TOO MANY TO FAIL?

Evidence of Regulatory Reluctance in Bank Failures when the Banking Sector is Weak

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Abstract: This paper studies failures among large banks in 21 major emerging markets in the 1990s. It shows that the government is less likely to take over or close a failing bank if other banks in that country are also weak. This Too-Many-to-Fail effect is robust to controlling for macroeconomic and bank-specific factors, electoral cycle, outstanding loans from IMF, as well as worldwide time-specific factors.

Key Words: Banking Crises, Bank Regulation, Bank Rescues, Contagion

With their ability to issue new (and insured) deposits to pay old liabilities, insolvent banks rarely declare bankruptcy in the traditional way. Instead, they continue to operate until the government suspends their operations. This framework also gives the government ability to delay closing or taking over a failed bank. When does the government take over or close a weak bank? Does it depend only on the financial health of the bank in question or also on the strength of other banks? In particular, does the government delay closing or taking over a bank if other banks are also weak?

There are at least four reasons why regulators may delay taking over or closing a weak bank if other banks are also weak. First, they may worry about information spillover from the failure of a bank to other banks (Lang and Stulz (1992), Slovin et al. (1999)). Second, the failure of a bank may decrease the overall liquidity available to other banks (Diamond and Rajan (2005)). Third, the failure may spread to other banks through the interbank market (Allen and Gale (2000)). Finally, regulators or politicians may have incentives to postpone the eventual reckoning of banking problems to a future set of regulators or politicians (Kane (1989), Kroszner and Strahan (1996)). Given these reasons, a natural question is whether there is a "Too-Many-To-Fail" effect in banking such that government intervention in weak banks is delayed if other banks in that country are also weak.

This paper adopts a bank-level, multi-country approach to study this question. Specifically, it follows largest banks in 21 major emerging markets through most of the 1990s. It shows that the decision to close or take over a failing bank depends on the financial health of other banks in that country. In particular, such drastic intervention is delayed if other banks in that country are also weak. This result is robust to controlling

for bank-level characteristics, macroeconomic factors, political factors such as electoral cycle and potential IMF pressure, as well as worldwide common time-specific factors. This paper is the first to document the Too-Many-To-Fail effect in banking in a multi-country setting.

Several single-country studies already suggest the existence of Too-Many-To-Fail approach in banking. Kane (1989) and Kroszner and Strahan (1996) argue that the perverse incentives of politicians and regulators delayed the eventual dealing with the S&L crisis in the U.S. Hoshi and Kashyap (2001) describe the delay the Japanese government showed in tackling the banking crisis. In a non-banking setting, Berglof and Bolton (2002) discuss how Hungary and Czech Republic had to soften their new bankruptcy code during transition when many firms would otherwise have had to be declared bankrupt. All these papers focus on one crisis at a time. This paper instead adopts a bank-level, multi-country approach, which allows empirical tests that are difficult to conduct in a single-country setting with precision. In particular, our approach permits separating the Too-Many-To-Fail effect from other country-specific factors that tend to be associated with bank failures.

Several papers provide theoretical models of the Too-Many-To-Fail phenomenon. Acharya and Yorulmazer (2006) show that regulators may choose not to liquidate failing banks if there are many weak banks, which may lead to herding by banks ex ante. Mitchell (2001) demonstrates that the government's decision to liquidate insolvent banks may depend on the number of such banks as the social costs of liquidation may become prohibitively high as that number increases. In non-banking contexts, models of Too-Many-To-Fail effect are provided by Roland and Verdier (1994) for privatization and by

Perotti (1998) for monetary stabilization. Although our paper is not an empirical test of any particular model, the results are consistent with insights from these models.

