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The Government's Role in Government-owned Banks

Abstract In this study, we reinvestigate the question of whether government banks are inferior to private banks. We use cross country data from 1993 to 2007 to trace the different types of government banks. These types comprise banks that acquire distressed banks, normal banks, or no banks at all. Contrary to common belief, the evidence shows that unless government banks are required to purchase a distressed bank because of political factors (the government's role), their performances are at par with that of private banks. This fact particularly holds true in countries with poor records on political rights and governance.

Keywords Government banks • Political factor • Government role • Merger • Distressed bank • Institutional factor

JEL C23 • G21 • G28 • G34

1. Introduction

This study reviews an old but still relevant issue: do government banks perform worse than private banks? Therefore, we explore the reasons for the performance of government banks. The financial crisis from 2008 to 2009 reignited interest in this issue because the crisis severely affected numerous private banks in different countries.¹ The crisis prompted many governments to inject funds to rescue private banks, and some of those funds were used to purchase shares in the banks. Such government action was seen as an approach to nationalize private banks.

For example, the government of Iceland nationalized its five biggest banks in 2008 and 2009. The United Kingdom partially nationalized the Royal Bank of Scotland and HBOS-Lloyds TSB in 2008. An increasing number of countries, including Portugal and Sri Lanka, likewise nationalized their respective private banks. These nationalization activities were initially aimed at solving the liquidity problems of distressed private banks and restoring public confidence in these banks. However, these activities raised concerns as to whether they worsened the performance of government banks. Hence, if we exclude these nationalization activities, the conventional wisdom that government banks underperform private banks still holds. If the conventional wisdom is not true, then the nationalization activities should be the cause of the underperformance of government banks.

To investigate these two issues, we use the government's role in government banks to explain why these banks underperform. The government's role in this study describes the government's mandate to government banks to assist or even to purchase either private or public distressed banks. Therefore, is the underperformance of government banks related to the mandate, which we call the government effect. Thus, we consider the following questions: Does the government's role create the government effect? And, if the government's role is removed, is this effect

¹ Cole and White (2012) discuss and analyze why commercial banks failed during the financial crisis. Similarly, Poghosyan and Čihák (2011) investigate the determinants of bank distress in Europe.

minimized?

To answer the first question, we use cross-country bank data and demonstrate the dynamic pattern of the performance of government banks before and after they acquire distressed banks. A distressed bank is one whose net income or equity is negative before the merger. We then conduct research on whether the government effect still exists after we exclude merger activities. To our knowledge, these crucial issues have yet to be addressed in the literature.

Recently, the influence of a political factor on banks' activities has received increasing attention. Studies typically use election years as the proxy for a political factor.² However, an election year is a macro-level proxy for the political factor because it is not specific to any bank. Thus, we need a proxy at the bank level to address our concerns and to examine how a political factor affects government banks. We propose a new operational definition that has not been previously attempted to resolve such difficulties: the political factor (the government's role in government banks) occurs when governments require government banks to purchase distressed banks (hereafter referred to as distressed-acquirer government banks). To verify this definition, we examine whether such an acquisition is mandated by the government. We search authoritative websites, local newspapers, the *Wall Street Journal*, the Securities Data Company (SDC),³ and the Factiva database⁴ to learn about the motivation for these acquisitions. This study only explores those acquisitions that are requested by governments. Hence, a government bank that is a distressed-acquirer is authorized to acquire distressed banks.

Consequently, we also propose a hypothesis for the government's role to explain

² For example, Dinç (2005) presents that government banks' increase in their lending during election years relative to private banks. Micco et al. (2007) demonstrate that during election years, government banks increase their lending and exhibit reduced returns on assets (ROA). Brown and Dinç (2005), Khwaja and Mian (2005), and Leuz and Oberholzer-Gee (2006) present similar results.

³ SDC is a private company selling data about merger activity, securitization, private funds, and so on.

⁴ Factiva is a database that includes Dow Jones News, Reuters, and the *Wall Street Journal*, among others.

why the government effect exists. First, we divide all government bank samples into three subsamples: (1) government banks that acquire distressed banks, (2) government banks that acquire normal banks, and (3) government banks that do not acquire any banks. We then propose that the performance of a distressed-acquirer government bank becomes inferior after merging with a distressed bank. This hypothesis tests whether the government's role creates the government effect.

Our second hypothesis asks whether removing the political factor (the government's role) minimizes the government effect. The goal is to further confirm the possibility that politics creates the government effect by collecting data from the second and third types of government banks. We argue that the government effect does not exist in normal-acquirer and non-acquirer government banks because the political factor is not involved. Therefore, the government effect is minimal.

The third hypothesis challenges the first hypothesis: the underperformance of distressed-acquirer government banks is a result of merging distressed banks with very poor asset quality, human capital, management skills, and so on. To rule out this possibility, we examine private banks that acquire distressed banks (hereafter referred to as distressed-acquirer private banks). Throughout this study, we construct a value-weighted performance index of private banks for each country to serve as the benchmark that is based on the total private banks minus the distressed-acquirer private banks. We find that the performance of distressed-acquirer private banks is similar to that of the benchmarked private banks. As distressed-acquirer government banks and distressed-acquirer private banks acquire banks, the major difference is the presence of political factors. Thus, the poor performance of a government bank is more likely the result of political intervention. Figure 1 presents a summary of our hypotheses.

[INSERT FIGURE 1 HERE]

Figure 1 compares the performance before and after mergers and related

hypotheses. Although we cannot attribute the underperformance of distressed-acquirer government banks solely to the government's role when using value-weighted private banks as the benchmark, the evidence associated with the superior performance of distressed-acquirer private banks and other government banks excludes other possibilities. Thus, the poor performance of distressed-acquirer government banks could be because of political factors.

By using bank data from 100 countries for the periods between 1993 and 2007, we empirically confirm our hypothesis for the government's role in which the political factor indeed creates the government effect, and that the effect is minimized if such a factor is removed.

Our study contributes to the literature in three aspects. First, by dividing the government banks into three subsamples, we determine that only distressed-acquirer government banks are responsible for the government effect. The other two types of government banks perform as well as private banks. Past studies have not considered these differences. For example, although Micco et al. (2007) compare the performances between government banks and private banks in developed and developing countries, they do not classify government banks into the aforementioned types. The same is true for the works of Dinç (2005), Iannotta et al. (2007), Mian (2003), Micco et al. (2007), and Sapienza (2004). Second, we present a novel measure of a political factor in the banking sector. Earlier studies typically use election years to substitute or represent a political factor. For example, Dinç (2005) finds that compared with private banks, government banks increase their lending during election periods. However, our study uses a different proxy for the political factor, namely, when governments require government banks to purchase distressed banks. Third, past studies demonstrate that the underperformance of government banks typically exists only in developing countries (Boubakri et al. 2005; Mian 2003; Micco et al. 2007). Our study renders similar findings, but we go a step further and find that the government's role exists in developing countries regardless of political rights and

governance. Previous studies did not consider the correlation between political intervention and institutional factors.

The remainder of this study is organized as follows. Section 2 explains the hypotheses. Section 3 presents the literature on the performance of government banks and the effect of the government's role. Section 4 discusses data definitions and basic statistics. Section 5 then presents the descriptive results. Section 6 focuses on the empirical results using a regression analysis. Section 7 provides the conclusions, including a brief summary of the main findings and an assessment of their implications.

2. Hypotheses building

The government's role occurs when it requires government banks to purchase distressed banks. As mentioned, governments frequently require purchases to avoid bank runs and to maintain financial stability, and so on. Little business consideration exists in these decisions, such as increasing profitability, increasing market share, or lowering costs in these acquisitions. In addition, government banks rarely receive reasonable compensation for consolidating distressed banks. Thus, if a government bank's motivation to acquire a distressed bank is based on a government request, the government bank's performance might deteriorate after the acquisition. We therefore propose the first hypothesis:

H1: Before government banks acquire distressed banks, these banks perform as well as private banks; after they acquire distressed banks, these government banks underperform private banks.

Using normal-acquirer and non-acquirer government banks, we examine whether removing the government's role minimizes the government effect.

First, we define government banks as normal-acquirer government banks when they purchase normal banks. Normal banks are those who are taken over by

government banks, excluding distressed banks. To identify normal-acquirer government banks, we search the global mergers and acquisition (M&A) history of each government bank. During the wave of mergers before 2008, large banks were often considered more profitable than small banks (Bos et al. 2006; Focarelli and Pozzolo, 2008; Matthews et al. 2007). This view suggests that government banks could purchase small banks in order to grow market share, maximize profits, or realize other business benefits.⁵ Therefore, their performance should not deteriorate after merging with normal banks. Thus:

H2a: Normal-acquirer government banks perform as well as private banks before and after mergers. That is, the government effect does not exist for normal-acquirer government banks.

Next, we investigate government banks that do not undertake any mergers (non-acquirer government banks). Because this type of government bank also does not undertake any political responsibilities, we predict that their performance might equal that of private banks. Therefore:

H2b: Non-acquirer government banks perform as well as private banks. That is, the government effect does not exist for non-acquirer government banks.

The first hypothesis, H1, often faces challenges because factors other than politics, such as extremely poor asset quality, human capital, or business operations, often lower acquirers' performance. To minimize the influence of these factors, we also examine the performance of private banks after taking over distressed banks. We assume that these factors also cause the underperformances of private banks as they do with government banks. If distressed-acquirer private banks perform as well as other private banks, then political factors are likely the major reason for the government effect—that is, profitability and similar financial motivations are likely

⁵ For example, in 2002, the Taiwanese government encouraged government banks to consolidate other normal banks into large banks to promote operational effectiveness during their financial reform. One such bank is Taiwan Bank, a 100% government-owned bank, which merged with Central Trust of China to establish the Financial Holding Company. See *Taipei Times*, July 2, 2007.

why private banks purchase distressed banks. Thus, we have the following hypothesis:

H3: If the hypothesis for the government's role is accepted, distressed-acquirer private banks should perform equally as well as other private banks before and after mergers with distressed banks. That is, the political factor in the distressed-acquirer government banks indeed leads to their underperformance.

3. Literature review

This study evaluates the literature on the performance of government banks and its relation to a political factor.

3.1 Government bank performance

Theoretically, government banks are less efficient than private banks because they are manipulated frequently to address political and social objectives rather than being left to pursue profit and efficient maximization goals. Mian (2003) confirms the underperformance of government banks in developing countries by studying commercial banks from 100 emerging economies. Iannotta et al. (2007), using a larger sample, find that government banks have lower profitability and loan quality, as well as higher insolvency risks compared to private banks. Micco et al. (2007) demonstrate that government banks in developing countries tend to be less profitable compared to their private counterparts; however, this phenomenon does not exist in industrialized countries.

3.2 Political factor

In the banking industry, a political factor is highly relevant during election years, which is why several studies use election years as the proxy for a political factor (Brown and Dinç 2005; Dinç 2005; Khwaja and Mian 2005; Leuz and Oberholzer-Gee 2006; Micco et al. 2007; Sapienza 2004). However, election years are macro-level proxies for a political factor because they are not specific to any bank.

The general observation is that a political factor increases lending amounts, reduces interest rates, and delays the closure or restructuring of failed banks before elections. For example, in the study of 40 private and 43 government banks in Italy from 1991 to 1995, Sapienza (2004) finds that government banks charge lower interest rates to firms affiliated with the ruling party than to firms without such an affiliation. Moreover, Dinç (2005) shows that compared to private banks, government banks increase their lending during election periods. Furthermore, Brown and Dinç (2005) demonstrate that the possibility of failing banks losing their licenses or being taken over by the government is lower before elections. Micco et al. (2007) also argue that much of the internal clustering within a country in relation to emerging-market bank failures directly results from political concerns.

Although political factors can influence the activities of government banks, studies rarely examine the systematic influence of the government's role on the government effect. The present study fills this gap in the literature.

4. Definition of data and basic statistics

We collect government and private bank samples from 100 countries. The samples cover the period of 1993 to 2007. We first identify the government banks to formulate our hypothesis. We then track down the M&A activities of government banks to determine the three types of government banks and the acquisition dates. Third, we collect the three-year basic variables for the government and private banks prior to the date of acquisition. Last, we collect the banks' post-acquisition financial ratios over a five-year period to compare their performance.

4.1 Definitions of government-owned banks

To obtain ownership data, we use the following process. First, we define government banks as banks in which the government owns more than 20%. Government-ownership data for each bank starting in 2001 comes from Bankscope, which collects information on global banks and is published by Fitch–IBCA. However,

Bankscope only carries data on current government ownership and does not provide time-series data. We obtain government-ownership data for other years from other sources. We track ownership changes using the World Bank privatization databases, as reported in Beck et al. (2005), Bonin et al. (2005), and Megginson (2005).

