, and/or financial links (Hamada and Konishi, 2010).

[6] The Central Bank independency was enacted on May 17, 1999 based on Act (UU) No. 23/1999 on Bank Indonesia, and has been amended with Act (UU) No.3/2004 on January 15, 2004. The Act states the status and position of Bank Indonesia as an independent state institution and freedom from interference by the Government or any other external parties.

governance rules, the limited guarantee scheme was implemented in September 2005[7] to replace the blanket guarantee scheme. We look in this paper at the impact of banks' political connections within these two different regulatory environments.

In our study, we use detailed information on banks' political connections. Since the 1997/1998 crisis, banks' political connections consist of recruiting former bureaucrats and politicians for banks' board of commissioners and board of directors. There are two kinds of politically connected banks. First, we consider state-owned banks as politically connected banks. Second, we incorporate politically connected private banks, which we define as those banks with at least one politically connected commissioner, or politically connected director, or politically connected controlling shareholder. We use more detailed information than in previous literature on banks' political connections. While most papers on the role of politics in the banking industry focus on banks' ownership, in the present paper we provide a deeper investigation by looking not only at political connections of state-owned banks but also at those of private banks, which have such connections through their board members or shareholders. Our paper is hence related to Carreta *et al*. (2012) who consider the role of politicians on the board of banks by studying Italian cooperative banks. They find that banks with politically connected directors have higher net interest revenues, lower loan portfolio quality and lower efficiency than banks without such connections.

We use a simultaneous equations panel data model of supply and demand for funds. We base our investigation on quarterly data from 2002 to 2008 by separating the two deposit insurance environments under which Indonesian banks have operated: the pre-deposit insurance state with blanket guarantee until the third quarter of 2005 and the post-deposit insurance state thereafter. We do find that politically connected banks collect deposits at better conditions. But after the replacement of the blanket guarantee with limited guarantee, political connections play an even stronger role. This result indicates that the explicit deposit insurance system with limited guarantee in Indonesia is credible but only to some extent. Depositors do seem to believe that banks may fail but they prefer to deposit their funds in politically connected banks because they still believe that they are less likely to fail.

[7] The existence of explicit deposit insurance with limited guarantee was constituted by the Act (UU) No. 24/2004 concerning the Deposit Insurance Institution (LPS), an institution which is assigned to conduct banking deposit guarantee (McLeod, 2005).

The remainder of this paper is organized as follows. Section 2 presents the hypotheses we test. Section 3 presents the data and the econometric simultaneous equations model. Section 4 reports the empirical results and robustness checks. Section 5 concludes the paper.

2. Hypotheses Development

The focus of the present study is to investigate whether banks' political connections affect depositors' choice (supply function), under different deposit insurance systems.

On the one hand, the literature on market discipline imposed by depositors argues that depositors are sensitive to the riskiness of banks[8]. On the other hand, the literature on political connections supports that stronger connections will increase the probability of being bailed out. Such banks are more likely to be rescued by the government through, for instance, capital injection, in line with the findings of Faccio *et al.* (2006). We therefore make the hypothesis that political connections enables banks to collect deposits easier because connections might implicitly guarantee that these banks would not fail.

H1: Supply of funds is higher for politically connected banks than for those which are non-politically connected

Moreover, we question whether a change in the deposit insurance system impacts the role played by political connections regarding the supply of funds. We take advantage of the implementation of a limited guarantee system in Indonesia to replace the blanket guarantee scheme to analyze the potential effect of political connections on the supply of funds under two such systems. The value of banks' political connections is supposedly higher after the implementation of the limited guarantee because not all deposits are insured. Thus, if political connections have more value under the limited guarantee system, we conjecture that such a system (with limited guarantee) is credible but only to some extent, in that although depositors actually believe that banks might fail, they also expect highly connected banks to still benefit from public support. We therefore expect that the effect of banks' political connections on the supply of funds will be stronger during the limited guarantee period than during the blanket guarantee period.

[8]Market discipline in banking is defined as a condition in which stockholders, depositors, or creditors face costs that increase as banks undertake higher risk strategies, and that they take action on the basis of these costs (Berger, 1991). Martinez-Peria and Schmukler (2001) show that uninsured depositors may take action by requiring higher interest rates or by withdrawing their deposits.

H1': Banks' political connections have a stronger impact under a limited guarantee system than a blanket guarantee system because although depositors are convinced that banks can actually fail they still expect connected banks to benefit from public support.

3. Data, Methodology, and Variables

3.1. Data

Indonesian banks consist of conventional and Islamic commercial banks (which can be regional development banks, state-owned banks, foreign-owned banks, joint-venture banks and domestic-private banks) as well as rural banks. However, in this study, we exclude from our sample Islamic banks and rural banks and only keep the conventional commercial banks[9]. Our sample consists of 109 commercial banks. Information comes from the Indonesian Central Bank (Bank Indonesia) which provided us with banks' quarterly financial statements over the 2002 – 2008 period (Q1:2002 – Q2:2008). Macroeconomic data come from Bank Indonesia, and Indonesia Statistics Bureau (BPS).

Several steps are taken to classify politically connected private banks. First, we gather information on the name of commissioners and directors as well as owners of banks from banks' quarterly financial statements. Second, we collect their biography to identify whether they have a political background from several sources: banks' annual reports, OneSource database, and the directory data of Indonesian Banks Association. Finally, we manually retrieve data from various websites to check the information obtained in the second step and to complete information not found in the previous steps (detailed data sources are provided in table A1, column 3, appendix 1).

3.2. Methodology

To investigate the effect of political connections on the supply of funds we consider a structural model of deposit demand and supply, where the supply and demand functions for funds are as follows:

[9] We exclude Islamic banks and rural banks because of their specificities. In 2008, the asset share of rural banks was only 1.39% of the banking industry, and the asset share of Islamic banks was 2.11% of the assets of the banking industry (Indonesian banking statistics, 2012)

$(Supply\ of\ funds)_{i,t}$ = f ($Interest_{i,t}$, $Political\ Connections_{i,t}$, $Bank\ Fundamentals_{i,t-1}$, $Deposit\ Insurance_t$, $Political\ Connections_{i,t}$ * $Deposit\ Insurance_t$, $Foreign\ Own\ Bank_{i,t}$, $Macroeconomics_t$) ……. (1)

$(Demand\ of\ funds)_{i,t}$ = f ($Interest_{i,t}$, $Bank\ Fundamentals_{i,t-1}$, $Loan\ Growth_{i,t}$, $Listed_{i,t}$, $Macroeconomics_t$, $Market\ Structure_t$) ……..…… (2)

where $Interest_{i,t}$ is the interest rate on deposits of bank i at quarter t, $Political\ Connections_{i,t}$ is the political status of bank i at quarter t, $Bank\ Fundamentals_{i,t-1}$ represents a vector of bank specific variables of bank i included with a quarter lag to avoid endogeneity issues. The literature underlines four major variables as bank fundamentals: bank profitability, bank risk, bank liquidity and bank size. $Deposit\ Insurance_t$ is the deposit insurance system in place at time t. $Political\ Connections_{i,t}$*$Deposit\ Insurance_t$ is an interaction term to test hypothesis 1'. $Foreign\ Own\ Bank_{i,t}$ is a dummy variable that takes the value of 0 if the bank is domestic and 1 if it is foreign. $Loan\ Growth_{i,t}$ is the rate of loan growth of bank i at quarter t. $Listed_{i,t}$ is a dummy variable, which identifies listed banks on the Indonesian market. $Macroeconomics_t$ and $Market\ Structure_t$ are exogenous control variables, which change over time but not across individuals.