Our paper is also related to the literature on bank failures in emerging markets. Barth et al. (2006) emphasize the incentives of regulators in the stability and development of banking. Unlike our paper, most of this literature consist of country-level analysis of banking crises, e.g., Beck et al. (2003), Caprio and Klingebiel (2002), Claessens et al. (2005), and Demirguc-Kunt and Detragiache (1998, 2002). Two exceptions are Bongini et al. (2001) and Bongini et al. (2002), who provide a bank-level analysis of the banking crises in four East Asian countries. In another exception, Brown and Dinc (2005), with whom this paper shares data, show that regulators are more likely to take over or close failing banks after elections than before. The results documented in our paper are robust to and independent from the role of electoral cycle in government intervention.

The rest of the paper is organized as follows. The next section presents the data. The second section discusses our methodology and presents our main results. The fourth section provides robustness checks of our results to macroeconomic and political factors as well as other bank level characteristics. Conclusion follows.

1 Data

A. Banks

The data are obtained from Brown and Dinc (2005) who identify the 10 largest commercial banks in each of 21 major emerging markets. These banks are followed from January 1, 1994, until one of the following three exit events takes place: (a) failure as manifested through takeover or license suspension/revocation by the regulators; (b) merger with or acquisition by another bank; (c) reaching December 31, 2000, the end of

sample period. Government takeovers and license suspension/revocations are the only forms of bank failure in the sample, so the first exit event covers all the bank failures.

Each bank merger is evaluated on a case-by-case basis to decide whether it is, in fact, a government takeover of a failing bank. If one of the merger partners is a private bank but the resulting entity is majority-owned by the government, that merger is considered a government takeover; hence, the failure of that private bank. Otherwise, the merger is not considered a bank failure.

Bankscope provides the balance sheet data while bank failures and ultimate ownership of the banks are determined through manual data collection. Press sources provided in *Factiva* are used to identify the failing banks and determine the exact date of government interventions. The ultimate owner of each bank is determined using *Bankscope, Factiva,* and various Internet sources. Based on the ultimate owner, the sample is split into two groups. The banks in the first group are always 50 percent or more owned by the central government throughout the sample period. The second group consists of the banks in which government ownership, if any, was less than 50 percent in at least one year during the sample period. In particular, this group includes banks that were owned by the government at more than 50 percent level in 1993 and were subsequently privatized during the sample period. We refer the reader to Brown and Dinc (2005) for the details of the dataset.

Table I and II present descriptive statistics and are borrowed from Brown and Dinc (2005). Table I reports the number of bank failures in 1994-2000 among the largest 10 banks (as of 1993) in each country. Three findings are worth emphasizing in Table I. First, bank failure is very common in the sample countries. Out of 164 private banks, 40

banks, or about 25 percent, failed during the sample period. These failures are not just a reflection of the Asian or another crisis. In total, 12 countries had at least one bank failure among its largest banks during the sample period.

Second, the regulatory intervention in failing banks by suspending the banking license of the failing bank, paying the depositors from the deposit insurance, and liquidating the bank is a big exception. In 34 of the 40 failures, the government actually took over the bank and continued to operate it. Third, and perhaps unsurprisingly given the intervention choice of the government, no government-owned bank in the sample ever lost its banking license.

The fact that most failed banks are taken over by the government but not closed does not imply that this is a mere change of ownership without major and immediate implications. First, even though these banks continue their operations, Brown and Dinc (2005) show that their lending and employment shrink after the government take-over. This is also consistent with the U.S. experience. Slovin et al. [1993] study the failure and the subsequent government rescue of Continental Illinois Bank in 1984, the most recent failure of a top ten bank in the U.S. They show that the firms for which Continental Illinois was a main lender had an average excess return of -11.7 percent during a 75-day period that included the bank's failure and its subsequent government rescue. Second, government ownership of banks itself leads to inefficiencies and political lending, as demonstrated by Sapienza (2004), Dinc (2005), Khwaja and Mian (2005). It also results in subsequent low growth (La Porta et al. (2002)). Finally, the cost of dealing with the non-performing assets of a failing bank becomes due immediately upon the government.