These databases contain the information on shareholding changes for a number of government banks. Privatized government banks between 1993 and 2007 are also included in the sample. We then check individual bank websites and other publications for verification purposes.⁶ Accordingly, we obtain information on the full bank ownership history from these websites. For government banks that have merged with other banks, only the periods before their merger are included in the sample. Otherwise, government banks are used in this study.

Notably, our study excludes countries without government banks. We then compare the financial performance of all government banks and private banks in the same country. This sample contains 329 government banks from 100 countries for the period of 1993 to 2007.⁷

4.2 Identifying the government's role in government banks

We first search mergers and acquisition (M&A) activities in government banks using Bankscope to identify the government's role in government banks. We then search authoritative websites, local newspapers, the *Wall Street Journal*, SDC, and the Factiva database to determine whether the government mandated the M&As. The search difficulties are different across countries. In some countries, the search is difficult because the motivations for M&As are often described vaguely in the news. However, the search process is relatively easier for countries such as South Korea, India, Indonesia, Malaysia, Taiwan, and Thailand mainly because their respective governments have clearly announced their intention regarding mergers involving

⁶ These include the *Bankers Almanac*, *American Banker*, *Bank Director*, and *ABA Banking Journal*.

⁷ We also control the bank privatization effect. For example, when government banks are privatized to become the private banks sample, we exclude them from both government and private banks sample after the privatization.

government banks. Thus, news appearing in Factiva and SDC are easily accessed.⁸

For example, in 1997, the Thai government tapped Krung Thai Bank, which is highly reputed as a profitable firm, to play a central role in the restructuring of the Thai banking sector. Over the next two years, Krung Thai Bank absorbed several of the teetering banks in Thailand, including First Bangkok City Bank that it merged with in 1998.⁹ In 1998, the South Korean government formally approved the merger between Hana Bank and Seoul Bank according to an announcement made by the Financial Supervisory Commission (FSC).¹⁰ In Indonesia, in 2000, Danamon completed a merger with eight other banks (Bank Tiara, Bank Duta, Bank Rama, Bank Tamara, Bank Nusa Nasional, Bank Pos Nusantara, Jayabank International, and Bank Risjad Salim Internasional). As part of this merger package, Danamon received a second recapitalization from the government of Rp 28.9 trillion.¹¹

Meanwhile, the government of India sanctioned the scheme for amalgamation of the Global Trust Bank Ltd. with the Oriental Bank of Commerce. The amalgamation became effective on August 14, 2004. All Global Trust Bank Ltd. branches began functioning as branches of the Oriental Bank of Commerce effective on that date. On June 28, 2007, the State Bank of Pakistan approved the schemes of amalgamation and the consequent merger of Picic and Picic Commercial Bank with the NIB Bank following the acquisition of Picic by NIB. This merger was a step toward consolidating the banking sector as envisioned by the State Bank of Pakistan and toward enhancing foreign direct investment as per the objectives of the Pakistani

⁸ All the names of government banks and distressed banks are not reported here but are available upon request.

⁹ See website: <http://www.fundinguniverse.com/company-histories/krung-thai-bank-public-company-ltd-history/>.

¹⁰ Officials of the banking watchdog said that Hana Bank had solved the question of insolvency for the Korea Merchant Bank, its largest shareholder, by purchasing 45 billion won worth of securities and financial bonds. As for the remaining 10 billion won of the bank's economic responsibility, the FSC decided to give time until the ongoing trial at the Seoul District Court for compensation of deposit insurance is completed. Website: http://www.accessmylibrary.com/coms2/summary_0286-26836864_ITM.

¹¹ See website: <http://stockdata.indonesiafinancetoday.com/keyfacts/BDMN>.

government.¹²

Further, we identify 38 distressed banks taken over by 31 distressed-acquirer government banks and 58 normal banks merged with 35 normal-acquirer government banks.¹³ The number of non-acquirer government banks in our sample is 263. Table 1 presents the definitions of all of the variables.

[INSERT TABLE 1 HERE]

4.3 Basic statistics

Table 2 lists the basic statistics for the distressed-acquirer, normal-acquirer, and non-acquirer government banks, as well as the private bank samples.

[INSERT TABLE 2 HERE]

The total number of government banks is 329, but the majority of the countries sampled only have one to four government banks during the sampling period. India, Argentina, and China have the most government banks, numbering 20, 12, and 12 respectively. The fourth to sixth columns list the three types of government banks (distressed-, normal-, and non-acquirer). There are 31 distressed-acquirer government banks, 35 normal-acquirer government banks, and 263 non-acquirer government banks.

The majority of the government banks in the sample are not involved in any government's role. Because we try to incorporate all private banks, their use might be misleading because many government banks are among the largest banks in their countries, whereas many private banks are small. Therefore, the comparison might be biased because of the size effect. Thus, we use value-weighted private banks for each country to serve as the benchmark. In addition, the sample consists of 21 developed countries and 79 less developed countries.

¹² See website: <http://finance.groups.yahoo.com/group/riskmanagers/message/1785>.

¹³ If the sample periods of acquirers cover more than two M&As, then we only keep the first one to avoid overlapping.

Table 3 summarizes the basic statistics for the sample. First, for the developed countries, the number of private banks significantly exceeds that of government banks (3,206 and 75 respectively). However, for less developed countries, the number of private banks also exceeds that of government banks, but the differences are less pronounced. Furthermore, the numbers of distressed-, normal-, and non-acquirer government banks are just 6, 15, and 54 in developed countries, compared to 25, 20, and 209 in less developed countries. Government banks in less developed countries are also more politically driven than those in developed countries. The evidence is consistent with the poor performance of government banks in less developed countries versus developed countries.

[INSERT TABLE 3 HERE]

Table 4 shows the number of government banks each year during the period 1993 to 2007 in developed and less developed countries. Bankscope collects data starting from 1993, which marks our starting period. The number of banks increased from 1993 to 2002 probably because Bankscope covered more sample banks over the years. However, the number of government banks changed slowly and drops in 2004 for developed countries and in 2005 for less developed countries because of the wave of privatization (see the privatization databases of the World Bank and Megginson, 2005, for details). Likewise, some government banks merged with other private or government banks.

[INSERT TABLE 4 HERE]

5. Descriptive results

We first define the benchmark used in this study to examine our hypothesis. As mentioned in the Introduction, we consider the value-weighted private banks for each country as the benchmark throughout the study. To identify the government's intervention, we require the distressed-acquirer banks and the benchmark to have the same characteristic variables before and after the event. Therefore, when performance

differences exist between them after the event, the difference can be attributed to the government's intervention. The characteristics consist of the following four variables: (1) log of assets (*Asset*), (2) debt-to-equity ratio (*Debt*), (3) loan-to-deposit ratio (*DEPLOAN*), and (4) ratio of current to total assets (*LIQUID*).

The differences in the four characteristic variables between the distressed-acquirer government banks and the benchmark before acquisitions are all insignificant except for *Debt* at $t = -3$ and -2 (Table 5). By contrast, the differences in the post-event years among the four variables are still insignificant except for *Debt* at $t = 0$ and *LIQUID* at $t = 3$ and 4 . Accordingly, the characteristic variables between distressed-acquirer government banks and the benchmark are similar in both the pre- and post-event years, thus confirming that value-weighted private banks are the appropriate benchmarks against distressed-acquirer government banks.

[INSERT TABLE 5 HERE]

5.1 Testing H1: Distressed-acquirer government banks

The average ROA, ROE, and Net Income of the distressed banks are -1.39%, -13.45%, and -37.33 million dollars, respectively, whereas those of normal banks are 1.26%, 13.25%, and 11,345 million dollars (Table 6). In particular, the average of the target assets after logarithmic transformation (Target asset) and the ratio of the target to the acquirer's assets (T/A size ratio) of the distressed banks are 5.84 and 1.77%, respectively, whereas those of normal banks are 10.01 and 5.76%. The size and target to acquirer size ratio of distressed banks are evidently smaller than those of normal banks. On average, distressed banks display lower profits and smaller size than normal banks. The hypothesis on the government's role examined in this study suggests that government banks tend to be adversely affected when they purchase distressed banks.

[INSERT TABLE 6 HERE]

Table 7 presents a comparison of the dynamic performance of distressed-acquirer government banks with the benchmark by using mean and median tests. We set $t = -3$ to 5 where $t = 0$ represents the consolidation event year, $t = -3$ to -1 represents the pre-event years, and $t = 0$ to 5 represents the post-event years. The performance difference represents the performance of government banks minus the benchmark.¹⁴

We first use the ROA and the ROE as performance measures and find that the performance differences between the two types of banks are insignificant in the pre-event years. Thus, the two groups of banks are similar in their pre-event years. However, the ROAs of government banks immediately deteriorate in the post-event years ($t = 0$ to 4). Similar results are obtained for the ROE. Hence, before the event, the ROA and the ROE of the distressed-acquirer government banks perform as well as the corresponding private banks, but the performance of the former immediately drops after the event. This finding supports H1.

The performance differences in the net interest margin (NIM) between the abovementioned two types of banks are roughly tied together regardless of the pre- or post-event years. Specifically, their performance differences are small and are not statistically significant.

Therefore, H1 is accepted when the ROA and the ROE are used as performance measures. Although the NIM does not support H1, the opposing results that the concerned government banks perform better are not determined via the NIM.

[INSERT TABLE 7 HERE]

5.2 Testing H2: Normal- and non-acquirer government banks

H2a suggests that normal-acquirer government banks should perform equally as well as the benchmark because their purpose for acquisition is possibly to expand their market share, maximize profit, or promote other business considerations. Hence, no

¹⁴ All the target banks are private banks and are excluded from the sample of private banks prior to the acquisition.

political intervention is noted in this type of merger. Their performance also does not deteriorate after the merger.

Panel A of Table 8 presents the estimated results during the pre- and post-event years. Results are consistent with our conjecture, given that the performance differences among the ROA, ROE, and the NIM are not significant. This finding supports H2a.

[INSERT TABLE 8 HERE]

We also use graphs to compare the differences in the performance of the distressed-acquirer and normal-acquirer government banks and distressed-acquirer private banks relative to the benchmark. Figures 2a, 2b, and 2c plot the performance differences in the ROA, ROE, and the NIM respectively. Each plot contains three lines (solid, dash, and dotted) to represent the three performance differences.

The differences in the ROA and the ROE between the distressed-acquirer government banks and the benchmark (solid lines in Figures 2a and 2b) are near zero before the event but drop considerably after the event. Hence, the distressed-acquirer government banks perform worse than private banks after the event. The differences in the ROA and the ROE of the normal-acquirer government banks and the distressed-acquirer private banks relative to the benchmark (dash and dotted lines) fluctuate around zero and do not visibly correlate with the solid lines. This result indicates that the performance of these two types of banks is similar to that of the benchmarked banks. The pattern of the NIM is less clear compared with those of the ROA and ROE.

[INSERT FIGURE 2 HERE]

Furthermore, we use the sample period of 1993 to 2007 to examine H2b.¹⁵ Table 9 presents the performance differences between non-acquirer government banks

¹⁵ As no merging dates for the non-acquirer government banks are indicated, the event dates are difficult to define.

and the benchmark for each year. The results disclose the following: First, their performance differences in terms of the ROA are tied together from 1993 to 2007. Second, by using the ROE as the performance measure, the non-acquirer government banks underperform private banks only at $t = 2001$ and 2005. Third, by using the NIM as the performance measure, the non-acquirer government banks outperform the private banks in terms of the NIM at $t = 1994, 1997, 2003,$ and 2004.

Contrary to common belief, the evidence supports H2b, which holds that non-acquirer government banks perform as well as private banks. That is, the government effect does not exist for non-acquirer government banks when we exclude the political factor.

[INSERT TABLE 9 HERE]

The performance differences between non-acquirer government banks and the benchmark in terms of the ROA, ROE, and the NIM are plotted in Figures 3a, 3b, and 3c respectively. The patterns of solid lines in Figures 3a and 3b are near zero, which indicates that the performance of the non-acquirer government banks is similar to that of the benchmarked banks. However, in terms of the NIM, the non-acquirer government banks outperform the private banks in Figure 3c.