In this paper, we simultaneously estimate the demand and supply of funds on our panel dataset, using a TSLS procedure. We focus on the simultaneous equation results as it allows to address simultaneity and endogeneity issues. We follow the Plumper and Troeger (2007) methodology to estimate simultaneous equations on panel data with individual-invariant and dummy variables (which rarely vary in the time dimension). The procedure is detailed in appendix 2.

The supply of funds (equation 1) and the demand for funds (equation 2) can be rewritten as follows:

$(Deposits)_{i,t}$ = f ($Interest_{i,t}$, $Political\ Connections_{i,t}$, $Bank\ Fundamentals_{i,t-1}$, $Macroeconomics_t$, $Deposit\ Insurance_t$, $Political\ Connections_t$*$Deposit\ Insurance_t$) ……..(3)

$(Interest)_{i,t}$ = f ($Deposits_{i,t}$, $Bank\ Fundamentals_{i,t-1}$, $Loan\ Growth_{i,t}$, $Macroeconomics_t$, $Market\ Structure_t$) ……. (4)

where equation 4 is the inverse function of deposit demand (as presented in equation 2).

3.3 Variables

Our dependent variables are bank deposits for the supply function and the interest rate on deposits for the demand function. We use the natural log of deposits (LNDEP) as a proxy of the quantity of bank deposits in line with Imai (2006). To measure the interest rate on deposits, we use the implicit deposit interest rate (INTDEP) measured as the ratio of interest expenses to total deposits following Martinez-Peria and Schmukler (2001) and Hadad *et al*. (2011).

As we estimate a simultaneous equations model, the amount of deposits (LNDEP) appears as an explanatory variable in the demand function, and the interest rate on deposits (INTDEP) as an explanatory variable in the supply function.

The literature on the deposit market emphasizes the role of bank characteristics (bank fundamentals) to explain the supply and demand for funds: these variables are bank risk, bank liquidity, bank profitability and bank size. One can expect that depositors would leave a bank for a safer one or require higher interest rates from riskier banks, less liquid banks, unprofitable banks and smaller banks. To measure bank risk, we use the ratio of non-performing loans to total loans (NPL). The supply of funds is inversely related to banks' riskiness (Martinez-Peria and Schmukler, 2001; Fueda and Konishi, 2007). When bank risk increases its default probability is higher leading to larger potential losses for depositors. On the demand side, riskier banks have to increase the deposit rate they offer to attract deposits (Martinez-Peria and Schmukler, 2001). The ratio of liquid assets to total assets (LATA) is used in this study as a measure of liquidity risk. Banks with a large volume of liquid assets are perceived to be safer, because these assets would allow them to meet unexpected withdrawals (Martinez-Peria and Schmukler, 2001; Finger and Hesse, 2009). Therefore, the supply of funds should be higher for liquid banks and less liquid banks should pay a higher interest rate to attract deposits (Martinez-Peria and Schmukler, 2001; Hadad *et al*., 2011). Bank profitability is measured by the ratio of return on assets (ROA). Higher bank profits are expected to signal better bank soundness making things easier to attract funds/deposits (Martinez-Peria and Schmukler, 2001; Hori *et al*., 2009; Finger and Hesse, 2009). On the demand side, we might expect higher profitability to enable banks to offer lower rates (Martinez-Peria and Schmukler, 2001, Hori *et al*., 2009). In the present study, we use, as a proxy of bank size, a dummy variable that identifies the ten largest banks in Indonesia (TEN). Large banks are perceived as systemically important banks that would most likely be bailed out by the government if they collapse (Imai, 2006; Onder and Ozyildirim, 2008). Therefore we expect a higher supply of funds for these too-big-to-fail banks, and a lower interest rate

paid on deposits (Mondscean and Opiela, 1999; Opiela, 2004; Onder and Ozyildirim, 2008; Hadad *et al*., 2011).

Bank control variables are also introduced. We take into account the bank's rate of loan growth (Loan Growth), as fast growing banks should demand more deposits. We also control for listed banks (LISTED). Publicly traded banks may have an easier access to market financing, which thus reduces their dependency on deposits; their demand of funds should be lower. In the supply function, we consider whether banks are domestic or foreign (FOB). Indeed, foreign banks did not benefit from the blanket guarantee scheme in Indonesia, but they benefit from the limited guarantee system introduced thereafter (Hadad *et al*., 2011). Therefore, one can expect the supply of funds to be lower for foreign banks than for domestic banks, especially before the limited guarantee system. Foreign banks consist of branches of foreign banks, subsidiaries of foreign banks, and joint venture banks.

Macroeconomic factors may also impact the deposit market. The macroeconomic controls for the supply function are inflation, business cycle, and the Treasury Bill interest rate. The supply of funds is expected to increase during booms and/or higher inflation periods. But an increase in inflation could also induce a shift to other types of assets (real estate...). The business cycle variable (CYCLE) has been defined applying the Hodrick-Prescott method[10] to the Indonesian real GDP per capita. When the Treasury bill interest rate (TBILL) increases, the opportunity cost of holding funds increases. One can therefore expect a decrease in the supply of funds. On the demand side, we expect that when the interest rate on treasury bills (TBILL) increases, the interest rate on deposits will increase as well. We also take into account the effect of market structure on bank deposits using a Herfindahl-Hirschman Index (HHI). When banking market concentration increases, we expect the deposit interest rate to diminish.

Corporate political connections are well documented in the corporate finance literature. Previous studies have used several proxies to classify politically connected firms such as i) firms, which have government bureaucrats as board members (Fan *et al*., 2007; Francis, *et al*., 2009), ii) closeness to the country's president or top politicians (Fisman, 2001; Mobarak and Purbasari, 2005; Leuz and Oberholzer-Gee, 2006; Adhikari *et al*., 2006), iii) firms' owners that are members of a political party (Li *et al*., 2008), and iv) firms which provide contributions during general elections (Hilman *et al*., 1999; Claessens *et al*., 2008).

[10]The Hodric-Prescott filter decomposes a time series into orthogonal components that can be regarded as ''trend'' and ''cycle'' (Mise *et al*., 2005).

In our work, we follow the most commonly used measure of corporate political connections, which is government bureaucrats and politicians on the board. Indonesia has a dual board system whereby each bank has a board of commissioners and a board of directors. The board of commissioners performs the supervisory and advisory roles, while the board of directors performs the executive roles (Nam and Nam, 2004). We consider two kinds of politically connected banks: the first ones are state-owned banks[11], and the second ones are private banks which have at least one of their owners, commissioners, or directors who is a political party member[12], a parliament member[13], a government official (including military and central bank officer), a former of parliament member and/ or a former of government official.

Hence, our sample identifies two types of banks:

- the politically connected banks (POL);
- the non politically connected banks (NON POL).

We then distinguish between the politically connected banks depending on their ownership. We have:

- state-owned banks (SBPOL);
- politically connected private banks (PBPOL).

Finally, for private banks, we take the type of political connection into consideration. We divide PBPOL into three different categories based on who is politically connected and on the nature of the political links:

[11] We classify state-owned banks as politically connected banks because they are directly connected to the government under the form of ownership. In addition, on the board of commissioners of state-owned banks, at least one of the commissioners is a government representative as a majority shareholder. We here follow Francis *et al*. (2009).