Given that no government-owned bank failed during the sample period, the

analysis in the rest of paper focuses on the bank-years when the banks were private. In particular, the following entry and exit events are adopted for analysis: Bank *i* enters the study in year t_i, which is the later occurrence of one of the following two 'entry' dates: (a) January 1, 1994, the start of our sample period; (b) the date the bank is privatized so that ownership of the central government drops below 50 percent. Bank *i* exits the study in year T_i, which is the earliest occurrence of one of the following three 'exit' events: (a) the bank is taken over or has its license suspended/revoked by the government; (b) the bank is acquired by another bank so the balance sheet data are no longer available for that bank as a separate entity; or (c) the bank survives until December 31, 2000, the end of the sample period.

Table II presents sample statistics for selected balance sheet items of these banks between their entry and exit dates. There is no statistically significant difference between the failed banks and other banks in absolute size of their assets as well as the ratios of their loans and their deposits to total assets. However, as a percentage of their country's GDP, failed banks are smaller and the difference is statistically significant at the 5 percent level.

More importantly, failed banks are substantially under-capitalized relative to other banks. The capital ratio, defined as total equity divided by total assets, is only 4.4 percent for failed banks while it is 9.2 percent for other banks. The difference is statistically significant at the 1 percent level. Similarly, annual income per asset is lower in failed banks with -1.9 percent, while the same ratio is 1.5 percent for other banks. The difference is statistically significant at the 5 percent level. The fact that the average income per asset is negative for failed banks suggests that, unless these banks made very

big losses in the year immediately before government intervention, the failed banks had made losses for several years before the government finally intervened.

2 Regression Analysis

The null hypothesis that bank failures, defined as government takeover or license revoking of a bank, do not depend on the health of other banks is tested in a Cox proportional hazard model given by[1]

$$(1) \qquad h(t) = h_0(t)\exp\left(\boldsymbol{\beta}'\mathbf{x}_{it-1} + \gamma * z_{-i,t-1}\right), \qquad t = t_i,...,T_i,$$

where $\mathbf{x_{it}}$ is the vector of explanatory variables including both bank and country level variables and $z_{-i,t}$ is a measure of health for other banks in that country. The base hazard function is given by $h_0(t)$, which is not estimated. The entry year t_i and the exit year T_i for bank i are as defined in the previous section. A positive coefficient for a variable in a Cox proportional hazard model indicates increasing likelihood of bank failure as that variable increases. Notice that Cox proportional hazard analysis controls for all the common factors for a given time period non-parametrically, which is akin to including time dummies in an OLS regression. Finally, since government intervention in a bank may not be independent from another intervention in the same country, all the errors reported in this study are corrected for clustering at the country level in addition to being robust to heteroscedasticity.

The null hypothesis implies that γ=0. On the other hand, if the decision to take over or close a failing bank depends on the health of other banks, we should have $\gamma \neq 0$. In particular, if the government is more likely to intervene in a failing bank as the health

[1] Shumway (2001) shows the superiority of hazard models to single-period models in forecasting bankruptcy. Studies that use hazard models in analyzing bank failures include Lane et al. (1986), Whalen (1991), Molina (2002), and Brown and Dinc (2005).

of other banks improves -- z_{-i} increases— we expected to have $\gamma>0$. Notice the potential omitted variable bias that goes *against* finding $\gamma>0$. If our measures of health for other banks in the same country are correlated with a country-wide omitted factor that affects the health of all the banks in that country, a low z_{-i} will mean that bank *i* is, in fact, weaker beyond what is captured by the control variables. This will bias the estimates of γ to be negative because the government is more likely to take over or close a weak bank. Hence, the role of other banks' health in the government's decision to take over or close a failing bank is likely to be underestimated in the analysis below.

The main regression results are reported in Table 3. The first three regressions do not include any measures of health for other banks and they serve as benchmark. *Total Assets/GDP*, which is the bank's total assets normalized by the GDP of the country where it is located, is included in all the regressions to control for size. It has a negative but statistically insignificant coefficient. In addition to the size measure, the first regression includes *Capital Ratio*, defined as the book value of shareholder equity divided by total assets. *Capital Ratio* has a negative and statistically significant coefficient, which implies that the banks with low capital are more likely to fail. The second regression substitutes *Income*, which is defined as the operating income divided by total assets, for *Capital Ratio*. *Income* also has a negative and statistically significant coefficient, which implies that less profitable banks are more likely to fail. These results motivate the use of capital ratio and income to construct the measures of financial health for other banks. Finally, the third regression includes both *Capital Ratio* and *Income*; both continue to have negative coefficients but only the coefficient of *Capital Ratio* remains statistically significant.