[INSERT FIGURE 3 HERE]

The private banks do not outperform normal and non-acquirer government banks, which might appear to not make sense because the top rankings of private banks provide the impression that their performance should not be worse than government banks. However, on average, numerous private banks fall to the bottom of the ranks. This phenomenon results in the occasional underperformance of the value-weighted private banks in relation to government banks.

5.3 Testing H3: Distressed-acquirer private banks

To test H3, we repeat our procedure but replace the distressed-acquirer government

banks with distress-acquirer private banks. We identify 311 distressed banks taken over by 269 distressed-acquirer private banks in 49 countries.¹⁶

Panel B of Table 8 presents a comparison of the performance differences between distressed-acquirer private banks and the benchmark. The performance differences in the ROA and the ROE are not significant, except for the ROE at $t = -1$ and -2 . Furthermore, the performance of distressed-acquirer private banks is superior to that of private banks in terms of the NIM both before and after the events, which confirms the lack of influence of the merging event. Therefore, the distressed-acquirer private banks do not underperform the remaining private banks either before or after the events. This finding supports H3.

The evidence supports our hypotheses. That is, the performance of a government bank deteriorates after acquiring a distressed bank; meanwhile, the performance of a private bank remains the same after the event. Government banks that acquire normal banks or no banks exhibit performance similar to that of the benchmark. Private banks do not overwhelmingly outperform probably because of the three types of government banks. Thus, on average, the evidence supports our hypothesis on the government's role.

6. Regression analysis

Our basic statistical findings might suffer from the missing third variable problem in econometrics. Hence, we use a regression analysis to resolve this problem.

6.1 Econometric model

The econometric model is designed to measure the influence of the government's role on the government effect.¹⁷

¹⁶ For brevity, we do not show the detailed results of distressed-acquirer private banks, but they are available upon request.

¹⁷ Our benchmark is still the value-weighted private banks for each country.

$$\text{PERFORM} = \alpha_1 + \alpha_2 \text{PR_dummy} + \beta Z + \text{bank and year dummies} + \varepsilon \quad (1)$$

where PERFORM is represented by the ROA, ROE, and the NIM; and *PR_dummy* is the dummy for the government's role and is in turn substituted for by four dummy variables, namely, $D_{\text{Distress-A}}$, $D_{\text{Normal-A}}$, $D_{\text{Non-A}}$, and $D_{\text{Distress-A POB}}$. The first three dummies are united if they are distressed-acquirer, normal-acquirer, or non-acquirer government banks, respectively; if they are the benchmark, they equal zero. The last dummy equals the unity if the acquirer is a distressed-acquirer private bank, and zero if it is the benchmark. The sample period covers $t = 0$ to 5.

Term Z denotes the vector of the control variables containing four bank characteristic variables for acquirers, two characteristic variables for targets, and five macroeconomic variables. The characteristic variables of the four acquirers are *Asset*, *Debt*, *DEPLOAN*, and *LIQUID*; the characteristic variables of the two targets are the Target Asset and the T/A size ratio defined earlier¹⁸; and the five macroeconomic variables are GDP per capita (*GDP*), GDP growth rate (*GDP growth*), the country's governmental budget surplus as a percentage of GDP (*budget surplus*), the country's inflation rate (*inflation rate*), and the country's change in its exchange rate (*exchange rate*). The selection of the control variables follows Dinç (2005), Iannotta et al. (2007), Micco et al. (2007), and Shen and Lin (2012). We also modify the standard errors such that they are clustered at the bank level in all regressions.¹⁹ In addition, the bank and year dummies are added to eliminate the year and country effects.

We examine the three hypotheses as follows. First, we use $D_{\text{Distress-A}}$ to examine H1 and expect its coefficient α_2 to be negative. Next, we use $D_{\text{Normal-A}}$ and $D_{\text{Non-A}}$ to examine H2 and expect their coefficients to not be significant. Third, we use $D_{\text{Distress-A POB}}$ to examine H3 and expect its coefficient to not be significant.

¹⁸ Regarding this question, we appreciate the suggestion of a referee.

¹⁹ See Petersen (2009) for a detailed discussion.

6.2 Estimated results: Testing H1, H2, and H3

Table 10 presents the estimated results of the influence of the government's role on the performance of the distressed-acquirer government banks. With respect to H1, the coefficients from $D_{Distress-A}$ (α_2) for the ROA, ROE, and the NIM are -1.4697, -12.3985, and -0.9832 respectively. These coefficients are mostly significant and support H1. Thus, the merging of distressed banks with government banks is one possible reason for the existence of the government effect.

[INSERT TABLE 10 HERE]

The coefficients for the bank-characteristic and the macro-variables are also consistent with our expectations. In particular, the coefficients for the *Debt* and *DEPLOAN* are significantly negative and positive respectively. In other words, firms with smaller leverages and higher loan-to-deposit ratios enhance bank performance. The results of the macroeconomic control variables are also consistent with our expectations. For instance, the coefficients for the *GDP*, *GDP growth*, and the *inflation rate* are all significantly negative. The results indicate that a country with lower GDP, GDP growth rates, and inflation rates can lift bank performance.

With respect to H2, in Panel A of Table 11, the coefficients for $D_{Normal-A}$ (α_2) are not significant for the ROA, ROE, and the NIM; thus supporting H2a. The results show that normal-acquirer government banks perform similarly to private banks both before and after their mergers. As presented in Panel B of the same table, the coefficients for D_{Non-A} are not significant when the ROA and the ROE are used as the performance measures; meanwhile, the coefficient for D_{Non-A} is significantly positive for the NIM. Thus, the evidence supports H2b, which holds that non-acquirer government banks perform as well as private banks. Panels A and B suggest that the government effect does not exist for normal- and non-acquirer government banks when we exclude the factor for the government's role.

[INSERT TABLE 11 HERE]

For H3 (Panel C of Table 11), the concerted coefficients for $D_{Distress-A\ POB}$ are insignificant and negative in terms of the ROA and the ROE and significantly positive in terms of the NIM. Surprisingly, the performance of the NIM becomes even better after a private bank acquires a distressed bank. This superior performance is probably because of the acquisition being based on business needs and not on political guidance. Hence, the three performance measures support H3.

The above results support our three hypotheses. Government and private banks show dramatically different results when they acquire distressed banks. The performances of government banks worsen, whereas the performances of private banks either remain unchanged or improve. These results, together with the equal performance of normal-acquirer and non-acquirer government banks, suggest that political factors might be the core reason for the government effect.

6.3 Institutional factors

Many studies show that “institutional factors” affect banks’ behavior across countries.²⁰ This finding motivates us to examine whether the political factor from government banks only exists in countries with “worse institutional factors” (*WIF*). Our specification to examine the government effect in countries with *WIF* is set up as follows:

$$\begin{aligned} \text{PERFORM} = & \alpha_1 + \alpha_2 D_{Distress-A} + \alpha_3 D_{Distress-A} \times WIF + \alpha_4 WIF \\ & + \beta Z + \text{bank and year dummies} + \varepsilon \end{aligned} \quad (2)$$

If the coefficient for the interaction term $D_{Distress-A} \times WIF$ (α_3) is negative, then the government effect is aggravated in countries with weak institutional factors. If the coefficient is not significant, then the model returns to Equation (1) and indicates that the government effect is not enhanced in countries with *WIF*. The latter

²⁰ In the literature, although slightly different from our study, several authors have discussed the lending behavior of banks among different institutional factors. See Qian and Strahan (2007), Bae and Goyal (2009), Haselmann et al. (2009), and Qi et al. (2010) for details.

case suggests that the government's role exists in countries with both strong and weak governance. To explore this issue, this subsection considers two proxies for *WIF*, namely, low political rights and weak country governance. Considering political rights, Rajan and Zingales (2003) relate this variable to the political and macroeconomic stability of a country. These political rights often affect the lending behavior of government banks as well as the cost of debt (see Sapienza 2004; Haselmann et al. 2009; Qi et al. 2010). Thus, political rights can also impact the government effect. The political rights index from the Freedom House is a time-varying index ranging from one (strong political rights) to seven (weak political rights) over the sample years of 1980 to 2006.²¹ This index is constructed by questions relating to the following: (1) the presence of free and fair elections, (2) the nature of those who have been elected to rule, (3) the presence of competitive parties or other competitive political groupings, (4) the role and power of the opposition; and (5) whether minority groups have reasonable self-government or can participate in the government through informal consensus. The three degrees of political rights are (1) free: 1 to 2.5, (2) partly free: 3 to 5, and (3) not free: 5.5 to 7. We create a new dummy variable, D_{WPR} , that equals one if the countries are classified as partly free or not free and zero otherwise.

In Table 12, *WIF* is represented by D_{WPR} in Equation (2). First, the coefficients for $D_{Distress-A}$ (α_2) are similar to our previous results (i.e., significantly negative for the ROA, ROE, and the NIM). Then, the coefficients for the interaction terms $D_{Distress-A} \times D_{WPR}$ (α_3) are all significantly negative regardless of the performance measures. This evidence supports that the underperformance of distressed-acquirer government banks is aggravated in countries with worse political rights. Accordingly, our hypothesis on the government's role is confirmed, especially in countries with worse political rights.

²¹ Freedom House is an international nongovernmental organization based in Washington, D.C. that conducts research and advocates democracy, political freedom, and human rights. It publishes an annual report that assesses the degree of perceived democratic freedoms in each country, which is used in political science research. See website: <http://www.freedomhouse.org/>.

[INSERT TABLE 12 HERE]

We then consider the country governance index by adopting the Worldwide Governance Indicators (WGI) compiled by Kaufmann et al. (2007).²² We classify the sample countries as either having strong or weak governance based on the theoretical median of zero. The dummy variable, D_{WGC} , equals one for countries with weak governance countries and zero for those with strong governance. We expect the government effect to be stronger in countries with weak governance.

Table 13 presents the estimated results when D_{WGC} represents *WIF*. The results remain similar to those reported in Table 12 and confirm that the government effects are aggravated in countries with weak institutional factors. For example, the coefficients for the interaction terms $D_{Distress-A} \times D_{WGC}$ are significantly negative for the ROA but are insignificantly negative for the ROE and the NIM. Although the ROE and the NIM results are not significant, their coefficients for $\alpha_2 + \alpha_3$ (-18.0299 and -1.2484) are also larger than that of the α_2 (-12.3739 and -0.9820), thus confirming our argument.

[INSERT TABLE 13 HERE]

6.4 Election year

Whether the government effect takes place only during election years is worthy of investigation, given that favorable government policy and takeovers are undertaken during elections.

For example, Dinç (2005), Khwaja and Mian (2005), Micco et al. (2007), and Sapienza (2004) discuss how politicians obtain more benefits during major elections. Hence, we expect the government's role to be more significant during election years compared with other years. Following the studies of Dinç (2005) and Micco et al.

²² Considering the increasing importance of country governance, Kaufmann et al. (2007) updated their WGI. The WGI involves six dimensions of governance and covers 212 countries from 1996 to 2006. This index comprises regulatory quality, rule of law, control of corruption, political stability, absence of violence, voice and accountability, and government effectiveness.

(2007), we create a dummy variable, $D_{Election}$, that equals one if presidential or parliamentary elections occur during the year and zero otherwise.

$$\begin{aligned} \text{PERFORM} = & \alpha_1 + \alpha_2 D_{Distress-A} + \alpha_3 D_{Distress-A} \times D_{Election} + \alpha_4 D_{Election} \\ & + \beta Z + \text{bank and year dummies} + \varepsilon \end{aligned} \quad (3)$$

Table 14 presents the estimated results after controlling for the election dummy. First, we test whether the underperformance of distressed-acquirer government banks remains the same after controlling for the election factor. The coefficients for $D_{Distress-A}$ are significantly negative for the ROA, ROE, and the NIM and confirm that the government's role depresses the government banks' performance. The coefficients for the interaction terms $D_{Distress-A} \times D_{Election}$ (α_3) are all insignificant and negative regardless of the performance measures. Although all the interaction terms are not significant, their coefficients for $\alpha_2 + \alpha_3$ (-1.8745, -16.2917, and -1.2268) are larger than that of the α_2 (-1.4020, -13.6549 and -0.9485). These values confirm that the underperformance of distressed-acquirer government banks increases during election years.

[INSERT TABLE 14 HERE]

6.5 Using other government banks as the benchmark

In addition, to prove that the underperformance of distressed-acquirer government banks is not caused by poor-performing banks being chosen to achieve the government's role, we also consider other government banks as the benchmark.