[12] We include membership in political parties because as party members, they can interact with government officials and managers of state-owned enterprises and can build up connections with key political and economic figures (Li *et al*., 2008).

[13] We account for parliament members as the parliament has the possibility to present laws, and has authority to select the officers of state institutions (for example: governor and deputy governor of the Central Bank).

- private banks for which at least one of their controlling shareholders or commissioners is politically connected as a government official (including military and central banks officer) or a former government official (GOVOFF);
- private banks for which at least one of their controlling shareholders or commissioners is politically connected as a political party member, a parliament member or a former parliament member (PAR);
- private banks for which at least one of their directors is politically connected (DIR).

To investigate the implications of the move from one deposit insurance system to the other in Indonesia, we use a dummy variable (LG), which represents the period covering the explicit deposit insurance system with limited guarantee. However, because we assume that depositors anticipate the reform, the dummy variable starts taking the value of 1 two quarters before the limited guarantee scheme is enacted. To measure the effect of political connections on the demand for deposits during the formal deposit insurance period, we interact political connections variables with the dummy variable standing for limited guarantee (POL*LG, SBPOL*LG, PBPOL*LG, GOVOFF*LG, PAR*LG, and DIR*LG).

Detailed data on the number of banks based on their political connections each year are presented in table A2, appendix 3. The descriptive statistics of all our variables are in table A3, appendix 3. The correlation matrix is reported in table A4, appendix 4.

Equations 5 and 6 are derived from the empirical model presented in equations 3 and 4. In this first set, we have one proxy for politically connected banks (POL) in the supply of funds equation.

$$LNDEP^{d}_{i,t} = \alpha_0 + \alpha_1 INTDEP_{i,t} + \alpha_2 POL_{i,t} + \alpha_4 LG_t + \alpha_5 POL*LG_{i,t} + \alpha_6 NPL_{i,t-1} + \alpha_7 LATA_{i,t-1} + \alpha_8 ROA_{i,t-1} + \alpha_9 TEN_{i,t} + \alpha_{10} FOB_i + \alpha_{11} INFLATION_t + \alpha_{12} CYCLE_t + \alpha_{13} TBILL_t + \varepsilon_{i,t} \quad (5)$$

$$INTDEP^{s}_{i,t} = \alpha_0 + \alpha_1 LNDEP_{i,t} + \alpha_2 NPL_{i,t-1} + \alpha_3 LATA_{i,t-1} + \alpha_4 ROA_{i,t-1} + \alpha_5 TEN_{i,t} + \alpha_6 LOANGROWTH_{i,t} + \alpha_7 LISTED_i + \alpha_8 CYCLE_t + \alpha_9 T\text{-}BILL_t + \alpha_{10} HHI_t + \varepsilon_{i,t} \quad (6)$$

In equations 7 and 8, we then consider two proxies for political connections in the supply function: state owned banks (SBPOL) and private banks (PBPOL).

$$LNDEP^{d}_{i,t} = \alpha_0 + \alpha_1 INTDEP_{i,t} + \alpha_2 SBPOL_{i,t} + \alpha_3 PBPOL_{i,t} + \alpha_4 LG_t + \alpha_5 SBPOL{*}LG_{i,t} + \alpha_6 PBPOL{*}LG_{i,t} + \alpha_7 NPL_{i,t-1} + \alpha_8 LATA_{i,t-1} + \alpha_9 ROA_{i,t-1} + \alpha_{10} TEN_{i,t} + \alpha_{11} FOB_i + \alpha_{12} INFLATION_t + \alpha_{13} CYCLE_t + \alpha_{14} TBILL_t + \varepsilon_{i,t} \quad (7)$$

$$INTDEP^{s}_{i,t} = \alpha_0 + \alpha_1 LNDEP_{i,t} + \alpha_2 NPL_{i,t-1} + \alpha_3 LATA_{i,t-1} + \alpha_4 ROA_{i,t-1} + \alpha_5 TEN_{i,t} + \alpha_6 LOANGROWTH_{i,t} + \alpha_7 LISTED_i + \alpha_8 CYCLE_t + \alpha_9 T\text{-}BILL_t + \alpha_{10} HHI_t + \varepsilon_{i,t} \quad (8)$$

In equations 9 and 10, we include detailed proxies for politically connected private banks, which depend on the nature of the political links: GOVOFF, PAR, and DIR.

$$LNDEP^{d}_{i,t} = \alpha_0 + \alpha_1 INTDEP_{i,t} + \alpha_2 SBPOL_{i,t} + \alpha_3 GOVOFF_{i,t} + \alpha_4 PAR_{i,t} + \alpha_5 DIR_{i,} + \alpha_6 LG_t + \alpha_7\, SBPOL{*}LG_{i,t} + \alpha_8\, GOVOFF{*}LG_{i,t} + \alpha_9\, PAR{*}LG_{i,t} + \alpha_{10}\, DIR{*}LG_{i,t} + \alpha_{11} NPL_{i,t-1} + \alpha_{12} LATA_{i,t-1} + \alpha_{13} ROA_{i,t-1} + \alpha_{14} TEN_{i,t} + \alpha_{15} FOB_i + \alpha_{16} INFLATION_t + \alpha_{17} CYCLE_t + \alpha_{18} TBILL_t + \varepsilon_{i,t} \quad (9)$$

$$INTDEP^{s}_{i,t} = \alpha_0 + \alpha_1 LNDEP_{i,t} + \alpha_2 NPL_{i,t-1} + \alpha_3 LATA_{i,t-1} + \alpha_4 ROA_{i,t-1} + \alpha_5 TEN_{i,t} + \alpha_6 LOANGROWTH_{i,t} + \alpha_7 LISTED_i + \alpha_8 CYCLE_t + \alpha_9 T\text{-}BILL_t + \alpha_{10} HHI_t + \varepsilon_{i,t} \quad (10)$$

4. Results and Robustness checks

4.1. Results

We examine the impact of banks' political connections on the supply of funds by estimating the supply and demand functions of deposits using simultaneous equations panel data techniques. One of the focuses of this study is whether or not politically connected banks face a higher supply of funds. We also investigate whether there is a difference on the effect of banks' political connections under two different deposit insurance systems.

Results for equations (5) and (6), for equations (7) and (8), and for equations (9) and (10) are respectively presented in tables 1, 2, and 3.

Insert Table 1 here

Insert Table 2 here

Insert Table 3 here

Table 1 presents the results for the structural model where all the politically connected banks (either private or state-owned) are distinguished from the non-connected institutions (POL). The last two columns of the table show the results when the limited guarantee dummy variable and the associated interaction terms are introduced in the supply function. Table 2 shows the results with a more detailed breakdown for political connections: state-owned banks (SBPOL) and politically connected private banks (PBPOL). Finally, estimation results for the set of state-owned banks and the three different proxies of politically connected private banks (GOVOFF, PAR, and DIR) are reported in table 3.