The remaining regressions study the role of other banks' financial health in the government's decision to take over or close a failing bank. Two measures are constructed. *Capital Ratio_OtherBanks* is the weighted average of capital ratios of other banks in that country, where the weights are the banks' total assets. *Income_OtherBanks* is the weighted average income per assets of other banks with the same weights. While the regression sample contains only private banks as no government-owned bank in the initial sample 'failed', these measures are constructed using all the banks in the initial sample to capture the health of the banking sector in that country.

The fourth regression adds *Capital Ratio_OtherBanks* to the third regression. *Capital Ratio_OtherBanks* has a positive and statistically significant coefficient, which indicates that the government is more likely to take over or liquidate a failing bank if the remaining banks have high capital ratios after the individual bank-level factors are controlled for. The fifth regression substitutes *Income_OtherBanks* for *Capital Ratio_OtherBanks*. *Income Ratio_OtherBanks* also has a positive and statistically significant coefficient, which implies that the government is more likely to take over or liquidate a failing bank if the remaining banks are profitable. These results indicate that the government decision to intervene in a failing bank depends, not only on that bank's financial health, but also on the health of other banks in that country. In particular, the government take over or closing of a failing bank is delayed if the other banks in that country are also weak –a Too-Many-To-Fail effect. The next section provides robustness checks for this result.

3 Robustness

A. Macroeconomic Factors

It is important to study the robustness of the results presented in the previous section to macroeconomic common factors. One difficulty in disentangling the role of common macroeconomic factors from the role of other banks' financial health is that the measures of financial health for other banks necessarily change little from one bank to another. Hence, to the extent that these countrywide macroeconomic factors are correlated with banks' financial health, the analysis may be subject to potential multicollinearity problems between macroeconomic measures and the measures of financial health for other banks.

With these difficulties in mind, five different macroeconomic variables are studied: GDP growth rate, GDP per capita, currency depreciation, inflation rate, and real interest rate. All macroeconomic variables are as of year *t-1*. Table 4 Panel A reports the results of the regressions that include these macroeconomic variables when the health of other banks is measured by their average capital ratio. Table 4 Panel B repeats the analysis by using the average income of other banks as a measure of their financial health.

GDP growth rate has a negative and significant coefficient, which implies that banks are less likely to fail when the economy is growing. There is also some weak evidence that banks are more likely to fail when the inflation is high. Inflation has a positive coefficient in both panels but it is statistically significant only when the financial health of other banks is measured by their average income. No other macroeconomic variable has a statistically significant coefficient.

The main variables of interest in the analysis, *Capital Ratio_OtherBanks* and *Income Ratio_OtherBanks*, both have positive and statistically significant coefficients in all the regressions. This indicates that the delay in taking over or closing failing banks by the government is not because the financial health measures employed in the analysis proxies for some common macroeconomic factor. Instead, the results presented in the previous section represent a separate Too-Many-To-Fail effect in the government's decision to take over or close failing banks.

B. Political Factors

The decision to take over or close a failing bank is not only an economic one for a government but also a political one. Brown and Dinc (2005) show that such takeovers or closures rarely take place within one year to elections. The first two regressions in Table 5 test the robustness of the Too-Many-To-Fail effect detected above to the electoral cycle. *BeforeElection*, a dummy variable that takes one if the bank fails within one year before the elections or, in the case of no failure, the end of bank's accounting year falls within one year before the elections, is included in the regressions. *BeforeElection* has a negative and statistically significant coefficient but the variables of interest, *Capital Ratio_OtherBanks* and *Income Ratio_OtherBanks*, both have positive and statistically significant coefficients in their regressions. This result indicates that the Too-Many-To-Fail effect demonstrated above is robust to controlling for the electoral cycle.

