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BANK OWNERSHIP AND LENDING BEHAVIOR

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BANK OWNERSHIP AND LENDING BEHAVIOR

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Resumen
Este artículo estudia si el comportamiento del crédito de la banca pública difiere del de la banca privada. El estudio encuentra que el crédito de la banca pública responde menos a los *shocks* económicos que el crédito de instituciones privadas.

Abstract
This paper checks whether state-ownership of banks is correlated with lending behavior over the business cycle and finds that their lending is less responsive to macroeconomic shocks than the lending of private banks.

We would like to thank Arturo Galindo for useful comments and suggestions and Monica Yañez for research assistance. The views expressed in this paper are the authors' and do not necessarily reflect those of the Inter-American Development Bank nor the Central Bank of Chile. The usual caveats apply.
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1. Introduction

This paper uses bank-level balance sheet data to test whether bank ownership (public versus private, domestic versus foreign) is correlated with bank lending behavior over the business cycle. The paper contributes to two strands of the current literature on the effects of bank ownership.[1]

The first strand relates to the literature that focuses on the desirability of having state owned banks. While most of the existing literature on the desirability of state-owned banks focuses on their effect on growth and financial development (La Porta et al., 2002, and Galindo and Micco, 2004, provide evidence in favor of the hypothesis that state-owned banks negatively affect growth, Sapienza, 2004, provides evidence in favor of the political view of state-owend banks, Levy-Yeyati et al., 2004, present a more nuanced view), this paper focuses on a different question. In particular, it tests whether macroeconomic shocks have a smaller effect on the lending behavior of state-owned banks compared with their effect on the lending behavior of private banks. The finding that lending of state-owned banks decreases less during recessions and increases less during expansions would provide evidence that this group of banks stabilizes credit and hence plays a useful countercyclical role. There are three possible reasons why state-owned banks may stabilize credit. The first has to do with the fact that their principal (i.e., the state) internalizes the benefits that derive from a more stable macroeconomic environment and hence credit stabilization is part of the objective function of state-owned banks. The second has to do with the fact that if bank failures are more likely during recessions and if depositors think that public banks are safer than private banks (because of either implicit or explicit full deposit insurance), the former can enjoy a more stable deposit base and hence be better able to smooth credit. A third, less benign explanation, is that lower cyclicality is due to the fact that managers of state-owned banks do not have a proper set of incentives and that lower cyclicality is due to the behavior of "lazy" public bank managers.

The second strand relates to the literature that studies whether foreign-owned banks play a useful stabilizing role or, instead, contribute to the volatility that characterizes most emerging market countries (Galindo et al., 2004, provide evidence in support of the first hypothesis and Caballero et al., 2004, provide evidence in favor of the second hypothesis). There are various possible reasons why the behavior of foreign-owned banks may differ from that of domestic banks. On the one hand, if the business cycle is correlated with the relative return of investment

in the host country one should expect foreign-owned banks to be more procyclical than domestic private banks because during good times they can increase lending by accessing foreign credit lines and during bad times they can leave the country and look for more profitable lending opportunities abroad. On the other hand, if credit crunches are mostly due to drop in deposits, foreign banks may be less sensitive to the cycle because of their access to foreign funding (Galindo et al., 2004). Furthermore, as in the case of public banks, if depositors perceive foreign banks to be less risky than private banks, the deposit base of foreign banks will be more stable and so will be their lending activity.

2. Regressions Results

To test how bank ownership affects bank lending over the business cycle we use the following econometric specification:

$$GRL_{i,j,t} = \alpha_i + \beta_{j,t} + \gamma_1\left(YGR_{j,t} * PUB_{i,j,t}\right) + \gamma_2\left(YGR_{j,t} * FOR_{i,j,t}\right) + \\ + \delta\left(YGR_{j,t} * SIZE_i\right) + \varepsilon_{i,j,t} \qquad (1)$$

Where $GRL_{i,j,t}$ measures the growth rate of loans by bank *i* in country *j* at time *t* (the growth rate is measured as the difference between log loans at time *t* and log loans at time *t* minus 1), α_i is a bank fixed effect, $\beta_{j,t}$ is a country-year fixed effect that controls for all factors that are country (like the level of development, geography, institutions, etc) and country-year specific (macroeconomic shocks, political instability, changes in regulations, etc.). *PUB* is a dummy variable that takes value 1 if more than 50 per cent of the bank is owned by the public sector, *FOR* is a dummy variable that takes value 1 if more than 50 per cent of the bank is foreign owned, and SIZE is a variable that measures average bank size.[2] $YGR_{j,t}$ measures the GDP growth rate of country *j* at time *t* and proxies for macroeconomic shocks, hence the interactions $YGR_{j,t} * PUB_{i,j,t}$ and $YGR_{j,t} * FOR_{i,j,t}$ measure how lending of public and foreign banks react (relative to private domestically owned banks) to shocks (the main effect of $YGRL_{j,t}$ is

[1] There is also a third strand of the literature that focuses on the relationship between bank ownership and bank performance (see, for instance, Demirgüç -Kunt and Huzinga, 2000, and Micco et al., 2004) which, however, is less related with questions addressed in this paper.