Overall, our results support the conjecture that the supply of funds is higher for politically connected banks. In table 1[14], the POL variable, which identifies politically connected banks, has a positive and significant coefficient. This result is consistent with our hypothesis that politically connected banks benefit from a higher supply of funds than their non-politically connected counterparts. In table 2, our two measures of banks' political connections, the one for state-owned banks (SBPOL) and the one for politically connected private banks (PBPOL), also have a positive and significant impact on the supply of deposits. Furthermore, when we consider the detailed information on the nature of the political connections of private banks (GOVOFF, PAR and DIR) in table 3, we find that having former/current bureaucrats (GOVOFF), politicians – parliament or political party members – on the board of commissioners or as banks' owners (PAR), and/or politically connected directors (DIR) makes it easier for banks to collect deposits. Therefore the results confirm our hypothesis that being politically connected can help banks attract deposits. Such politically connected banks are presumably perceived as less risky by depositors because their political connections might prevent them from failure. Another possible explanation is that the political figures on the board of these banks could take advantage of their political power to encourage government or state-owned enterprises to place their assets in the banks where they are commissioners.

We then examine the impact of a change in the deposit insurance system. We argue that the effect of political connections on the supply of funds might be stronger after the introduction of the limited guarantee (LG) system because in theory only a fraction of the

[14] Cf. first set of equations.

deposits benefit from insurance. A larger added value of political connections during the LG system would indicate that the limited guarantee is credible in that depositors believe that banks might fail but still expect such specific institutions to benefit from public support. We use two methods to examine this hypothesis. Firstly, we include a dummy, named LG, which identifies the period covered by the limited guarantee system, and we interact it with the political connections variables (second set of equations in tables 1, 2 and 3). The dummy variable enables us to identify whether the supply of funds is affected by the deposit insurance regime in place (limited guarantee or blanket guarantee). The interaction variables enable us to determine if political connections matter as much (or less) during the LG period. Secondly, we split the time period of our study: we undertake the simultaneous equation estimations under each regime, BGS and LG[15] (tables 4, 5 and 6).

The coefficient of the dummy variable that identifies the explicit insurance system (LG) is significant and positive. Thus, overall, deposit supply is higher after the implementation of the limited guarantee system. This is consistent with the general view that an improvement in the quality of institutions and supervision will improve the overall confidence in the financial system. The coefficient of the interaction variables, POL*LG, is significant and positive. Thus political connections still matter after the implementation of formal deposit insurance, and furthermore banks that are politically connected are even able to attract more deposits under the limited guarantee regime. The coefficients of the interaction terms are significant and positive for both state-owned banks (SBPOL*LG) and private politically connected banks (PBPOL*LG). On the whole, the political connections of state-owned banks and private banks have a stronger impact on the supply of funds after the implementation of the limited guarantee system. Our results support the hypothesis that the added value of political connections is stronger during the LG period. Depositors might have been more sensitive to political connections since the end of the blanket guarantee scheme. A higher impact of banks' political connections during the LG system suggests that the explicit deposit insurance system with limited guarantee in Indonesia is credible. Depositors seem to believe that a bank might actually fail. Regulators have reached part of their goal with the adoption of an explicit insurance providing however more value to political connections because depositors seem to expect, to some extent, support for such banks. The coefficients of the other interaction variables show that the impact of connections through current/former

[15] As for the dummy variable the LG period starts two quarters before the official start date, and the BGS period finished two quarters before the official end date, as we suppose depositors anticipate the law.

government bureaucrats (GOVOFF) and through politicians on the board of commissioners or as banks' owners (PAR) on the supply of funds is higher during the limited guarantee system. Thus being politically connected through politicians is relevant for private banks during the blanket guarantee scheme, but is even more valuable under the LG period.

Insert Table 4 here

Insert Table 5 here

Insert Table 6 here

Results for split samples are reported in table 4 (POL), table 5 (SBPOL and PBPOL) and table 6 (SBPOL, GOVOFF, PAR, DIR). The coefficient for politically connected banks (POL) is significant during the LG period while it is not during the BGS period, corroborating that depositors have been more sensitive to political connections since the end of the blanket guarantee scheme.

Considering state-owned banks (SBPOL) and politically private banks (PBPOL), we also find a positive and significant coefficient for banks' political connections during the limited guarantee system, while the coefficient is not significant during the blanket guarantee scheme. These results confirm our previous findings. Political connections are more valuable under the LG system. Using the detailed measures of politically private banks, we find that banks with shareholders or commissioners connected to politicians (PAR) or with directors connected to politicians (DIR) are able to attract more deposits during the limited guarantee system. Overall, all our findings corroborate our previous results.

4.2. Robustness Checks[16]

We conduct several robustness checks. Firstly, instead of estimating the structural model (equations 5 and 6, equations 7 and 8, and equations 9 and 10), we estimate the reduced form with panel data similarly to other studies on the deposit market (Park et al., 1995; Martinez-Peria and Schmukler, 2001; Murata and Hori, 2006; Onder and Ozyildirim,

[16]All the results are not reported but they are available on request.

2008; Hori *et al*., 2009; Karas *et al*., 2010). We include the same four bank fundamental variables, banks' political connections, foreign banks, listed banks, banks' loan growth rate, macroeconomic variables, the deposit insurance variable and interaction terms between political connections and the deposit insurance system. The results are consistent with those of the simultaneous equations model. Specifically, we find that political connections are significant for all politically connected banks, either state-owned or private. This result also holds when we consider the different kinds of connections, (GOVOFF, PAR and DIR). We also find that, overall, political connections play a stronger role during the limited guarantee system.

Secondly, we estimate the same structural model by neutralizing the two quarters prior to the actual implementation of the limited guarantee system (Q2:2005 and Q3:2005) to more accurately differentiate the two regimes. Our findings are unaltered.

Thirdly, we use the first difference of the natural logarithm of the deposit variable ($LNDEP_t - LNDEP_{t-1}$) as a proxy of the supply of funds to replace the natural logarithm of deposits (LNDEP). We undertake estimations on both the structural model and the reduced form. Some bank specific variables turn out to be non significant. However we obtain consistent results with regard to the impact of our variables of interest on the supply of funds (political connection variables and their interaction with the deposit insurance system).

Fourthly, although the global financial crisis triggered in 2008 did not affect South East Asia as promptly and as severely as western countries in its early stage, we run our estimations by ignoring the year 2008 to ensure that our results are not, to some extent, driven by depositors' loss of confidence in the banking system. The results are still the same.

5. Conclusion

We examine the impact of banks' political connections on the deposit market before and after the implementation of formal deposit insurance in Indonesia. For this purpose, we use quarterly individual data for 109 banks from 2002 to 2008 to estimate a simultaneous equations panel data model. Specifically, we start by investigating whether politically connected banks are able to attract more deposits than their non-politically connected counterparts. We then examine whether banks' political connections have a different impact

during the blanket guarantee regime, implemented after the Asian financial crisis of 1997/98 (in which deposits were fully insured) and the limited guarantee system introduced in 2005.

We find evidence that the supply of funds is higher for politically connected banks compared to their non-politically connected counterparts. Being a state-owned bank or a politically-connected private bank has a strong positive effect on the supply of funds. Going deeper into different forms of political connections shows that having current/former bureaucrats, politicians, parliament or political party members on the board of commissioners or as banks' owners, and politically connected directors plays a significant role to attract deposits. Thus, our study highlights the forms of political connections that are important in attracting deposits.