We examine whether this new benchmark has similar characteristic variables to those of the distressed-acquirer government banks. Table 15 resembles Table 5, except that other government banks are used to replace the value-weighted private banks. The table shows similar results. These results confirm that other government banks are also qualified benchmarks against distressed-acquirer government banks.²³

²³ Regarding this question, we appreciate the suggestion of a referee.

By using other government banks as the new benchmark, Table 16 demonstrates that the performance differences between distressed-acquirer government banks and other government banks are similar when using either the ROA or the ROE. Furthermore, the results remain similar when using either the mean or median tests. These tests suggest that the underperformances of distressed-acquirer government banks are highly attributable to the government's role.

[INSERT TABLE 15 AND 16 HERE]

We then use the value-weighted performance index of other government banks for each country as the benchmark to conduct the regression analysis. Specifically, the definition of $D_{Distress-A}$ is equal to one when the government banks undertake the government's role and zero otherwise.

Panel A of Table 17 presents the estimated results for the new benchmark. The estimated results are similar to those obtained with the original benchmark (see Table 10). For instance, we find significantly negative coefficients from the $D_{Distress-A}$ for the ROA, ROE, and the NIM (-0.8038, -10.5966, and -0.4085 respectively) that strongly support H1. Hence, our conclusions are robust to different benchmarks.

[INSERT TABLE 17 HERE]

6.6 Using a difference-in-difference method

In the previous analysis, our sample periods cover the periods after the event ($t = 0$ to 5). To avoid the window length problem, we also use the entire window length covering the pre- and post-acquisition period ($t = -3$ to 5) to examine the robustness of the results. As the entire sample period is used, we follow the suggestion in Puri et al. (2011) to use a difference-in-difference method to estimate the coefficients. Hence, we first create an event dummy variable, $D_{After-Merging}$, that equals unity if the sample periods are $t = 0$ to 5 and zero otherwise. Then, our new specification is as follows:

$$\text{PERFORM} = \alpha_1 + \alpha_2 D_{\text{Distressed-A}} + \alpha_3 D_{\text{Distressed-A}} \times D_{\text{After-Merging}} + \alpha_4 D_{\text{After-Merging}} + \beta Z + \text{year and country dummies} + \varepsilon \quad (4)$$

The insignificant α_2 (coefficient of $D_{\text{Distress-A}}$) suggests that the government effect does not exist in the pre-event years. In the post-event years, we use α_3 - α_4 to test the performance difference between the distressed-acquirer government banks and private banks. The negative α_3 - α_4 confirms that the underperformance of the distressed-acquirer government banks exists after they acquire distressed banks.

Panel B of Table 17 presents the estimated results. First, the coefficient α_2 is not significant for the ROA and the ROE. This coefficient confirms that the government effect does not exist before the event. The coefficients for α_3 - α_4 are -1.7713 and -24.8976 when performance is measured by the ROA and the ROE equations respectively; both values are significant that suggests the underperformance of distressed-acquirer government banks after the acquisition. Accordingly, the evidence strongly supports H1.

7. Conclusion

Several studies report that government banks underperform private banks. However, few empirical studies examine the reasons for this occurrence. This study fills this gap in the literature. For simplicity, this underperformance is referred to as the government effect.

We propose a hypothesis for the government's role that classifies government banks into three groups (i.e., distressed-, normal-, and non-acquirer government banks) to explain the existence of the government effect. We argue that not all types of government banks are underperformers: only the government banks that purchase distressed banks. However, government banks most likely acquire distressed banks at the request of their governments. Therefore, the underperformance of these distressed-acquirer government banks could be attributed to the government's role.

Moreover, contrary to common belief, our results indicate that government banks that purchase normal banks and government banks that do not purchase any bank perform as well as private banks. That is, the government effect is significantly minimized when the political factor is removed.

To examine whether political factors cause the government effect, we investigate the performance of private banks that acquire distressed banks. We find that the performance of distressed-acquirer private banks is similar to that of the benchmark, both before and after their mergers with distressed banks. Thus, given that both government and private banks purchase distressed banks, one of the crucial factors that might explain the difference in performance is the political factor.

Further, we test whether the government effect only exists in countries with worse institutional factors, namely political rights and country governance. We find that the underperformances of distressed-acquirer government banks are aggravated in countries with weak institutional factors.

In sum, our empirical results suggest that the stereotypical image of underperformance does not apply to all government banks. To improve the performance of government banks, the government should not provide excessive guidance.

References

- Bae KH, Goyal V (2009) Creditor rights, enforcement and costs of loan finance. *J Finance* 64: 823-860
- Beck T, Cull R, Jerome A (2005) Bank privatization and performance: Empirical evidence from Nigeria. *J Bank Finance* 29: 2355-2379
- Bonin J, Hasan I, Wachtel P (2005) Privatization matters: Bank efficiency in transition countries. *J Bank Finance* 29: 2155-2178
- Bos JWB, Kool CJM (2006) Bank efficiency: The role of bank strategy and local market conditions. *J Bank Finance* 30: 1953-1974
- Boubakri N, Cosset JC, Fischer K, Guedhami O (2005) Privatization and bank performance in developing countries. *J Bank Finance* 29: 2015-2041
- Brown CQ, Dinç IS (2005) The Politics of Bank Failures: Evidence from Emerging Markets. *Q J Econ* 120: 1413-1444
- Cole RA, White LJ (2012) Déjà vu all over again: The causes of U.S. commercial bank failures this time around. *J Financ Serv Res* 42(1-2):5-29
- Dinç IS (2005) Politicians and banks: Political influences on government-owned banks in emerging countries. *J Financ Econ* 77: 453-459
- Focarelli D, Pozzolo AF (2008) Cross-border M&As in the financial sector: Is banking different from insurance? *J Bank Finance* 32: 15-29
- Haselmann R, Pistor K, Vig V (2009) How law affects lending. *Rev Financ Stud* 23: 549-580
- Iannotta G, Nocera G, Sironi A (2007) Ownership structure, risk and performance in the European banking industry. *J Bank Finance* 31: 2127-2149
- Kaufmann D, Kraay A, Mastruzzi M (2007) Governance Matters VI: Aggregate and Individual Governance Indicators for 1996–2006. Working Paper No. 4280, World Bank Policy Research
- Khwaja A, Mian A (2005) Do lenders favor politically connected firms? Rent provision in an emerging financial market. *Q J Econ* 120: 1371-1411
- Leuz C, Oberholzer-Gee F (2006) Political relationships, global financing, and corporate transparency: Evidence from Indonesia. *J Financ Econ* 81: 411-439
- Matthews K, Murinde V, Zhao T (2007) Competitive conditions among the major British banks. *J Bank Finance* 31: 2025-2042
- Meggison WL (2005) The economics of bank privatization. *J Bank Finance* 29: 1931-1980
- Mian A (2003) Foreign, private domestic, and government banks: New evidence from emerging markets. Working Paper, Mimeo, University of Chicago
- Micco A, Panizza U, Yañez M (2007) Bank ownership and performance. Does politics matter? *J Bank Finance* 31: 219-241

- Petersen M (2009) Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches. *Rev Financ Stud* 22: 435-480.
- Poghosyan T, Čihák M (2011) Determinants of Bank Distress in Europe: Evidence from a New Data Set. *J Financ Serv Res* 40(3): 163-184
- Puri M, Rocholl J, Steffen S (2011) Global retail lending in the aftermath of the US financial crisis: Distinguishing between supply and demand effects. *J Financ Econ* 100: 556-578
- Qi Y, Roth L, Wald JK (2010) Political rights and the cost of debt. *J Financ Econ* 95: 202-226
- Qian J, Strahan PE (2007) How Laws and Institutions Shape Financial Contracts: The Case of Bank Loans. *J Finance* 62: 2803-2834
- Rajan RG, Zingales L (2003) The great reversals: The politics of financial development in the twentieth century. *J Financ Econ* 69: 5-50
- Sapienza P (2004) The effects of government ownership on bank lending. *J Financ Econ* 72: 357-384
- Shen CH, Lin CY (2012) Why Government Banks Underperform: A Political Interference View. *J. Finan. Intermediation* 21: 181-202

Table 1 Definitions of dummy, control, and performance variables

Variable	Definition	Source of Data
<u>Dummy variables</u>		
$D_{Distress-A}$	A dummy variable that equals 1 if the acquirer is a distressed-acquirer government bank, and 0 otherwise. We define a government bank as a distressed-acquirer government bank if it is authorized to acquire distressed banks whose net income or equity is negative.	Bankscope, SDC ^a and Factiva ^b and by us ^c
$D_{Normal-A}$	A dummy variable that equals 1 if the acquirer is a normal-acquirer government bank and 0 otherwise. We define a government bank as a normal-acquirer government bank if it purchases a normal bank. Normal banks are those who are taken over by government banks, excluding distressed banks.	Bankscope, SDC and Factiva
D_{Non-A}	A dummy variable that equals 1 if the acquirer is a non-acquirer government bank and 0 otherwise. We define a government bank as a non-acquirer government bank if it does not have mergers from 1993 to 2007.	Bankscope, SDC and Factiva
$D_{Distress-A POB}$	A dummy variable that equals 1 if the acquirer is a distressed-acquirer private bank and 0 otherwise. We define a private bank as a distressed-acquirer private bank if it purchase a distressed bank whose net income or equity is negative.	Bankscope, SDC and Factiva
D_{WPR}	A dummy variable that equals 1 if the country offers weak political rights and 0 otherwise. A country with weak political rights is classified as partly free or not free by the source.	Freedom House (2010)
D_{WGC}	A dummy variable that equals 1 if the acquirer is a weak governance country and 0 otherwise. We use the 50 th percentile of this governance index, 0, to divide the countries into strong and weak governance countries.	Kaufmann et al. (2007)
$D_{Election}$	A dummy variable that equals 1 if there are presidential or parliamentary elections in that country and 0 otherwise.	by us
<u>Bank characteristic control variables</u>		
<i>Asset</i>	The natural logarithm of total assets	Bankscope
<i>Debt</i>	Total debts to total equities	Bankscope
<i>DEPLOAN</i>	Average balance of loan to average balance of deposit	Bankscope
<i>LIQUID</i>	Current asset to total assets	Bankscope

SDC: Securities Data Company, Factiva: databases including Dow Jones News, Reuters News, and *Wall Street Journal*, By us: the variables are contrasted by authors

(Continued) **Table 1** Definitions of dummy, control, and performance variables

Target characteristic control variables

<i>Target asset</i>	The natural logarithm of total assets of target bank. However, if the bank is not an acquirer, we set their value as 0.	Bankscope
<i>T/A size ratio</i>	Total assets of target to total assets of acquirer. However, if the bank is not an acquirer, we set their value as 0.	Bankscope

Macroeconomic control variables

<i>GDP</i>	Country's GDP to population	World Bank
<i>GDP growth</i>	Country's GDP growth rate	World Bank
<i>Budget surplus</i>	Country's government budget surplus as a percentage of GDP	World Bank
<i>Inflation rate</i>	Country's inflation rate	World Bank
<i>Exchange rate</i>	The change in the exchange rate of the domestic currency against the U.S. dollar from the previous year	Datastream

Performance variables

ROA	Net income to total assets	Bankscope
ROE	Net income to total equity	Bankscope
NIM	Net interest income to total assets	Bankscope

Table 2 Number of government banks and private banks: 100 countries

This table lists the basic statistics for the distressed-acquirer, normal-acquirer, and non-acquirer government banks, as well as the private bank samples. For the definitions of distressed-, normal-, and non-acquirer government banks see Table 1. The sample period is from 1993–2007.