Another political factor that may affect the government behavior towards failing banks is pressure by IMF. Many developing countries obtain loans from the IMF. These loans are often conditional on pursuing economic reforms, which may also include addressing problems in the banking sector. However, one problem in studying the role of

IMF lending is the potential endogeneity. Countries may obtain loans to finance banking reforms rather than reforming their banking because of IMF conditions. To mitigate this problem, lagged IMF borrowing instead of contemporaneous borrowing is used in the regressions.

IMF Loans/GDP is the total IMF loans outstanding to that country in year *t-1* and is scaled by that country's GDP. There is only weak evidence that IMF has a role in accelerating the decision to take over or close a failing bank. Although *IMF Loans/GDP* has a positive coefficient, it is statistically significant in only one of the two regressions. However, the main variables of interest, *Capital Ratio_OtherBanks* and *Income Ratio_OtherBanks*, both have positive and statistically significant coefficients in their regressions. This result implies that the Too-Many-To-Fail effect shown above is also robust to controlling for potential pressure from the IMF.

C. Other Bank-Level Variables

Other bank-level risk indicators may also have predictive power in the government take over or closure of failing banks so it is important to check whether the financial health measures for other banks used above are robust to controlling for those bank-level factors. Unfortunately, there are major data availability issues about one factor that is likely to determine bank failures, namely, non-performing loans. Data on non-performing loans are available for fewer than half of the bank-years in the sample, and, in particular, for a small minority of banks that were ultimately taken over or closed by the government. Without those data, we turn our attention to two factors that may have a role in determining bank failure: Proportion of total loans in assets and lending margin. Loans are illiquid while the deposits are liquid so a bank with a high proportion of loans may be

more likely to fail. Similarly, the risks taken by a bank may be reflected in the difference between the interest paid by the bank to depositors and the interest charged to its borrowers. The results are reported in Table 6.

Loans is the total net loans divided by total assets. Its coefficient is never statistically significant whether the regression contains a measure of financial health for other banks. However, both *Capital Ratio_OtherBanks* and *Income Ratio_OtherBanks* have positive and statistically significant coefficients in their regressions. *Lending Margin* is the spread between the average interest rate charged on loans and the average interest rate paid on deposits. Its coefficient is never statistically significant whether the regression contains a measure of financial health for other banks. On the other hand, both *Capital Ratio_OtherBanks* and *Income Ratio_OtherBanks* have again positive and statistically significant coefficients in their regressions. These robustness checks imply that the Too-Many-To-Fail effect shown above is not a proxy for some common bank-level risk factor but, instead, is an independent effect.

4 Conclusion

This paper studies whether the government's decision of taking over or closing a failing bank depends not only on the characteristics of the bank itself but also on the financial health of other banks in that country. The paper focuses on bank failures in emerging markets and finds a Too-Many-To-Fail effect: The government is less likely to take over or close a bank if other banks are also weak. This effect is robust to bank-specific characteristics, macroeconomic factors, the role of the electoral cycle and the IMF pressure as well as worldwide common time-specific factors.

Our results also suggest further questions for research. One question is the reason(s) behind this behavior. As mentioned in the introduction, there may be several, not mutually exclusive reasons, including concerns about information spillovers, financial contagion through the interbank market, adverse effects on the availability of general liquidity, and the incentives of politicians and regulators. The importance of each reason is an interesting issue to study.

Another interesting question is whether the Too-Many-To-Fail effect leads to herding ex ante by the banks. Banks may be more likely to take risks or lend to the same sectors if they know that they are less likely to be closed or taken over when other banks also act similarly. For example, banks may herd in lending to the real estate sector and lead to real estate booms if they know they are less likely to be punished by the regulators when their loan portfolio is affected after a downturn in the real estate market. Unfortunately, no bank-level data are available on the breakdown of loans across different sectors.