We also find that the impact of political connections on the supply of funds is stronger after the removal of the guarantee regime. This result holds for state owned banks and private banks, in particular for those hiring current/former bureaucrats and politicians. Political connections have contributed to even better attract deposits since the implementation of explicit deposit insurance with limited guarantee. Presumably, the implementation of explicit insurance with limited coverage is perceived as credible in excluding uninsured creditors from the guarantee. Depositors might be fearing that badly managed and/or risky banks could actually fail but they also seem to believe that political connections can be of value in case of distress (selected capital injections, priority bail-out...). Hence, regulators might have succeeded in reforming the deposit insurance system by introducing a credible threat on insured creditors. This in turn might have improved market discipline and lowered moral hazard incentives. But our findings indicate that the side effect of such a change in the regulatory environment is the higher value attributed to political connections. The introduction of formal deposit insurance and stronger market discipline might have exacerbated the issue of political connections in the banking sector.

Table 1. Regressions results on the full sample (equations 5 & 6)

This table presents the results of simultaneous equations. LNDEP is the natural log of deposits. INDEP is the ratio of interest expenses to deposits. POL is the dummy variable for politically connected banks. NPL, LATA, ROA, and TEN are proxies of credit risk, liquidity risk, profitability, and bank size, respectively. LISTED is the dummy variable for publicly traded banks. FOB is the dummy variable for foreign banks. INFLATION is the inflation rate, CYCLE is the cycle of GDP per capita, TBILL is the interest rate on 1 month Treasury bill, and HHI is the squares of the market shares (assets) of all banks. LG identifies the limited guarantee system, POL*LG are the interactions of LG and POL. The values in parentheses are standard errors. *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Expected Sign		Model			
	Supply eq.	Demand eq.	Supply (Dep. Variable: LNDEP)	Demand Dep. Variable: INTDEP)	Supply	Demand
Constant			13.16***	0.012**	12.99***	0.748**
			(0.032)	(0.006)	(0.037)	(0.025)
LNDEP		-		-0.001***		-0.051***
				(0.0003)		(0.001)
INTDEP	+		3.599***		6.621***	
			(0.270)		(0.373)	
POL	+		1.115***		0.950***	
			(0.014)		(0.022)	
LG	+/-				0.400***	
					(0.025)	
POL*LG	+				0.354***	
					(0.031)	
NPL (-1)	-	+	0.196*	-0.059***	0.143	-0.059***
			(0.107)	(0.008)	(0.120)	(0.008)
LATA (-1)	+	-	0.390***	0.001	0.397***	0.020***
			(0.034)	(0.002)	(0.038)	(0.003)
ROA (-1)	+	-	-0.193	-0.014	-0.037	-0.026**
			(0.149)	(0.012)	(0.164)	(0.012)
TEN	+	-	3.475***	0.013***	3.454***	0.173***
			(0.021)	(0.002)	(0.023)	(0.005)
Loan Growth		+		0.0002		0.0003
				(0.0002)		(0.0002)
LISTED		-		0.006***		0.039***
				(0.001)		(0.002)
FOB	-		1.245***		1.293***	
			(0.018)		(0.021)	
Inflation	+/-		1.867***		-2.073***	
			(0.330)		(0.378)	
Cycle	+	?	-0.001	-0.001***	0.001***	-0.001***
			(0.0001)	(0.0001)	(0.0009)	(0.00007)
T-BILL	-	+	-5.418***	0.396***	-6.514***	0.523***
			(0.305)	(0.024)	(0.350)	(0.026)
HHI		-		0.216***		-0.582***
				(0.031)		(0.044)
Obs			2248	2248	2248	2248
Adj-R^2			0.97	0.58	0.96	0.54

Table 2. Regressions results on the full sample (equations 7 & 8)

This table presents the results of simultaneous equations. LNDEP is the natural log of deposits. INDEP is the ratio of interest expenses to deposits. SBPOL is the dummy variable for state-owned banks. PBPOL is the dummy variable for politically private banks. NPL, LATA, ROA, and TEN are proxies of credit risk, liquidity risk, profitability, and bank size, respectively. LISTED is the dummy variable for publicly traded banks. FOB is the dummy variable for foreign banks. INFLATION is the inflation rate, CYCLE is the cycle of GDP per capita, TBILL is the interest rate on 1 month Treasury bill, and HHI is the squares of the market shares (assets) of all banks. LG identifies the limited guarantee system, SBPOL*LG and PBPOL*LG are the interactions of LG and SBPOB, LG and PBPOL, respectively. The values in parentheses are standard errors. *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Expected Sign		Model			
	Supply eq.	Demand eq.	Supply (Dep. Variable: LNDEP)	Demand Dep. Variable: INTDEP)	Supply	Demand
Constant			13.11***	0.012**	12.97***	0.567***
			(0.032)	(0.006)	(0.033)	(0.019)
LNDEP		-		-0.001***		-0.039***
				(0.0003)		(0.001)
INTDEP	+		3.586***		3.917***	
			(0.273)		(0.285)	
SBPOL	+		1.576***		1.343***	
			(0.018)		(0.023)	
PBPOL	+		0.731***		0.644***	
			(0.016)		(0.022)	
LG	+/-				0.393***	
					(0.021)	
SBPOL*LG	+				0.467***	
					(0.030)	
PBPOL*LG	+				0.152***	
					(0.030)	
NPL (-1)	-	+	0.197*	-0.059***	-0.090	-0.059***
			(0.107)	(0.008)	(0.104)	(0.008)
LATA (-1)	+	-	0.395***	0.001	0.333***	0.015***
			(0.037)	(0.002)	(0.036)	(0.003)
ROA (-1)	+	-	-0.186	-0.014	-0.096	-0.023*
			(0.150)	(0.012)	(0.144)	(0.012)
TEN	+	-	3.526***	0.013***	3.549***	0.134***
			(0.021)	(0.002)	(0.020)	(0.004)
Loan Growth		+		0.0002		0.0003
				(0.0002)		(0.0002)
LISTED		-		0.006***		0.031***
				(0.001)		(0.002)
FOB	-		1.335***		1.355***	
			(0.019)		(0.018)	
Inflation	+/-		1.875***		-1.293***	
			(0.331)		(0.326)	
CYCLE	+		-0.001	-0.001***	0.004	-0.001***
			(0.001)	(0.0001)	(0.0008)	(0.00006)
T-BILL	-	+	-5.416***	0.397***	-5.133***	0.492***
			(0.305)	(0.024)	(0.295)	(0.025)
HHI		-		0.216***		-0.386***
				(0.031)		(0.038)
Observations			2248	2248	2248	2248
Adj-R^2			0.97	0.58	0.97	0.57

Table 3. Regressions results on the full sample (equations 9 & 10)