Country ID	Country Name	Number of Government Banks	Distressed-Acquirer Government Banks	Normal-Acquirer Government Banks	Non-Acquirer Government Banks	Number of Private Banks
Developed countries						
1	Australia	5	1	1	3	27
2	Bahrain	3	0	0	3	7
3	Belgium	2	0	1	1	77
4	France	6	1	2	3	569
5	Germany	9	0	0	9	917
6	Greece	2	0	0	2	31
7	Iceland	1	0	0	1	27
8	Israel	4	1	0	3	16
9	Korea	3	1	0	2	43
10	Kuwait	3	0	0	3	5
11	Luxembourg	1	0	0	1	211
12	Netherlands	1	0	0	1	119
13	Norway	4	0	4	0	133
14	Portugal	3	0	3	0	45
15	Singapore	1	1	0	0	42
16	Slovenia	3	1	0	2	31
17	Sweden	2	0	1	1	119
18	Switzerland	4	0	0	4	582
19	Taiwan	9	0	3	6	51
20	United Arab Emirates	8	0	0	8	10
21	United Kingdom	1	0	0	1	144
Less developed countries						
22	Algeria	2	0	0	2	10
23	Argentina	12	1	0	11	109
24	Azerbaijan	2	0	0	2	8
25	Bahamas	1	0	0	1	21
26	Bangladesh	8	0	0	8	2
27	Belarus	5	1	1	3	9
28	Benin	1	0	0	1	6
29	Bosnia-Herz.	1	0	0	1	5
30	Brazil	10	0	0	10	189
31	Bulgaria	4	0	1	3	8
32	Burkina Faso	2	0	0	2	5
33	Cambodia	1	0	0	1	5
34	Cameroon	2	0	0	2	6
35	China	12	0	0	12	25
36	Colombia	2	0	0	2	38
37	Congo, D.R.	1	0	0	1	5
38	Costa Rica	1	0	0	1	55
39	Croatia	5	1	3	1	7
40	Cuba	1	0	0	1	5
41	Czech Republic	6	2	1	3	9
42	Dominican Republic	1	0	0	1	37
43	Egypt	9	2	0	7	24
44	Ethiopia	2	0	0	2	5
45	Gabon	2	0	0	2	3
46	Ghana	1	0	0	1	19
47	Guatemala	1	0	0	1	38

(Continued) **Table 2** Number of government banks and private banks: 100 countries

Country ID	Country Name	Number of Government Banks	Distressed-Acquirer Government Banks	Normal-Acquirer Government Banks	Non-Acquirer Government Banks	Number of Private Banks
48	Hungary	2	1	0	1	38
49	India	20	3	3	14	65
50	Indonesia	10	3	0	7	109
51	Iran	2	0	1	1	6
52	Iraq	1	0	0	1	3
53	Ivory Coast	1	0	0	1	13
54	Jordan	1	0	0	1	10
55	Kenya	3	0	0	3	47
56	Laos	1	0	0	1	1
57	Latvia	2	0	1	1	31
58	Lebanon	1	0	0	1	69
59	Macedonia	1	0	0	1	15
60	Madagascar	2	0	1	1	4
61	Malaysia	3	1	0	2	64
62	Malta	1	0	1	0	14
63	Mauritius	1	0	0	1	16
64	Mexico	4	2	0	2	66
65	Moldova	2	0	0	2	15
66	Morocco	3	0	0	3	16
67	Pakistan	7	0	1	6	24
68	Peru	1	0	0	1	31
69	Philippines	3	0	0	3	60
70	Poland	9	1	2	6	64
71	Qatar	2	0	0	2	5
72	Romania	3	1	0	2	31
73	Russian Federation	7	0	1	6	295
74	Rwanda	3	0	0	3	4
75	Saint Lucia	1	0	1	0	3
76	Saudi Arabia	1	0	0	1	10
77	Senegal	2	0	0	2	9
78	Serbia	5	1	0	4	40
79	Seychelles	2	0	0	2	3
80	Sierra Leone	2	0	0	2	3
81	Slovakia	2	1	0	1	25
82	South Africa	5	0	0	5	76
83	Sri Lanka	4	1	0	3	11
84	St. Kitts	1	0	0	1	1
85	Suriname	1	0	0	1	1
86	Swaziland	4	0	1	3	2
87	Syria	1	0	0	1	6
88	Tanzania	1	0	0	1	22
89	Thailand	6	2	0	4	19
90	Togo	2	0	0	2	4
91	Tunisia	1	0	0	1	13
92	Turkey	5	1	1	3	59
93	Uganda	1	0	0	1	16
94	Ukraine	2	0	0	2	67
95	Uruguay	1	0	0	1	54
96	Uzbekistan	3	0	0	3	14
97	Vietnam	4	0	0	4	27
98	Yemen	1	0	0	1	6
99	Zambia	1	0	0	1	11
100	Zimbabwe	4	0	0	4	24
	Total	329	31	35	263	5,501

Table 3 Summary statistics for Table 2

This table summarizes the basic statistics for the sample from 1993–2007.

	Number of Government Banks	Distressed- Acquirer Government Banks	Normal- Acquirer Government Banks	Non- Acquirer Government Banks	Number of Private Banks
Developed countries	75	6	15	54	3,206
Less developed countries	254	25	20	209	2,295

Table 4 Summary of the changes in government bank samples

This table shows the number of government banks each year during the period 1993–2007 in DC (developed countries) and LDC (less developed countries).

Number of government banks																
Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Sum
DC	59	62	62	64	65	66	67	64	64	63	63	60	56	54	49	918
LDC	144	164	178	184	193	202	206	216	226	230	237	238	227	210	194	3,049
Total	203	226	240	248	258	268	273	280	290	293	300	298	283	264	243	3,967

Table 5 Characteristic comparison: Distressed-acquirer government banks vs. private banks

This table presents a comparison of the dynamic characteristics of the distressed-acquirer government banks with the benchmark by using mean and median tests. The characteristic measures are substituted by ASSET, Debt, DEPLOAN and LIQUID. The Distressed-A and POBs represent the distressed-acquirer government banks and the value-weighted index of private banks for each country. The Diff represents the characteristic difference between the distressed-acquirer government banks and private banks. We set $t = -3$ to 5 where $t = 0$ represents the consolidation event year, $t = -3$ to -1 represents the pre-event years, and $t = 0$ to 5 represents the post-event years.

$t=$		-3	-2	-1	0	1	2	3	4	5
Panel A. Mean DIFFERENCE TEST										
ASSET	Distressed-A	9.05	9.26	9.64	9.31	9.55	9.68	9.68	9.92	9.89
	POBs	9.29	9.65	9.31	9.36	9.40	9.41	9.43	9.54	9.54
	Diff	-0.24	-0.39	0.33	-0.05	0.15	0.27	0.25	0.38	0.34
Debt	Distressed-A	22.25	24.44	25.12	18.79	17.01	21.90	17.06	15.13	13.01
	POBs	14.76	16.03	20.02	15.58	14.14	14.49	13.72	12.80	11.81
	Diff	7.49**	8.41***	5.10	3.21	2.88	7.42	3.34	2.32	1.20
DEPLOAN	Distressed-A	0.63	0.62	0.58	0.50	0.50	0.51	0.54	0.55	0.62
	POBs	0.65	0.63	0.56	0.50	0.52	0.53	0.56	0.60	0.67
	Diff	-0.02	-0.01	0.02	0.00	-0.01	-0.02	-0.02	-0.05	-0.05
LIQUID	Distressed-A	0.21	0.22	0.23	0.25	0.23	0.25	0.21	0.23	0.22
	POBs	0.22	0.24	0.25	0.24	0.23	0.26	0.24	0.25	0.24
	Diff	-0.02	-0.02	-0.02	0.01	0.00	0.00	-0.03	-0.03	-0.02
Panel B. Median difference test										
ASSET	Distressed-A	9.49	9.60	9.59	9.40	9.58	9.80	9.92	10.01	9.91
	POBs	8.60	9.04	9.04	9.64	9.66	9.62	9.61	9.63	9.33
	Diff	0.89	0.56	0.55	-0.24	-0.08	0.18	0.31	0.39	0.58
Debt	Distressed-A	23.02	26.36	19.68	22.42	15.53	14.76	14.30	11.96	10.65
	POBs	13.77	17.65	17.03	15.16	11.70	15.11	14.89	12.29	10.61
	Diff	9.24**	8.71**	2.65	7.26*	3.84	-0.35	-0.59	-0.33	0.04
DEPLOAN	Distressed-A	0.58	0.53	0.54	0.44	0.43	0.53	0.61	0.56	0.68
	POBs	0.63	0.57	0.54	0.43	0.42	0.54	0.58	0.61	0.69
	Diff	-0.05	-0.05	0.00	0.01	0.01	0.00	0.03	-0.06	-0.01
LIQUID	Distressed-A	0.16	0.13	0.24	0.27	0.13	0.22	0.16	0.16	0.19
	POBs	0.19	0.19	0.30	0.23	0.20	0.24	0.23	0.24	0.26
	Diff	-0.03	-0.06	-0.06	0.05	-0.07	-0.02	-0.06 *	-0.09**	-0.07

The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels respectively.

Table 6 Basic statistics of target banks (distressed and normal banks) before mergers

This table presents the basic statistics for distressed and normal banks before mergers. Distressed banks are those with net incomes or equity that are negative before the mergers and the acquisitions are reported to be influenced by the government. Normal banks are those who are taken over by government banks, excluding distressed banks. There are 38 distressed banks and 58 normal banks that are purchased by 31 distressed-acquirer government banks and 35 normal-acquirer government banks.

	Mean	Medium	Max	Min
Panel A. Distressed banks				
ROA (%)	-1.39	0.07	6.29	-13.28
ROE (%)	-13.45	3.94	63.07	-292.17
NIM (%)	2.01	2.21	7.41	-8.72
Net Income (US \$million)	-37.33	0.02	409.90	-34500.30
Target asset	5.84	6.38	11.68	-2.04
T/A size ratio (%)	1.77	0.51	15.44	0.05
Panel B. Normal banks				
ROA (%)	1.26	1.23	3.94	-2.98
ROE (%)	13.25	11.28	61.11	-22.40
NIM (%)	3.99	3.70	18.95	-13.34
Net Income (US \$million)	11345.66	68.40	132076.60	-9146.50
Target asset	10.01	10.06	16.10	-1.82
T/A size ratio (%)	5.76	0.94	57.13	0.07

Table 7 Performance comparison: Distressed-acquirer government banks vs. private banks

This table presents a comparison of the dynamic performance of distressed-acquirer government banks with the benchmark by using mean and median tests. The performance measures are substituted by the ROA, ROE, and the NIM. Distressed-A and POBs represent distressed-acquirer government banks and a value-weighted index of private banks for each country. The Diff represents the performance difference between distressed-acquirer government banks and private banks. We set $t = -3$ to 5 where $t = 0$ represents the consolidation event year, $t = -3$ to -1 represents the pre-event years, and $t = 0$ to 5 represents the post-event years.

$t=$		-3	-2	-1	0	1	2	3	4	5
Panel A. Mean difference test										
ROA	Distressed-A	0.19	0.00	-0.11	-0.32	0.48	0.48	-0.33	0.99	1.25
	POBs	0.50	0.54	0.71	1.02	1.12	1.35	1.17	1.39	1.63
	Diff	-0.31	-0.54	-0.82	-1.33***	-0.64	-0.87*	-1.49**	-0.39**	-0.38
ROE	Distressed-A	7.57	5.58	3.32	-13.31	11.76	7.92	3.14	14.75	14.97
	POBs	6.24	8.46	10.78	14.17	14.90	15.81	14.06	15.92	17.74
	Diff	1.33	-2.88	-7.46	-27.49***	-3.14	-7.89	-10.93*	-1.18	-2.78
NIM	Distressed-A	2.65	2.67	2.75	3.12	3.56	3.81	3.48	3.68	4.21
	POBs	3.12	2.81	2.92	3.64	3.86	4.10	4.10	4.18	4.60
	Diff	-0.47	-0.14	-0.18	-0.52	-0.30	-0.29	-0.62	-0.49	-0.39
Panel B. Median difference test										
ROA	Distressed-A	0.25	0.17	0.21	0.18	0.72	0.88	0.77	0.89	1.34
	POBs	0.70	0.73	0.79	1.06	1.04	1.11	1.10	1.44	1.23
	Diff	-0.46	-0.56	-0.58	-0.88***	-0.32	-0.23*	-0.33**	-0.55**	0.11
ROE	Distressed-A	5.87	5.16	4.86	2.65	11.71	11.03	11.86	12.40	14.51
	POBs	9.00	8.86	12.05	16.56	13.31	15.96	15.39	16.60	17.22
	Diff	-3.13	-3.71	-7.19	-13.91***	-1.60	-4.93	-3.53	-4.20	-2.71
NIM	Distressed-A	3.00	2.66	2.08	2.36	3.30	3.18	3.00	3.42	3.54
	POBs	2.48	2.54	2.58	3.51	3.38	3.44	3.61	3.57	3.62
	Diff	0.52	0.12	-0.50	-1.15*	-0.09	-0.26	-0.61	-0.15	-0.08

The superscripts *, **, and *** denote the significance at the 10%, 5%, and 1% levels respectively.