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Table 1. Bank Failures by Country

The table provides the number of bank failures among the largest 10 banks (as of the end of 1993) in each of the 21 sample countries during the sample period 1994-2000. Each bank is followed from January 1, 1994 until the first occurrence of one of the three exit events: a) take-over or license revocation / liquidation by the government; b) acquisition by another bank; c) surviving to January 1, 2001. The table splits the sample based on ownership. Banks that are *always government-owned* are the banks that were always owned by the central government at least at the 50 percent level throughout 1994-2000. *Private Banks* are the remaining banks. The banks that were owned by the government in 1993 but were later privatized are included among the Private Banks unless one of the three exit events occurred first.

		Always Government-owned		**Private Banks**		
COUNTRY	**Total Number of Banks (1993)**	Total Number	License revoked or liquidated	Total Number	Taken over by the government	License revoked or liquidated
Southeast Asia						
Indonesia	10	5	--	5	5	--
Malaysia	10	2	--	8	--	--
Singapore	10	--	--	10	--	--
South Korea	10	2	--	8	5	--
Taiwan	10	3	--	7	--	--
Thailand	10	2	--	8	4	--
Total (Southeast Asia)	**60**	**14**	**0**	**46**	**14**	**0**
Latin America						
Argentina	10	2	--	8	--	--
Brazil	10	1	--	9	3	--
Chile	10	1	--	9	--	--
Colombia	10	2	--	8	1	--
Mexico	10	2	--	8	3	--
Peru	10	1	--	9	1	--
Venezuela	10	1	--	9	4	--
Total (Latin America)	**70**	**10**	**0**	**60**	**12**	**0**

COUNTRY	Total Number of Banks (1993)	Always Government-owned		Private Banks		
		Total Number	License revoked	Total Number	Taken over by the government	License revoked
Rest of the World						
Czech Republic	10	--	--	10	4	2
Hungary	10	1	--	9	1	--
India	10	9	--	1	--	--
Israel	10	2	--	8	--	--
Poland	10	3	--	7	--	--
Russia	10	2	--	8	2	4
South Africa	10	1	--	9	--	--
Turkey	10	4	--	6	1	--
Total (Rest of the World)	**80**	**22**	**0**	**58**	**8**	**6**
Total (WORLD)	**210**	**46**	**0**	**164**	**34**	**6**

Table 2. Sample Statistics

The table provides sample statistics for the banks in the sample. *Failed Banks* are the banks that were taken over by the government or had their licenses revoked by the government during the sample period. N denotes the number of bank-years. *Assets* are in billion dollars. *Capital ratio* is the book value of shareholder equity divided by total assets. All variables are book values. *, **, *** denote statistical significance at the 10, 5, and 1 percent levels, respectively, in a two-sided test of the mean with the failed banks and the other banks.

Variable Name		**Failed Banks**	**Other Banks**	**All Banks**
Assets (in $B)	Mean	10.048	10.533	10.451
	sd.	11.708	13.239	12.988
	N	140	691	831
Assets / GDP	Mean	0.056**	0.070	0.067
	sd.	0.069	0.092	0.089
	N	691	140	831
Total Loans/ Assets	Mean	0.588	0.574	0.577
	sd.	0.205	0.155	0.165
	N	138	684	822
Total Deposits / Assets	Mean	0.766	0.752	0.754
	sd.	0.149	0.153	0.152
	N	138	683	821
Capital Ratio	Mean	0.044***	0.092	0.084
	sd.	0.163	0.054	0.085
	N	140	691	831
Operating Income / Assets	Mean	-0.019**	0.015	0.010
	sd.	0.196	0.024	0.084
	N	137	684	821

Table 3. Regulatory Reluctance for Failing Banks If Other Banks are also Weak

The table presents Cox proportional hazard analysis for the bank failure, where a positive coefficient denotes an increasing likelihood of bank failure in that variable. *Total Assets/GDP* is the bank's total assets normalized by the country's GDP; *Capital Ratio* is total equity divided by total assets; *Income* is operating income divided by total assets; *Capital Ratio_OtherBanks* and *Income_OtherBanks* are the weighted average (by total assets) of capital ratio and income of other banks in that country, respectively; all are book values and as of year *t-1*. p-value of Wald test that all variables are jointly zero is reported. Heteroscedasticity-robust standards errors, corrected for clustering at the country level, are in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent level, respectively.