This table presents the results of simultaneous equations. LNDEP is the natural log of deposits. INDEP is the ratio of interest expenses to deposits. SBPOL is the dummy variable for state-owned banks. GOVOFF is the dummy variable for private banks with current/former government official in their board of commissioner. PAR is the dummy for private banks with politicians in their board of commissioner. DIR is the dummy for private banks with politically connected director. NPL, LATA, ROA, and LNTA are proxies of credit risk, liquidity risk, profitability, and bank size, respectively. LISTED is the dummy variable for publicly traded banks. FOB is the dummy variable for foreign banks. FOB is the dummy variable for foreign banks. INFLATION is the inflation rate, CYCLE is the cycle of GDP per capita, TBILL is the interest rate on 1 month Treasury bill, and HHI is the squares of the market shares (assets) of all banks. LG is the dummy variable which identifies the limited guarantee system, SBPOL*LG and GOVOFF*LG, PAR*LG, and DIR*LG are the interactions between LG and SOB, GOVOFF, PAR, and DIR, respectively. The values in parentheses are standard errors. *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Expected Sign		Model			
	Supply eq.	Demand eq.	Supply (Dep. Variable: LNDEP)	Demand Dep. Variable: INTDEP)	Supply	Demand
Constant			13.04***	0.012**	12.89***	0.459***
			(0.032)	(0.006)	(0.032)	(0.015)
LNDEP		-		-0.001***		-0.031***
				(0.0003)		(0.001)
INTDEP	+		3.586***		4.129***	
			(0.273)		(0.290)	
SBPOL	+		1.661***		1.434***	
			(0.018)		(0.023)	
GOVOFF	+		0.770***		0.672***	
			((0.017)		(0.024)	
PAR	+		0.687***		0.626***	
			(0.020)		(0.028)	
DIR	+		0.363***		0.504***	
			(0.038)		(0.053)	
LG	+/-				0.400***	
					(0.020)	
SBPOL*LG	+				0.467***	
					(0.030)	
GOVOFF*LG	+				0.175***	
					(0.033)	
PAR*LG	+				0.121***	
					(0.039)	
DIR*LG	+				-0.272***	
					(0.074)	
NPL (-1)	-	+	0.197*	-0.059***	-0.073	-0.059***
			(0.107)	(0.008)	(0.105)	(0.008)
LATA (-1)	+	-	0.394***	0.001	0.330***	0.013***
			(0.037)	(0.002)	(0.036)	(0.003)
ROA (-1)	+	-	-0.186	-0.014	-0.111	-0.021*
			(0.150)	(0.012)	(0.145)	(0.012)
TEN	+	-	3.439***	0.013***	3.460***	0.110***
			(0.021)	(0.002)	(0.021)	(0.003)
Loan Growth		+		0.0002		0.0003
				(0.0002)		(0.0002)
LISTED		-		0.006***		0.026***
				(0.001)		(0.001)
FOB	-		1.411***		1.435***	
			(0.019)		(0.018)	

Table 3. Regressions on the full sample (continued)

	Expected Sign		Model			
	Supply eq.	Demand eq.	Supply (Dep. Variable: LNDEP)	Demand Dep. Variable: INTDEP)	Supply	Demand
Inflation	+/-		1.874***		-1.364***	
			(0.331)		(0.329)	
CYCLE	+	+	-0.0001	-0.001***	0.001	-0.001***
			(0.0001)	(0.001)	(0.001)	(0.00001)
T-BILL	-	+	-5.415***	0.396***	-5.244***	0.473***
			(0.306)	(0.024)	(0.298)	(0.024)
HHI		-		0.216***		-0.269***
				(0.031)		(0.036)
Observations			2248	2248	2248	2248
Adj-R^2			0.97	0.58	0.97	0.58

Table 4. Regression results on split samples (equations 5 & 6)

This table presents the results of simultaneous equations. LNDEP is the natural log of deposits. INDEP is the ratio of interest expenses to deposits. POL is the dummy variable for politically connected banks. NPL, LATA, ROA, and TEN are proxies of credit risk, liquidity risk, profitability, and bank size, respectively. LISTED is the dummy variable for publicly traded banks. FOB is the dummy variable for foreign banks. INFLATION is the inflation rate, CYCLE is the cycle of GDP per capita, TBILL is the interest rate on 1 month Treasury bill, and HHI is the squares of the market shares (assets) of all banks. LG identifies the limited guarantee system, POL*LG are the interactions of LG and POL. The values in parentheses are standard errors. *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Expected Sign		BGS		LG	
	Supply eq.	Demand eq.	Supply (Dep. Variable: LNDEP)	Demand Dep. Variable: INTDEP)	Supply	Demand
Constant			13.73***	0.078***	13.30***	0.160***
			(0.948)	(0.022)	(0.316)	(0.024)
LNDEP		-		-0.006***		-0.007***
				(0.001)		(0.001)
INTDEP	+		-189.8		0.100	
			(114.1)		(2.356)	
POL	+		0.340		0.998***	
			(0.509)		(0.094)	
NPL (-1)	-	+	2.607	-0.028**	-5.851***	-0.011
			(3.632)	(0.011)	(1.258)	(0.024)
LATA (-1)	+	-	-5.228	-0.022***	1.260***	-0.034***
			(3.510)	(0.004)	(0.248)	(0.004)
ROA (-1)	+	-	-4.647	-0.034*	-0.588	-0.044
			(4.412)	(0.017)	(1.627)	(0.031)
TEN	+	-	8.458***	0.047***	3.738***	0.020***
			(3.020)	(0.005)	(0.140)	(0.005)
Loan Growth		+		0.0005*		-0.0005
				(0.0003)		(0.0007)
LISTED		-		0.007**		0.008***
				(0.003)		(0.002)
FOB	-		-3.481		1.314***	
			(2.909)		(0.115)	
INFLATION	+/-		124.3*		-0.074	
			(76.85)		(1.882)	
CYCLE	+	?	-0.014	-0.0001***	-0.0006	0.00003***
			(0.009)	(0.00001)	(0.0007)	(0.00001)
T-BILL	-	+	94.44	0.316***	-2.050	0.136***
			(60.01)	(0.113)	(2.602)	(0.049)
HHI		-		0.353		-0.078
				(0.216)		(0.193)
Observations			1049	1049	1142	1142
Adj-R^2			0.10	0.46	0.47	0.38

Table 5. Regressions results on split samples (equations 7 & 8)

This table presents the results of simultaneous equations. LNDEP is the natural log of deposits. INDEP is the ratio of interest expenses to deposits. SBPOL is the dummy variable for state-owned banks. PBPOL is the dummy variable for politically private banks. NPL, LATA, ROA, and TEN are proxies of credit risk, liquidity risk, profitability, and bank size, respectively. LISTED is the dummy variable for publicly traded banks. FOB is the dummy variable for foreign banks. INFLATION is the inflation rate, CYCLE is the cycle of GDP per capita, TBILL is the interest rate on 1 month Treasury bill, and HHI is the squares of the market shares (assets) of all banks. LG identifies the limited guarantee system, SBPOL*LG and PBPOL*LG are the interactions of LG and SBPOB, LG and PBPOL, respectively. The values in parentheses are standard errors. *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Expected Sign		BGS		LG	
	Supply eq.	Demand eq.	Supply (Dep. Variable: LNDEP)	Demand Dep. Variable: INTDEP)	Supply	Demand
Constant			13.45***	0.089***	13.90***	0.158***
			(0.937)	(0.021)	(0.302)	(0.021)
LNDEP		-		-0.007***		-0.008***
				(0.001)		(0.0009)
INTDEP	+		-195*		-0.939	
			(95.24)		(2.254)	
SBPOL	+		-0.346		1.711***	
			(0.918)		(0.117)	
PBPOL	+		0.874		0.464***	
			(0.514)		(0.101)	
NPL (-1)	-	+	2.341***	-0.028**	-7.455***	-0.010
			(3.159)	(0.011)	(1.217)	(0.024)
LATA (-1)	+	-	-4.426*	-0.022***	-0.042	-0.034***
			(2.331)	(0.004)	(0.258)	(0.004)
ROA (-1)	+	-	-3.979	-0.032*	-4.691***	-0.045
			(3.826)	(0.017)	(1.599)	(0.031)
TEN	+	-	8.466***	0.050***	3.927***	0.019***
			(2.452)	(0.005)	(0.136)	(0.004)
Loan Growth		+		0.0005*		-0.0005
				(0.0003)		(0.0007)
LISTED		-		0.007**		0.008***
				(0.003)		(0.002)
FOB	-		-3.685		1.503***	
			(2.505)		(0.112)	
INFLATION	+/-		128.0*		-0.445	
			(66.34)		(1.803)	
CYCLE	+	+	-0.014*	-0.0001***	-0.0006	0.0003***
			(0.007)	(0.00001)	(0.0007)	(0.00001)
T-BILL	-	+	96.62*	0.314***	-1.813	0.137***
			(49.83)	(0.114)	(2.487)	(0.049)
HHI		-		0.348		-0.074
				(0.217)		(0.191)
Observations			1049	1049	1142	1142
Adj-R^2			0.10	0.46	0.52	0.38