[2] *SIZE* is a measure of relative size and is defined as bank's *i* average total assets divided by average total assets of the banking system in country *j*.

controlled for by country-year fixed effects ($\beta_{j,t}$). We also include the interaction between bank size and GDP growth ($YGR_{j,t} * SIZE_i$) to make sure that the estimated effect of the interaction between ownership type and shocks is not driven by the fact that ownership is correlated with banks size.

In estimating the model, we recognize that some countries have much more observations than others (for instance, the 27 industrial countries included in our sample contain 70 percent of observations and the 92 developing countries the remaining 30 percent) and that, if we do not weight our estimations, our results would end up being driven by the countries for which we have a large number of observations. Hence, we weight each observation by the bank's share in total assets (Levy-Yeyati and Micco, 2003, discuss the rationale for this weighting scheme).

In all estimations, we use a new data-set (based on Bankscope but with new ownership coding) assembled by Micco et al. (2004). The original dataset contains data for the 1995-2002 period and includes 49,804 observations, corresponding to a number of banks that ranges between 5,445 (in 1995) and 6,628 (in 2001). However, there are several reasons why the dataset used in this paper is much smaller. First of all, since we work with growth rates, we lose at least one observation for each bank.[3] Second, in order to have an homogenous dataset, we only include banks for which all the dependent variables used in all regressions are available. Third, we drop all country-years for which we do not have at least 5 banks. Finally, also drop outliers by excluding the top and bottom 2 percent of observations for each dependent variable and by dropping all observations in which bank-level loan growth is bigger than 100 percent (in absolute value) and aggregate loan growth is bigger than 50 percent.[4] As a result, after carefully cleaning the data, we are left with a sample of 25,325 observations (5,496 observations for banks located in developing countries and 19,829 observations for banks located in industrial countries).

Regressions results are reported in Table 1.[5] For the sake of brevity we will focus the description of the results on our main parameters of interest which are γ_1 and γ_2. A negative value of these coefficients will indicate that state-owned and foreign-owned banks smooth credit,

[3] In some cases, we lose more than one observation per bank because whenever a bank changes ownership we code it as a new bank. To make sure that our results are not driven by the transition from one ownership structure to another, we also drop all the bank-year observations in which there is a change in ownership (so if bank i was public in year 1999 and becomes private in 2000, we drop the observation for 2000). While this coding strategy has a cost in terms of degrees of freedom, we decided that overcontrolling was the safest strategy.

[4] Slight differences in the number of observations across regressions are due to the fact not all dependent variables have the same number of observations. For instance, we have less observations for deposit growth than for loans growth (24622 versus 25325).

a positive coefficient will indicate the opposite. Before focusing on the specification described in Equation (1), we estimate the model by substituting the country-year fixed effects with the main effect of GDP growth (columns 1-3). This is an important step because it shows that loan growth is indeed correlated with macroeconomic shocks as measured by GDP growth. Column 1 (which focuses on all countries for which we have data) shows that a one percent increase (drop) in GDP is associated with a 1.46 percent increase (drop) in lending of private domestic banks. The coefficient of $YGR*PUB$ is –1.352, indicating that lending of state-owned banks is much less procyclical than that of private domestic banks. In fact, the total effect for state-owned banks (1.464-1.352= 0.112) is extremely small and not significantly different form zero, indicating that lending of state-owned banks is acyclical. In the case of foreign banks, we find that they are not significantly different from domestic private banks (at –0.003, the coefficient is neither economically nor statistically significant). Column 2 focuses on a sub-sample of developing countries and finds results that are essentially identical to those of Column 1 (the coefficient for $YGR*FOR$ is a bit higher but still far form being statistically or economically significant).

Column 3 focuses on a sub sample of industrial countries. While the results are qualitatively similar to those of Column 1, it is important to note that credit cyclicality is much lower in industrial than in developing countries (the elasticity goes from 1.4 to 0.5) and that the lending activity of state-owned banks located in industrial countries seems to be countercyclical (0.521-0.803= -0.282, however the sum of the two coefficients is not significantly different form zero). As in the case of developing countries, we find that foreign banks are not significantly different from domestic private banks.