Table 8 Performance comparison: Normal-acquirer government banks (distressed-acquirer private banks) vs. private banks

This table presents a comparison of the dynamic performance of normal-acquirer government banks (distressed-acquirer private banks) with the benchmark by using mean tests. The performance measures are substituted by the ROA, ROE, and the NIM. Normal-A and POBs represent normal-acquirer government banks and a value-weighted index of private banks for each country. Distressed-A POB represents the distressed-acquirer private banks. The Diff represents the performance difference between normal-acquirer government banks (distressed-acquirer private banks) and private banks. We set $t = -3$ to 5 where $t = 0$ represents the consolidation event year, $t = -3$ to -1 represents the pre-event years; and $t = 0$ to 5 represents the post-event years.

		$t =$	-3	-2	-1	0	1	2	3	4	5
Panel A. Normal-acquirer government banks vs. private banks											
ROA	Normal-A		1.40	1.39	1.24	1.13	1.16	0.99	0.67	1.32	1.07
	POBs		1.10	1.14	1.17	1.13	0.84	0.95	0.69	1.15	1.29
	Diff		0.30	0.25	0.07	0.00	0.32	0.04	-0.02	0.17	-0.22
ROE	Normal-A		16.15	14.50	12.58	12.81	9.89	14.51	12.79	12.07	12.55
	POBs		13.42	12.32	12.19	13.58	10.56	13.94	15.07	16.25	14.15
	Diff		2.73	2.18	0.39	-0.77	-0.68	0.56	-2.28	-4.18	-1.60
NIM	Normal-A		3.84	3.76	3.70	3.82	4.00	3.58	3.87	4.33	3.85
	POBs		3.85	4.55	5.01	3.95	4.13	3.81	4.01	3.94	4.33
	Diff		-0.01	-0.78	-1.31	-0.13	-0.13	-0.22	-0.15	0.39	-0.47
Panel B. Distressed-acquirer private banks vs. private banks											
ROA	Distressed-A POB		0.57	0.47	0.24	0.30	0.50	0.63	0.48	0.75	0.67
	POBs		0.57	0.71	0.49	0.51	0.57	0.63	0.51	0.39	0.41
	Diff		-0.01	-0.24	-0.25	-0.20	-0.07	-0.01	-0.03	0.36	0.26
ROE	Distressed-A POB		6.79	5.64	2.71	3.91	6.40	7.40	4.82	6.78	5.91
	POBs		8.24	8.91	6.79	6.88	7.69	8.34	6.52	5.21	5.19
	Diff		-1.45	-3.27*	-4.08*	-2.98	-1.28	-0.95	-1.71	1.57	0.73
NIM	Distressed-A POB		3.84	3.69	3.68	3.78	3.60	3.27	3.19	3.25	3.48
	POBs		3.13	3.55	3.04	2.84	2.86	2.75	2.36	2.38	2.50
	Diff		0.71*	0.14	0.63*	0.94***	0.74**	0.52*	0.83***	0.87***	0.98***

The superscripts *, **, and *** denote the significance at the 10%, 5%, and 1% levels respectively.

Table 9 Performance comparison: Non-acquirer government banks vs. private banks

This table presents a comparison of the dynamic performance of non-acquirer government banks with the benchmark by using mean tests. The performance measures are substituted by the ROA, ROE, and the NIM. The Non-A and POBs represent non-acquirer government banks and a value-weighted index of private banks for each country. The Diff represents the performance difference between non-acquirer government banks and private banks. We set $t = -3$ to 5 where $t = 0$ represents the consolidation event year, $t = -3$ to -1 represents the pre-event years; and $t = 0$ to 5 represents the post-event years.

		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
ROA	Non-A	1.15	0.76	1.01	0.99	0.94	0.59	0.68	0.84	1.00	0.84	1.15	1.48	1.54	1.60	1.76
	POBs	1.06	0.69	0.68	1.06	1.05	0.72	0.85	1.11	1.04	0.96	1.14	1.37	1.56	1.51	1.67
	Differ	0.08	0.07	0.33	-0.07	-0.11	-0.13	-0.16	-0.27	-0.05	-0.12	0.01	0.11	-0.02	0.09	0.09
ROE	Non-A	16.79	9.86	13.36	11.67	11.90	9.28	8.98	9.55	8.87	7.44	10.18	13.33	13.73	16.27	17.48
	POBs	17.12	13.02	9.75	9.52	10.69	9.75	10.22	11.17	11.84	11.21	12.34	14.67	16.01	16.93	18.19
	Differ	-0.33	-3.16	3.61	2.15	1.21	-0.47	-1.24	-1.63	-2.97**	-3.77	-2.16	-1.33	-2.28*	-0.66	-0.71
NIM	Non-A	4.51	4.62	5.25	4.45	4.27	3.94	3.93	4.03	4.49	4.40	4.31	4.38	4.55	4.36	4.40
	POBs	3.96	3.61	4.47	4.18	3.70	3.64	4.08	3.85	3.98	4.07	3.74	3.80	4.09	4.11	4.08
	Differ	0.55	1.01*	0.77	0.26	0.57*	0.30	-0.15	0.18	0.51	0.33	0.57*	0.58*	0.46	0.25	0.32

The superscripts * and ** denote the significance at the 10% and 5% levels respectively.

Table 10 Testing the hypothesis for the government's role: Distressed-acquirer government banks

This table presents the estimated results from the influence of the government's role on the performance of distressed-acquirer government banks. The sample covers from $t = 0$ to $t = 5$. The econometric model is:

$$\text{PERFORM} = \alpha_1 + \alpha_2 \text{PR_Dummy} + \beta Z + \text{year and country dummies} + \varepsilon$$

where PERFORM is substituted by the ROA, ROE, and the NIM; the PR_Dummy is $D_{\text{Distressed-A}}$ and it is the dummy for the distressed-acquirer government banks. We do not report the coefficients for the bank and year dummies to save on space. The standard errors are corrected for heteroskedasticity by using the White-Huber estimators, and they are also clustered at the bank level in the regression. The t -values are reported in parentheses.

Variable	ROA	ROE	NIM
Intercept	-1.2446 (-0.54)	-25.1031 (-1.02)	-0.4361 (-0.32)
$D_{\text{Distressed-A}}$	-1.4697*** (-2.51)	-12.3985* (-1.86)	-0.9832*** (-4.32)
Asset	0.225 (1.30)	4.2740** (2.27)	0.0019 (0.03)
Debt	-0.0557*** (-5.03)	-0.5384*** (-4.17)	-0.0083 (-1.05)
DEPLOAN	1.6648* (1.72)	21.9497 (1.59)	4.9573*** (6.20)
LIQUID	0.1759 (0.12)	-14.1753 (-0.51)	3.6977*** (3.01)
Target asset	0.1265 (1.36)	0.7505 (0.70)	0.1221*** (3.34)
T/A size ratio	-0.0102 (-0.14)	0.0362 (0.04)	-0.0281 (-0.54)
GDP	-0.0002* (-1.71)	-0.0034** (-2.17)	-0.0002*** (-2.61)
GDP growth	-1.1804 (-1.45)	-25.4086** (-1.83)	-2.7770*** (-3.66)
Budget surplus	-0.0383 (-1.43)	-0.2183 (-0.70)	0.0382*** (3.19)
Inflation rate	-0.0061 (-0.30)	-0.2663 (-0.87)	-0.0375** (-2.12)
Exchange rate	2.1949 (1.17)	28.4532 (1.04)	10.3651*** (5.49)
Control For			
Bank	Y	Y	Y
Year	Y	Y	Y
Bank-year Obs.	324	324	324
Adj-R ²	0.5087	0.3510	0.8656

The superscripts *, **, and *** denote the significance at the 10%, 5%, and 1% levels respectively.

Table 11 Testing the hypothesis for the government's role: H2 versus H3

This table presents the estimated results for H2 and H3. The econometric model is:

$$\text{PERFORM} = \alpha_1 + \alpha_2 \text{PR_Dummy} + \beta Z + \text{year and country dummies} + \varepsilon$$

where PERFORM is substituted by the ROA, ROE, and the NIM; the PR_Dummy are $D_{\text{Normal-A}}$, $D_{\text{Non-A}}$, and $D_{\text{Distressed-A POB}}$; and they are referring to normal-acquirer, non-acquirer government banks, and distressed-acquirer private banks respectively. In Panels A and C, the sample covers from $t = 0$ to $t = 5$, whereas the sample covers from $t = 1993$ to $t = 2007$ in Panel B. We do not report the coefficients for Z and year and country dummies to save on space. The standard errors are corrected for heteroskedasticity by using the White-Huber estimators, and they are also clustered at the bank level in the regression. The t -values are reported in parentheses.

Variable	ROA	ROE	NIM
Panel A. Normal-acquirer government banks			
Intercept	-2.532 (-1.39)	-0.1136 (-0.00)	9.803*** (6.79)
$D_{\text{Normal-A}}$	0.0268 (0.16)	-1.4556 (-1.64)	-0.1018 (-0.95)
Bank-year Obs.	376	376	376
Adj-R ²	0.3716	0.6567	0.8587
Panel B. Non-acquirer government banks			
Intercept	0.0614 (0.10)	-6.3308 (-1.34)	0.3609 (0.33)
$D_{\text{Non-A}}$	-0.0279 (-0.56)	0.4092 (0.87)	0.5101*** (6.09)
Bank-year Obs.	5,398	5,398	5,398
Adj-R ²	0.2915	0.2436	0.5765
Panel C. Distressed-acquirer private banks			
Intercept	-0.4404 (-0.76)	-11.0888** (-2.00)	4.3428*** (6.32)
$D_{\text{Distressed-A POB}}$	-0.0984 (-1.00)	-0.9534 (-0.92)	0.2408*** (2.52)
Bank-year Obs.	1,062	1,062	1,062
Adj-R ²	0.4586	0.2661	0.7001
Control For			
Control Variables	Y	Y	Y
Bank	Y	Y	Y
Year	Y	Y	Y

The superscripts *, **, and *** denote the significance at the 10%, 5%, and 1% levels respectively.

Table 12 The Hypothesis for the government's role versus political rights

This table presents the estimated results for the hypothesis of the government's role in countries with different political rights. The sample covers from $t = 0$ to $t = 5$. The econometric model is:

$$\text{PERFORM} = \alpha_1 + \alpha_2 D_{\text{Distress-A}} + \alpha_3 D_{\text{Distress-A}} \times WIF + \beta Z + \text{year and country dummies} + \varepsilon$$

where PERFORM is substituted by the ROA, ROE, and the NIM; the WIF is D_{WPR} , and refers to weak political right countries; and the $D_{\text{Distress-A}}$ is the dummy for the distressed-acquirer government banks. We do not report the coefficients for Z and the year and country dummies to save on space. The standard errors are corrected for heteroskedasticity by using the White-Huber estimators, and they are also clustered at the bank level in the regression. The t -values are reported in parentheses.

Variable		ROA	ROE	NIM
Intercept		0.6701 (0.30)	-4.7673 (-0.18)	0.5257 (0.38)
$D_{\text{Distressed-A}}$	α_2	-1.2192*** (-2.39)	-11.9687** (-2.05)	-0.8129*** (-3.35)
$D_{\text{Distressed-A}} \times D_{WPR}$	α_3	-0.7665*** (-2.86)	-5.9214* (-1.71)	-0.6199*** (-3.28)
D_{WPR}	α_4	-0.2126 (-0.84)	-1.0279 (-0.28)	0.1073 (0.63)
$(\alpha_2) + (\alpha_3)$ estimate:		-1.9857***	-17.8901**	-1.4328***
Wald test: $(\alpha_2) + (\alpha_3)$ [p-value]		[0.0017]	[0.0136]	[0.0000]
<u>Control For</u>				
Control Variables		Y	Y	Y
Bank		Y	Y	Y
Year		Y	Y	Y
Bank-year Obs.		324	324	324
Adj-R ²		0.5368	0.3526	0.8801

The superscripts *, **, and *** denote the significance at the 10%, 5%, and 1% levels respectively.

Table 13 The hypothesis for the government's role versus country governance

This table presents the estimated results for the hypothesis of the government's role in countries with different country governance. The sample covers from $t = 0$ to $t = 5$. The econometric model is:

$$\text{PERFORM} = \alpha_1 + \alpha_2 D_{\text{Distress-A}} + \alpha_3 D_{\text{Distress-A}} \times WIF + \beta Z + \text{year and country dummies} + \varepsilon$$

where PERFORM is substituted by the ROA, ROE, and the NIM; the WIF is D_{WCG} and refers to weak governance countries; and $D_{\text{Distressed-A}}$ is the dummy for the distressed-acquirer government banks. We do not report the coefficients for Z and the year and country dummies to save on space. The standard errors are corrected for heteroskedasticity by using the White-Huber estimators, and they are also clustered at the bank level in the regression. The t -values are reported in parentheses.