Table 6. Regressions results on split samples (equations 9 & 10)

This table presents the results of simultaneous equations. LNDEP is the natural log of deposits. INDEP is the ratio of interest expenses to deposits. SBPOL is the dummy variable for state-owned banks. GOVOFF is the dummy variable for private banks with current/former government official in their board of commissioner. PAR is the dummy for private banks with politicians in their board of commissioner. DIR is the dummy for private banks with politically connected director. NPL, LATA, ROA, and LNTA are proxies of credit risk, liquidity risk, profitability, and bank size, respectively. LISTED is the dummy variable for publicly traded banks. FOB is the dummy variable for foreign banks. FOB is the dummy variable for foreign banks. INFLATION is the inflation rate, CYCLE is the cycle of GDP per capita, TBILL is the interest rate on 1 month Treasury bill, and HHI is the squares of the market shares (assets) of all banks. LG is the dummy variable which identifies the limited guarantee system, SBPOL*LG and GOVOFF*LG, PAR*LG, and DIR*LG are the interactions between LG and SOB, GOVOFF, PAR, and DIR, respectively. The values in parentheses are standard errors. *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Expected Sign		BGS		LG	
	Supply eq.	Demand eq.	Supply (Dep. Variable: LNDEP)	Demand Dep. Variable: INTDEP)	Supply	Demand
Constant			13.48***	0.085***	13.86***	0.159***
			(0.933)	(0.020)	(0.298)	(0.021)
LNDEP		-		-0.006***		-0.007***
				(0.001)		(0.0009)
INTDEP	+		-195*		-0.968	
			(97.29)		(2.236)	
SBPOL	+		-0.402		1.781***	
			(1.014)		(15.21)	
GOVOFF	+		1.085*		0.435***	
			(0.561)		(0.110)	
PAR	+		-0.241		0.530***	
			(0.700)		(0.127)	
DIR	+		0.558		0.399*	
			(1.127)		(0.232)	
NPL (-1)	-	+	2.246	-0.028**	-6.787***	-0.010
			(3.141)	(0.011)	(1.215)	(0.024)
LATA (-1)	+	-	-4.344*	-0.022***	-0.105	-0.034***
			(2.342)	(0.004)	(0.253)	(0.004)
ROA (-1)	+	-	-4.286	-0.032*	-4.624***	-0.045
			(3.883)	(0.017)	(1.587)	(0.031)
TEN	+	-	8.309***	0.049***	3.860***	0.019***
			(2.472)	(0.005)	(0.137)	(0.004)
Loan Growth		+		0.0005*		-0.0005
				(0.0003)		(0.0007)
LISTED		-		0.007**		0.008***
				(0.003)		(0.002)
FOB	-		-3.706		1.554***	
			(2.612)		(0.112)	
INFLATION	+/-		128.6*		-0.454	
			(67.66)		(1.789)	
CYCLE	+	+	-0.015*	-0.0001***	-0.0006	0.0003***
			(0.008)	(0.00001)	(0.0007)	(0.0001)
T-BILL	-	+	97.08*	0.315***	-1.835	0.136***
			(50.89)	(0.113)	(2.468)	(0.049)
HHI		-		0.350		-0.076
				(0.217)		(0.191)
Observations			1049	1049	1142	1142
Adj-R^2			0.10	0.46	0.52	0.38

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Appendices

Appendix 1.

Table A1. Measures and Sources of Variables

Variables	Measures	Sources
Deposits		
LNDEP	Natural logarithm of deposits	Calculated from data in the banks' financial statement
Interest Rate on Deposits		
INTDEP	Ratio of interest expenses to deposits	Calculated from data in the banks' financial statement
Political Connections		
POL	Dummy; 1 = banks with a political connection, 0 = otherwise	Classification of Bank Indonesia
SBPOL	Dummy (State-owned Bank); 1 = State-owned Banks, 0 = otherwise	
PBPOL	Dummy (Politically private bank); 1 = Connected private banks, 0 = otherwise	- Name of commissioners, directors and shareholders of banks from banks' quarterly financial statements - Biography of commissioners and directors as well as shareholders of banks from banks' annual reports, OneSource database, the directory data of Indonesian Banks Association and internet.
GOVOFF	Dummy (Private bank with current/former government official in its board of commissioner); 1 = with current/former government official, 0 = otherwise	- Name of commissioners, directors and shareholders of banks from banks' quarterly financial statements - Biography of commissioners and directors as well as shareholders of banks from banks' annual reports, OneSource database, the directory data of Indonesian Banks Association and internet.
PAR	Dummy (Private bank with politician in its board of commissioner); 1 = with politician, 0 = otherwise	
DIR	Dummy (Private bank with Connected Director); 1 = with politically connected director, 0 = otherwise	

Credit Risk NPL	Ratio of non-performing loans to total loans	Calculated by the Bank Indonesia
Liquidity Risk LATA	Ratio of liquid assets to total assets	Calculated from data in the financial statement
Profitability ROA	Ratio of net income to total assets	Calculated by Bank Indonesia
Bank Size TEN	Dummy; 1 = if the bank is one of the 10 largest bank in Indonesia, 0 = otherwise	Calculated from data in the banks' financial statement
Listed Banks LISTED	Dummy (1 = Publicly traded banks, 0 = otherwise)	Indonesia Stock Exchange (IDX)
Foreign Banks FOB	Dummy (1 = Foreign banks and Joint venture banks, 0 = otherwise)	Classification of Bank Indonesia
Macroeconomics Variables Cycle GDP Per Capita (CYCLE)	Cycle GDP per capita (filtered by using Hodrick-Prescott Filter)	Indonesia Statistics Bureau (BPS)
T-BILL	1 month Treasury Bill rate	Bank Indonesia
Inflation	Inflation rate (quarterly data)	Bank Indonesia
Market Structure HHI	HHI (Herfindahl-Hirschman Index-Squares of the market shares (assets) of all banks)	Authors' calculation
Deposit Insurance System with Limited Guarantee LG	Dummy (1 = period of limited guarantee, 0 = period of blanket guarantee scheme)	Mc. Leod (2005); Hadad *et al*. (2011)
Interaction Variables POL*LG	Interaction between POL and LG	Authors' calculation
SBPOL*LG	Interaction between SBPOL and LG	Authors' calculation
PBPOL*LG	Interaction between PBPOL and LG	Authors' calculation
GOVOFF*LG	Interaction between GOVOFF and LG	Authors' calculation
PAR*LG	Interaction between PAR and LG	Authors' calculation
DIR*LG	Interaction between DIR and LG	Authors' calculation