Total Assets / GDP	-0.308	-0.345	-0.430	-0.357	-0.428
	(0.266)	(0.291)	(0.301)	(0.314)	(0.300)
Capital Ratio	-0.121***		-0.117***	-0.162***	-0.168***
	(0.022)		(0.031)	(0.041)	(0.040)
Income		-0.114***	-0.006	-0.043	-0.065
		(0.023)	(0.037)	(0.041)	(0.045)
Capital Ratio_OtherBanks				0.261*	
				(0.147)	
Income_OtherBanks					0.357**
					(0.170)
Bank-years	881	854	854	854	854
p-value of W	0.000	0.000	0.000	0.000	0.000

Table 4. Regulatory Reluctance for Failing Banks If Other Banks are also Weak: Controlling for Macroeconomic Factors

The table presents Cox proportional hazard analysis for the bank failure, where a positive coefficient denotes an increasing likelihood of bank failure in that variable. *Total Assets/GDP* is the bank's total assets normalized by the country's GDP; *Capital Ratio* is total equity divided by total assets; *Income* is operating income divided by total assets; *Capital Ratio_OtherBanks* and *Income_OtherBanks* are the weighted average (by total assets) of capital ratio and income of other banks in that country, respectively; all are book values and as of year *t-1*. *Currency Depreciation* is the decrease in the local currency's exchange rate against U.S. dollars; it is negative if the local currency appreciates. *Inflation rate* is the logarithm of one plus the consumer price inflation. All macroeconomic variables are as of *t-1*. p-value of Wald test that all variables are jointly zero is reported. Heteroscedasticity-robust standards errors, corrected for clustering at the country level, are in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent level, respectively.

Panel A: Capital Ratio of Other Banks

Total Assets / GDP	-0.314	-0.257	-0.366	-0.329	-0.387
	(0.246)	(0.280)	(0.324)	(0.311)	(0.331)
Capital Ratio	-0.149***	-0.160***	-0.161***	-0.166***	-0.162***
	(0.043)	(0.042)	(0.040)	(0.043)	(0.040)
Income	-0.032	-0.034	-0.041	-0.041	-0.037
	(0.038)	(0.042)	(0.042)	(0.042)	(0.046)
Capital Ratio_OtherBanks	0.276**	0.303**	0.253*	0.317*	0.249*
	(0.132)	(0.137)	(0.151)	(0.169)	(0.153)
GDP Growth	-0.072**				
	(0.031)				
GDP per capita		-0.374			
		(0.313)			
Currency depreciation			0.042		
			(0.073)		
Inflation rate				1.147	
				(1.327)	
Real Interest rate					-0.000
					(0.000)
Bank-years	854	854	844	854	805
p-value of W	0.000	0.000	0.000	0.000	0.000

Panel B: Income of Other Banks

Total Assets / GDP	-0.391*	-0.333	-0.437	-0.412	-0.451
	(0.235)	(0.274)	(0.306)	(0.301)	(0.315)
Capital Ratio	-0.155***	-0.168***	-0.167***	-0.174***	-0.167***
	(0.042)	(0.041)	(0.040)	(0.042)	(0.039)
Income	-0.053	-0.058	-0.063	-0.068	-0.059
	(0.040)	(0.045)	(0.045)	(0.045)	(0.049)
Income_OtherBanks	0.381**	0.419***	0.349**	0.449**	0.343*
	(0.155)	(0.157)	(0.174)	(0.192)	(0.177)
GDP Growth	-0.079***				
	(0.030)				
GDP per capita		-0.437			
		(0.297)			
Currency depreciation			0.046		
			(0.069)		
Inflation rate				1.531*	
				(0.916)	
Real Interest rate					-0.000
					(0.000)
Bank-years	854	854	844	854	805
p-value of W	0.000	0.000	0.000	0.000	0.000