Variable		ROA	ROE	NIM
Intercept		1.2247 (0.60)	4.2387 (0.17)	-0.5473 (-0.36)
$D_{\text{Distressed-A}}$	α_2	-1.2328*** (-2.45)	-12.3739** (-2.16)	-0.9820*** (-4.10)
$D_{\text{Distressed-A}} \times D_{\text{WCG}}$	α_3	-0.9269*** (-3.22)	-5.656 (-1.47)	-0.2664 (-1.27)
D_{WCG}	α_4	-0.3787 (-0.96)	-6.1471 (-1.17)	0.5477*** (2.09)
$(\alpha_2) + (\alpha_3)$ estimate:		-2.1597 ***	-18.0299**	-1.2484***
Wald test: $(\alpha_2) + (\alpha_3)$ [p-value]		[0.0009]	[0.0166]	[0.0000]
<u>Control For</u>				
Control Variables		Y	Y	Y
Bank		Y	Y	Y
Year		Y	Y	Y
Bank-year Obs.		324	324	324
Adj-R ²		0.542	0.3563	0.8758

The superscripts *, **, and *** denote the significance at the 10%, 5%, and 1% levels respectively.

Table 14 The hypothesis for the government's role versus election year

This table presents the estimated results for the hypothesis of the government's role during election years. The sample covers from $t = 0$ to $t = 5$. The econometric model is:

$PERFORM = \alpha_1 + \alpha_2 D_{Distress-A} + \alpha_3 D_{Distress-A} \times D_{Election} + \alpha_4 D_{Election} + \beta Z + \text{year and country dummies} + \varepsilon$
 where PERFORM is substituted by the ROA, ROE, and the NIM; the $D_{Election}$ is the presidential or parliamentary elections.; and $D_{Distressed-A}$ is the dummy for distressed-acquirer government banks. We do not report the coefficients of Z and the year and country dummies to save on space. The standard errors are corrected for heteroskedasticity by using the White-Huber estimators, and they are also clustered at the bank level in the regression. The t -values are reported in parentheses.

Variable		ROA	ROE	NIM
Intercept		-1.1486 (-0.51)	-16.3479 (-0.67)	-0.3562 (-0.25)
$D_{Distressed-A}$	α_2	-1.4020*** (-2.35)	-13.6549** (-2.03)	-0.9485*** (-3.96)
$D_{Distressed-A} \times D_{Election}$	α_3	-0.4725 (-1.35)	-2.6368 (-0.71)	-0.2783 (-1.23)
$D_{Election}$	α_4	0.3338* (1.88)	1.6174 (0.84)	0.3202** (2.00)
$(\alpha_2) + (\alpha_3)$ estimate:		-1.8745***	-16.2917**	-1.2268***
Wald test: $(\alpha_2) + (\alpha_3)$ [p-value]		[0.0024]	[0.0116]	[0.0000]
<u>Control For</u>				
Control Variables		Y	Y	Y
Bank		Y	Y	Y
Year		Y	Y	Y
Bank-year Obs.		324	324	324
Adj-R ²		0.5153	0.3431	0.8755

The superscripts *, **, and *** denote the significance at the 10%, 5%, and 1% levels respectively.

Table 15 Characteristic comparison: Distressed-acquirer government banks vs. other government banks

This table presents a comparison of the dynamic characteristic of distressed-acquirer government banks with other government banks by using mean and median tests. The characteristic measures are substituted by ASSET, Debt, DEPLOAN and LIQUID. The Distressed-A and Other GOBs represent distressed-acquirer government banks and a value-weighted index of other government banks for each country. The Diff represents the characteristic difference between distressed-acquirer government banks and other government banks. We set $t = -3$ to 5 where $t = 0$ represents the consolidation event year, $t = -3$ to -1 represents the pre-event years; and $t = 0$ to 5 represents the post-event years.

$t=$		-3	-2	-1	0	1	2	3	4	5
Panel A. Mean difference test										
ASSET	Distressed-A	9.05	9.26	9.64	9.31	9.55	9.68	9.68	9.92	9.89
	Other GOBs	9.27	9.53	9.12	8.65	9.05	9.01	8.88	8.78	9.19
	Diff	-0.22	-0.27	0.52	0.66	0.50	0.67	0.80	1.15	0.70
Debt	Distressed-A	22.25	24.44	25.12	18.79	17.01	21.90	17.06	15.13	13.01
	Other GOBs	15.95	16.96	17.29	11.94	12.97	11.79	11.32	10.94	9.38
	Diff	6.31**	7.47**	7.83	6.86	4.05	10.12**	5.73	4.18	3.63
DEPLOAN	Distressed-A	0.63	0.62	0.58	0.50	0.50	0.51	0.54	0.55	0.62
	Other GOBs	0.63	0.60	0.56	0.49	0.50	0.52	0.57	0.61	0.56
	Diff	0.00	0.01	0.02	0.01	0.01	-0.01	-0.03	-0.06	0.06
LIQUID	Distressed-A	0.21	0.22	0.23	0.25	0.23	0.25	0.21	0.23	0.22
	Other GOBs	0.22	0.24	0.26	0.26	0.26	0.25	0.24	0.24	0.25
	Diff	-0.02	-0.02	-0.03	-0.01	-0.04	0.00	-0.03	-0.02	-0.03
Panel B. Median difference test										
ASSET	Distressed-A	9.49	9.60	9.59	9.40	9.58	9.80	9.92	10.01	9.91
	Other GOBs	9.39	9.97	9.61	9.63	9.65	9.91	9.71	9.76	10.05
	Diff	0.10	-0.37	-0.02	-0.23	-0.07	-0.11	0.21	0.25**	-0.14
Debt	Distressed-A	23.02	26.36	19.68	22.42	15.53	14.76	14.30	11.96	10.65
	Other GOBs	15.61	14.80	13.55	11.96	11.89	10.84	10.60	10.43	8.92
	Diff	7.41**	11.56**	6.13	10.46***	3.64	3.91*	3.69***	1.52	1.73*
DEPLOAN	Distressed-A	0.58	0.53	0.54	0.44	0.43	0.53	0.61	0.56	0.68
	Other GOBs	0.58	0.52	0.48	0.42	0.48	0.50	0.52	0.50	0.50
	Diff	0.00	0.01	0.06	0.02	-0.05	0.04	0.08	0.06	0.18
LIQUID	Distressed-A	0.16	0.13	0.24	0.27	0.13	0.22	0.16	0.16	0.19
	Other GOBs	0.16	0.17	0.27	0.28	0.27	0.25	0.26	0.25	0.26
	Diff	0.00	-0.04	-0.03	-0.01	-0.13	-0.03	-0.10	-0.09	-0.07

The superscripts *, **, and *** denote the significance at the 10%, 5%, and 1% level respectively.

Table 16 Performance comparison: Distressed-acquirer government banks vs. other government banks

This table presents a comparison of the dynamic performance of distressed-acquirer government banks with other government banks by using mean and median tests. The performance measures are substituted by the ROA, ROE, and the NIM. The Distressed-A and Other GOBs represent distressed-acquirer government banks and a value-weighted index of other government banks for each country. The Diff represents the characteristic difference between distressed-acquirer government banks and other government banks. We set $t = -3$ to 5 where $t = 0$ represents the consolidation event year, $t = -3$ to -1 represents the pre-event years; and $t = 0$ to 5 represents the post-event years.

$t=$		-3	-2	-1	0	1	2	3	4	5
Panel A. Mean difference test										
ROA	Distressed-A	0.19	0.00	-0.11	-0.32	0.48	0.48	-0.33	0.99	1.25
	Other GOBs	0.51	0.61	0.58	1.31	1.15	1.59	1.75	1.36	1.98
	Diff	-0.31	-0.61	-0.69	-1.63***	-0.67	-1.11*	-2.08***	-0.37	-0.73*
ROE	Distressed-A	7.57	5.58	3.32	-13.31	11.76	7.92	3.14	14.75	14.97
	Other GOBs	8.82	8.60	9.19	17.48	15.32	18.68	19.79	14.28	18.40
	Diff	-1.24	-3.02	-5.87	-30.79***	-3.56	-10.76*	-16.65**	0.46	-3.44
NIM	Distressed-A	2.65	2.67	2.75	3.12	3.56	3.81	3.48	3.68	4.21
	Other GOBs	3.60	3.78	2.62	4.40	3.66	4.61	4.36	4.97	5.83
	Diff	-0.95	-1.11	0.13	-1.29	-0.11	-0.79	-0.88	-1.29	-1.62*
Panel B. Median difference test										
ROA	Distressed-A	0.25	0.17	0.21	0.18	0.72	0.88	0.77	0.89	1.34
	Other GOBs	0.58	0.57	0.69	0.87	0.77	1.49	1.37	1.57	2.20
	Diff	-0.34	-0.40	-0.48	-0.69***	-0.06	-0.61	-0.60***	-0.68*	-0.86***
ROE	Distressed-A	5.87	5.16	4.86	2.65	11.71	11.03	11.86	12.40	14.51
	Other GOBs	7.41	7.04	8.76	18.02	17.15	18.59	17.64	16.38	16.92
	Diff	-1.55	-1.88	-3.90	-15.37***	-5.45	-7.56*	-5.78**	-3.98	-2.41
NIM	Distressed-A	3.00	2.66	2.08	2.36	3.30	3.18	3.00	3.42	3.54
	Other GOBs	2.29	2.54	2.49	3.58	3.28	3.90	3.48	4.15	5.61
	Diff	0.71	0.12	-0.41	-1.22**	0.02	-0.72	-0.48	-0.73	-2.07

The superscripts *, **, and *** denote the significance at the 10%, 5%, and 1% levels respectively.

Table 17 Robust testing: Limiting to government bank samples versus difference-in-difference method

This table presents the estimated results from the hypothesis for the government's role in two robust tests. In Panel A, we use other government banks against the benchmark. The sample covers from $t = 0$ to $t = 5$ and the econometric model is:

$$\text{PERFORM} = \alpha_1 + \alpha_2 \text{PR_Dummy} + \beta Z + \text{year and country dummies} + \varepsilon$$

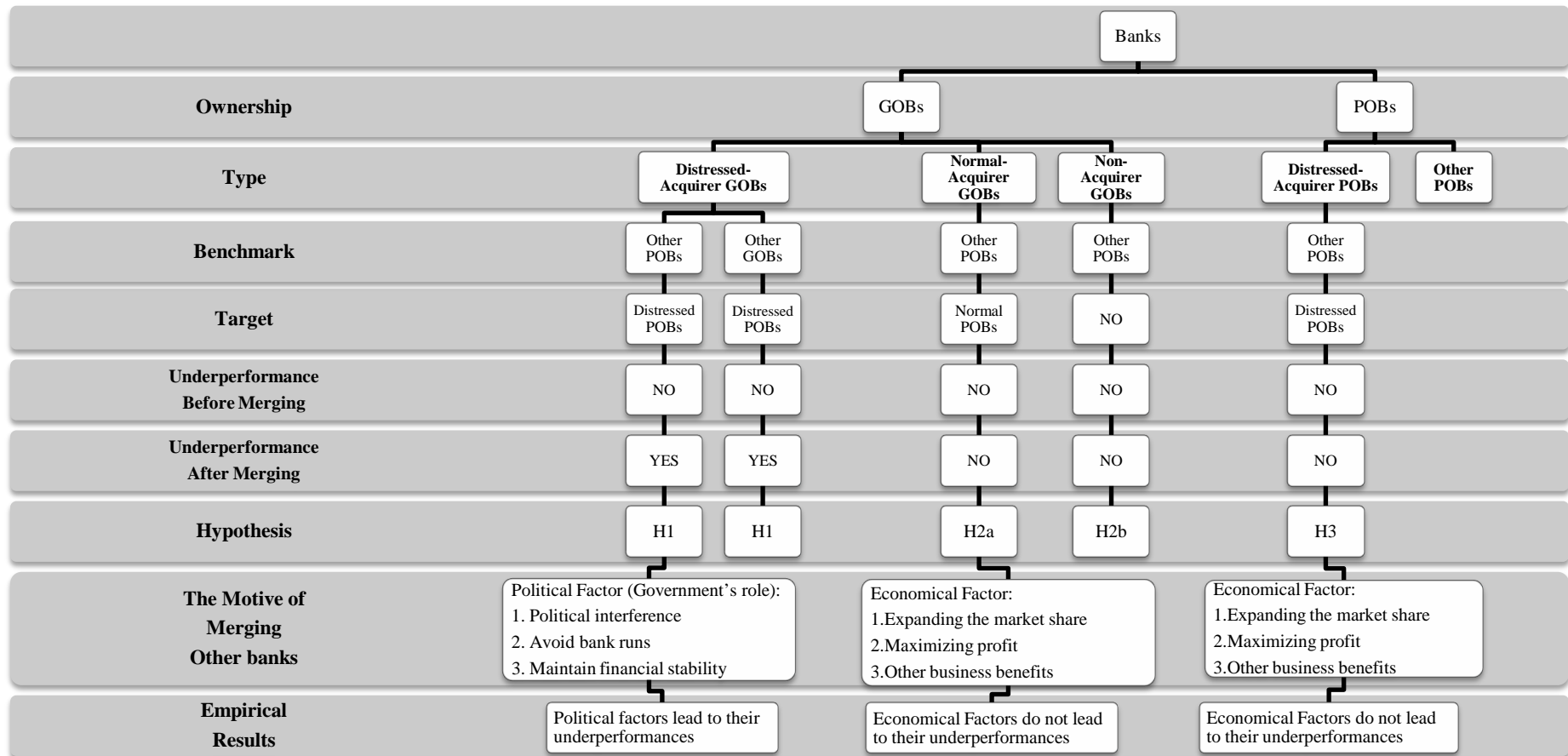
where PERFORM is substituted by the ROA, ROE, and the NIM; the PR_Dummy is $D_{\text{Distressed-A}}$, and it is the dummy for distressed-acquirer government banks. In Panel B, we then use the difference-in-difference method to estimate the results for the hypothesis for the government's role. The sample covers from $t = -3$ to $t = 5$ and the econometric model is:

$$\text{PERFORM} = \alpha_1 + \alpha_2 D_{\text{Distressed-A}} + \alpha_3 D_{\text{Distressed-A}} \times D_{\text{After-Merging}} + \alpha_4 D_{\text{After-Merging}} + \beta Z + \text{year and country dummies} + \varepsilon$$

where PERFORM is substituted by the ROA, ROE, and the NIM; the $D_{\text{After-Merging}}$ equals 1 if the sample periods are $t = 0$ to 5 and 0 otherwise. We do not report the coefficients of Z and the year and country dummies to save on space.

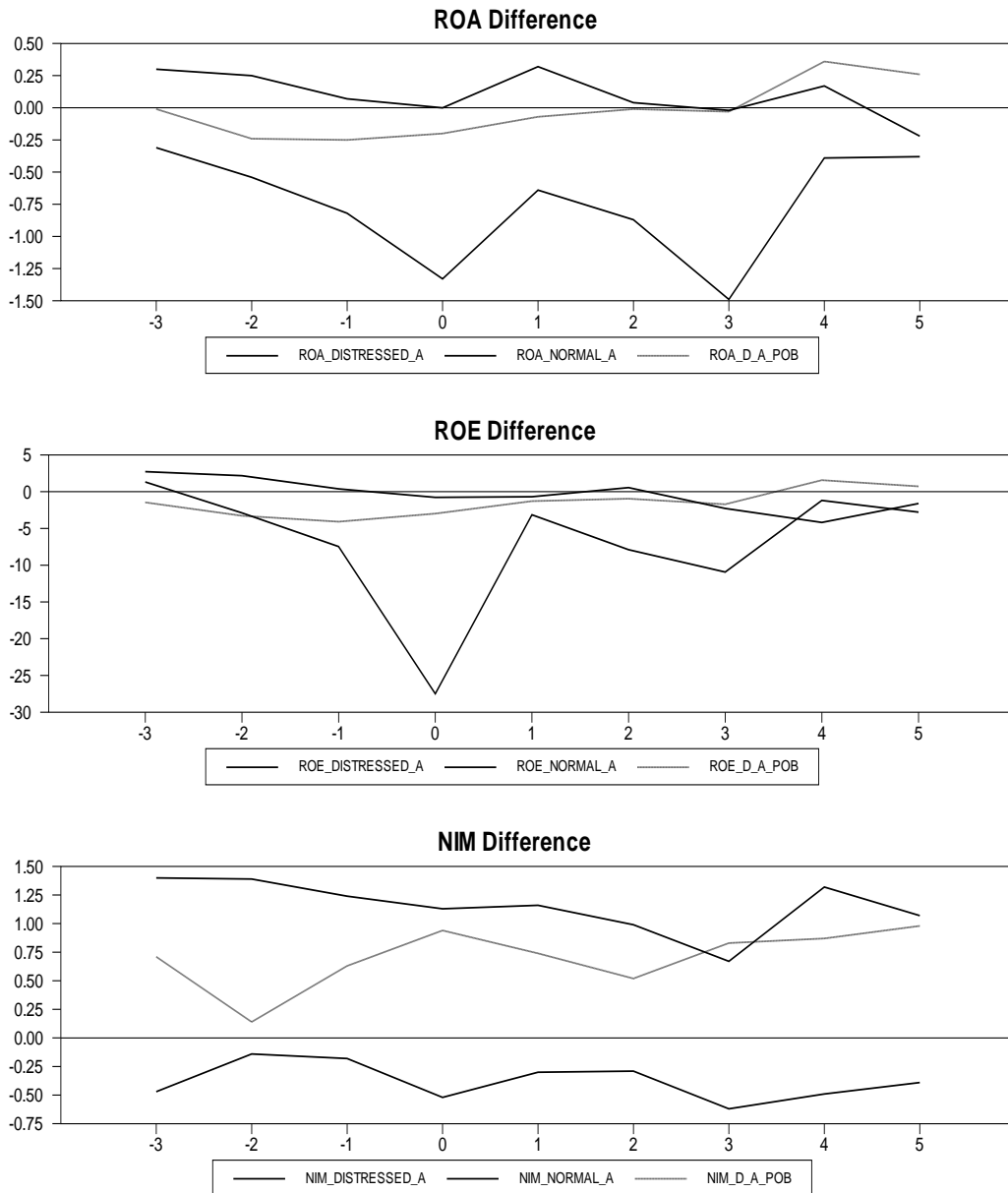
Variable		ROA	ROE	NIM
Panel A. Limiting to government bank samples				
Intercept		8.3927*** (2.50)	28.7497 (1.06)	2.5534 (0.35)
$D_{\text{Distressed-A}}$		-0.8038*** (-4.03)	-10.5966*** (-3.74)	-0.4085* (-1.85)
Bank-year Obs.		324	324	324
Adj-R ²		0.5280	0.3530	0.5497
Panel B. Difference-in-difference method				
Intercept		-0.6001 (-0.42)	7.2161 (0.42)	-0.5416 (-0.64)
$D_{\text{Distressed-A}}$	α_2	-0.4108 (-1.05)	0.3442 (0.07)	-0.4205* (-1.71)
$D_{\text{Distressed-A}} \times D_{\text{After-Merging}}$	α_3	-0.4590* (-1.74)	-6.2710* (-1.68)	-0.0789 (-0.40)
$D_{\text{After-Merging}}$	α_4	1.3123*** (3.84)	18.6266*** (3.41)	0.4734 (1.58)
$(\alpha_3) - (\alpha_4)$ estimate:		-1.7713***	-24.8976***	-0.5523
Wald test: $(\alpha_3) - (\alpha_4)$ [p-value]		[0.0005]	[0.0018]	[0.1658]
Bank-year Obs.		512	512	512
Adj-R ²		0.4749	0.3397	0.8350
Control For				
Control Variables		Y	Y	Y
Bank		Y	Y	Y
Year		Y	Y	Y

The superscripts *, **, and *** denote the significance at the 10%, 5%, and 1% levels respectively.



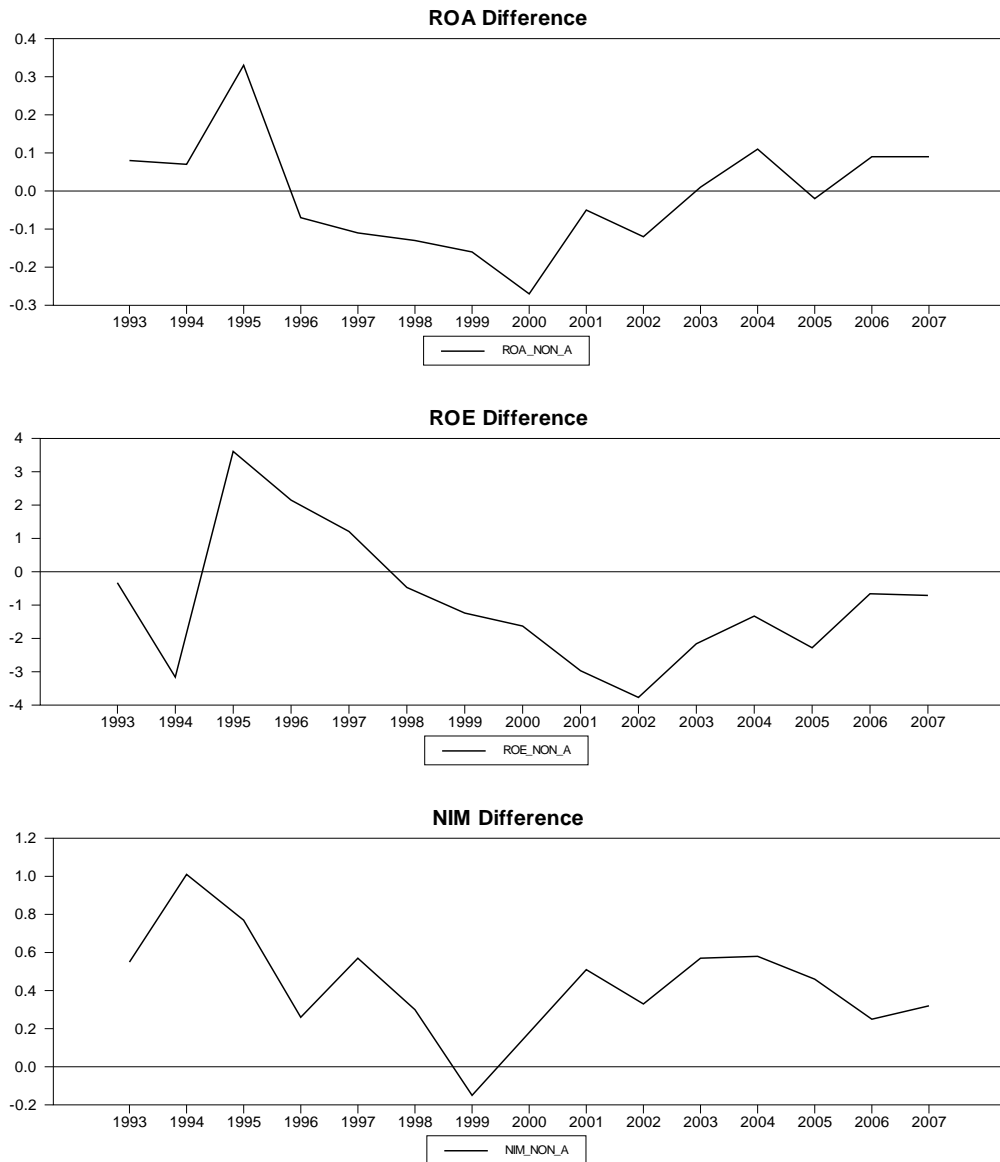
Notes: Government-owned banks (GOBs) are banks in which the government owns directly or indirectly at least at 20%; private-owned banks (POBs) have government ownership of less than 20%. Three types of GOBs exist: distressed-, normal-, and non-acquirer GOBs that acquire distressed banks by the request of government, GOBs that acquire normal banks, and GOBs that do not acquire any bank respectively. Two types of POBs are distressed-acquirer POBs and other POBs. Distressed-acquirer POBs are private banks that acquire distressed banks.

Fig. 1 Summary of hypotheses building



Note: In this figure, the difference equals the average performance of three types of acquirers – average POBs. DISTRESSED_A, NORMAL_A, and D_A_POB are distressed-acquirer government banks, normal-acquirer government banks, and distressed-acquirer private banks respectively. POBs are a value-weighted index of private banks for each country. The year of a merger is signified by $t = 0$; $t = -1, -2, -3$ denote the number of years before the event date; and $t = 1, 2, \dots, 5$ denote the number of years after the event date.

Fig. 2 Performance differences: Three types of acquirers versus private banks



Note: In this figure, the difference equals the average performance of non-acquirer – average POBs. Non_A are non-acquirer government banks, and POBs are a value-weighted index of private banks for each country.

Fig. 3 Performance differences: Non-acquirer government banks versus private banks

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