Appendix 2. Simultaneous Equations Panel Data with Dummy Variables

Consider the structural model (eq. 3 and 4) that can be written by using the following equations:

$Q_{i,t} = \alpha_i + \alpha_t + \beta X_{i,t-1} + \eta_2 Z_i + \mu_2 W_t + \lambda P_{i,t} + \varepsilon_{i,t}$…… (9)

$P_{i,t} = \alpha'_i + \alpha'_t + \beta' X'_{i,t-1} + \eta'_2 Z'_i + \mu'_2 W'_t + \lambda' Q'_{i,t} + \varepsilon'_{i,t}$…….(10)

where $Q_{i,t}$ = quantity of deposits of bank i at time t
$P_{i,t}$ = interest rate of bank i at time t
α_i = individual fixed effect
α_t = time fixed effect
$X_{i,t-1}$ = vector of explanatory variables which contains individual and time varying variables from bank i at time t-1
Z_i = vector of explanatory variables which contains only individual varying variables for bank i
W_t = vector of explanatory variables which contains only time varying variables at time t

Following Plumper and Troeger (2007) methodology, we start by considering system 1 below. We only include regressors which contain individual and time varying (X), our main variables ($Q_{i,t}$ and $P_{i,t}$), individual fixed effects (α_i) and time fixed effects (α_t).
System 1

$Q_{i,t} = \alpha_i + \alpha_t + \beta X_{i,t-1} + \lambda P_{i,t} + \varepsilon_{i,t}$……. (11)

$P_{i,t} = \alpha'_i + \alpha'_t + \beta' X'_{i,t-1} + \lambda' Q'_{i,t} + \varepsilon'_{i,t}$…….. (12)

From those regressions, we obtain the fitted value of the individual effect ($\hat{\alpha}_i$ and $\hat{\alpha}_i$) as well as the fitted value of the time effect ($\hat{\alpha}_t$ and $\widehat{\alpha'}_t$). We then conduct regressions of the fitted value on individual-varying (Z_i) and time-varying variables (W_t).

$\hat{\alpha}_i = \eta_1 + \eta_2 Z_i + \zeta_i$……..... (13)

$\hat{\alpha}_t = \mu_1 + \mu_2 W_t + \varphi_t$……..... (14)

$\widehat{\alpha'}_I = \eta'_1 + \eta'_2 Z'_i + \zeta'_I$……..... (15)

$\widehat{\alpha'}_t = \mu'_1 + \mu'_2 W'_t + \varphi'_t$……..... (16)

We obtain unexplained terms (residuals) from those regressions (ζ and φ). Finally, we examine the complete model in system 2 by including such residuals.
System 2

$Q_{i,t} = \alpha + \beta X_{i,t-1} + \gamma Z_i + \delta W_t + \lambda P_{i,t} + \tau\hat{\zeta}_i + \theta\hat{\phi}_t + \varepsilon_{i,t}$……. (17)

$P_{i,t} = \alpha' + \beta' X'_{i,t-1} + \gamma' Z'_i + \delta' W'_t + \lambda' Q_{i,t} + \tau\widehat{\zeta'}_i + \theta\widehat{\phi'}_t + \varepsilon_{i,t}$…… (18)

Appendix 3. Descriptive Statistics

Table A2. Number of banks based on their political connections

This table presents the statistics on whether Indonesian commercial banks are politically connected and what kind of connections. NON POL is the non-politically connected private banks. SBPOL is the state-owned banks. PBPOL is the politically private banks. GOVOFF is the private banks with current/former government official in their board of commissioner. PAR is private banks with politicians in their board of commissioner. DIR is the private banks with politically connected director.

	Number of Banks						
	2002	2003	2004	2005	2006	2007	2008*
SBPOL**	30	30	30	30	30	30	30
PBPOL**	31	33	32	33	34	34	31
- GOVOFF	*23*	*25*	*25*	*26*	*25*	*26*	*23*
- PAR	*12*	*12*	*11*	*11*	*12*	*12*	*10*
- DIR	*3*	*3*	*3*	*3*	*3*	*3*	*3*
NON PBPOL	48	46	47	46	45	45	48
TOTAL BANKS	109	109	109	109	109	109	109

* = until the first quarter; ** POL = SBPOL + PBPOL

Table A3. Descriptive statistics

This table presents the descriptive statistics of the variables. LNDEP is the natural log of deposits. INDEP is the ratio of interest expenses to deposits. NPL is the ratio of non-performing loans to total loans, LATA is the ratio of liquid assets to total assets, ROA is return on assets, and Loan Growth is the bank's rate of loan growth. INFLATION is the inflation rate, CYCLE is the cycle of Indonesian GDP per capita, TBILL is the interest rate on 1 month treasury bill, and HHI is the Herfindahl-Hirschman Index.

	Obs.	Mean	Median	Maximum	Minimum	Std. Dev.
LNDEP	2248	14.3382	14.1861	19.1690	8.7777	1.8306
INTDEP	2248	0.0466	0.0374	0.5593	0.0014	0.0375
NPL (-1)	2248	0.0487	0.0312	0.6219	0.0001	0.0647
LATA (-1)	2248	0.4049	0.3920	0.9871	0.0535	0.1903
ROA (-1)	2248	0.0280	0.0264	0.4600	-1.5299	0.0427
Loan Growth	2248	0.1476	0.0518	93.547	-0.0988	2.1141
INFLATION	2248	0.0208	0.0197	0.0997	0.0017	0.0192
CYCLE	2248	-1.1414	-14.858	197.639	-171.451	79.027
TBILL	2248	0.0989	0.0889	0.1574	0.0733	0.0234
HHI	2248	0.0879	0.0823	0.1365	0.0657	0.0211

Appendix 4.

Table A4. Correlation matrix

This table presents the correlation matrix of the variables. LNDEP is the natural log of deposits. INDEP is the ratio of interest expenses to deposits. NPL is the ratio of non-performing loans to total loans, LATA is the ratio of liquid assets to total assets, ROA is the return on assets, and Loan Growth is the bank's rate of loan growth. INFLATION is the inflation rate, CYCLE is the cycle of GDP per capita, TBILL is the interest rate on 1 month treasury bill, and HHI is the Herfindahl-Hirschman Index.

	LNDEP	INTDEP	NPL (-1)	LATA (-1)	ROA (-1)	Loan Growth	INFLATION	CYCLE	TBILL	HHI
LNDEP	1									
INTDEP	-0.0826	1								
NPL (-1)	-0.0030	0.0555	1							
LATA (-1)	0.1282	-0.1160	0.0530	1						
ROA (-1)	0.0565	-0.0833	-0.1154	0.0733	1					
Loan Growth	0.0258	0.0345	-0.0186	0.0243	-0.0060	1				
INFLATION	0.0182	0.1635	-0.0604	-0.0643	-0.0054	-0.0125	1			
CYCLE	-0.0322	-0.1103	0.0324	0.0175	-0.0071	-0.0046	-0.0130	1		
TBILL	-0.0606	0.2472	0.1856	0.0865	-0.0315	0.0322	0.0954	0.2156	1	
HHI	-0.1604	0.2001	0.2532	0.1396	-0.0027	0.0414	-0.1659	0.0691	0.4137	1