Table 5. Regulatory Reluctance for Failing Banks If Other Banks are also Weak: Controlling for Political Factors

The table presents Cox proportional hazard analysis for the bank failure, where a positive coefficient denotes an increasing likelihood of bank failure in that variable. *Total Assets/GDP* is the bank's total assets normalized by the country's GDP; *Capital Ratio* is total equity divided by total assets; *Income* is operating income divided by total assets; *Capital Ratio_OtherBanks* and *Income_OtherBanks* are the weighted average (by total assets) of capital ratio and income of other banks in that country, respectively; all are book values and as of year *t-1*. *BeforeElection* is a dummy variable that takes one if the bank fails within one year before the elections or, in the case of no failure, the end of bank's accounting year falls within one year before the elections. *IMF Loans/GDP* is total IMF loans outstanding to the country, normalized by the country's GDP; it is as of *t-1*. p-value of Wald test that all variables are jointly zero is reported. Heteroscedasticity-robust standards errors, corrected for clustering at the country level, are in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent level, respectively.

Total Assets / GDP	-0.401	-0.354	-0.474	-0.495
	(0.297)	(0.317)	(0.297)	(0.341)
Capital Ratio	-0.172***	-0.154***	-0.169***	-0.155***
	(0.037)	(0.040)	(0.037)	(0.039)
Income	-0.064	-0.033	-0.077*	-0.064
	(0.043)	(0.040)	(0.044)	(0.042)
Capital Ratio_OtherBanks	0.287**	0.418**		
	(0.116)	(0.169)		
Income_OtherBanks			0.329***	0.554***
			(0.127)	(0.178)
BeforeElection	-1.575***		-1.467**	
	(0.594)		(0.575)	
IMF loans / GDP		0.415		0.472*
		(0.297)		(0.282)
Bank-years	854	854	854	854
p-value of W	0.000	0.000	0.000	0.000

Table 6. Regulatory Reluctance for Failing Banks If Other Banks are also Weak: Controlling for Additional Bank-Level Factors

The table presents Cox proportional hazard analysis for the bank failure, where a positive coefficient denotes an increasing likelihood of bank failure in that variable. *Total Assets/GDP* is the bank's total assets normalized by the country's GDP; *Capital Ratio* is total equity divided by total assets; *Income* is operating income divided by total assets; *Loans* is total net loans divided by total assets; *Lending Margin* is the spread between the average interest rate charged on loans and the average interest rate paid on deposits; *Capital Ratio_OtherBanks* and *Income_OtherBanks* are the weighted average (by total assets) of capital ratio and income of other banks in that country, respectively; all are book values and as of year *t-1*. p-value of Wald test that all variables are jointly zero is reported. Heteroscedasticity-robust standards errors, corrected for clustering at the country level, are in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent level, respectively.

Total Assets / GDP	-0.439	-0.338	-0.380	-0.328	-0.228	-0.321
	(0.328)	(0.348)	(0.334)	(0.234)	(0.248)	(0.238)
Capital Ratio	-0.118***	-0.161***	-0.166***	-0.164***	-0.235***	-0.248***
	(0.037)	(0.042)	(0.040)	(0.056)	(0.050)	(0.049)
Income	-0.005	-0.045	-0.072	0.034	-0.009	-0.040
	(0.041)	(0.046)	(0.052)	(0.068)	(0.061)	(0.066)
Capital Ratio _OtherBanks		0.263*			0.349**	
		(0.152)			(0.137)	
Income_OtherBanks			0.373*			0.492***
			(0.191)			(0.162)
Loans	0.115	-0.218	-0.567			
	(1.153)	(0.911)	(0.969)			
Lending Margin				-0.456	-0.218	-0.143
				(0.752)	(0.658)	(0.580)
Bank-years	854	854	854	842	842	842
W	0.000	0.000	0.000	0.000	0.000	0.000