Galindo et al. (2004) provide a formal model that discusses the circumstances under which foreign banks stabilize and destabilize credit. They focus on four states of the world (i) periods in which credit is decreasing and deposit are decreasing at a faster rate (deposit crunch); (ii) periods in which credit is decreasing and deposit are decreasing at a slower rate (negative opportunity shock); (iii) periods in which credit is growing and deposits are growing at a faster rate (positive funding shock); (iv) periods in which credit is growing and deposits are growing at a slower rate (positive opportunity shock). They suggest that, compared with that of domestic private banks, foreign bank credit should be higher during deposit crunches and positive opportunity shocks (this is because they can access to foreign funds to finance domestic credit) and lower during negative opportunity shocks and positive funding shocks (because they can direct some of their deposits abroad). Using a sample of banks located in 13 Latin American

[5] All the results discussed here are robust to including the lagged dependent variable and to estimating the model in levels.

countries Galindo et al. (2004) find some evidence in support of their model. Our finding that that foreign banks are not significantly different form domestic private banks might be due to the fact that changes in GDP growth are positively correlated with deposits and opportunity shocks. If this were the case and if foreign banks are more procyclical than domestic banks in presence of opportunity shocks and less procyclical in presence of deposits shocks, one would expect to find that the average behavior of a foreign bank is not distinguishable from that of a private domestic banks.

In columns 4-6 we estimate the specification described by Equation 1 (i.e., we include country-year fixed effects). As in the previous three columns, the point estimates suggest that state-owned bank lending is less pro-cyclical than lending by domestic private banks. The coefficient is highly significant in both statistical and economic terms, Column 4 indicates that state-owned banks are 84 percent less procyclical than domestic private banks. As before, we find that foreign banks are not significantly different form domestic banks. Column 5 shows that the results for the sub-sample of developing countries are basically identical to the results for the whole sample.[6] Column 6 restricts the sample to industrial countries and finds a much stronger effect for both state-owned and foreign owned banks. In the case of state-owned banks the coefficient is greater than one indicating that their lending of state-owned banks is much less procyclical than that of domestic private banks (in fact lending of state-owned banks is probably counter-cyclical). The result for foreign banks (negative and statistically significant) is somewhat unexpected given that domestic private banks located in industrial countries have probably the same access to external credit and external lending opportunities with respect to their foreign counterparts (in fact, large domestic banks located in industrial countries are likely to have large subsidiaries in other countries).

Columns 7 and 8 repeat the experiments of columns 5 and 6 but using estimations without weights. To avoid problems related to including a large number of very small banks, we drop all banks which have assets that are less that 1 percent of total bank assets in the country. This reduces our sample to 5305 observations (as one may expect, the largest drop is in the sub-sample of industrial countries that goes form 19829 observation to 1544 observations). The results are qualitatively similar to the ones described before. However, we now find that in the case of developing countries γ_1 goes from –0.8 to –1.25 and γ_2 goes from –0.11 and not

[6] This is not surprising, because our estimation method gives the same weight to each country (no matters how many banks are included in the sample) and since our sample includes 92 developing countries and 27 industrial countries, the results for the aggregate sample tend to be similar to those of the developing country sub sample. Hence, from now on we will focus on the two sub samples and will not discuss in detail the regressions that include both developing and industrial countries.

significant to –0.71 and statistically significant at the ten percent confidence level. In the sub sample of industrial countries (Column 8) the point estimate for γ_1 is similar to the one of column 6 but no longer statistically significant. In the case of foreign banks, the point estimate for γ_2 is much higher than that of Column 6 but not statistically significant.

One may argue that our results might be driven by reverse causality. One possible story is that countries that have a large share of state-owned banks may be subject to smaller shocks because of the useful smoothing role performed by these banks. While, it is worth nothing that such a mechanism would lead to an underestimation (and not overestimation) of credit elasticity and of the smoothing effect of state-owned banks, in Columns 9-10, we address the causality issue by replacing GDP growth with its exogenous component (measured by the share of GDP growth which is explained by external demand shocks).[7] As before, we start by estimating our model replacing country-year fixed effects with the main effect of the exogenous component of GDP growth. The results are qualitatively similar to those of Columns 2 and 3. In the case of developing countries, we now obtain coefficients that, in absolute value, are slightly higher than those of Column 2. This was an expected results if we think that the endogeneity of GDP growth was leading to an underestimation of the credit elasticity and of the smoothing effect of state owned banks. The results for industrial countries are more puzzling because they find an extremely large effect of GDP growth on credit (the elasticity goes form 0.5 to 3) and a very large smoothing effect of state-owned banks (the coefficient goes from –0.8 to -6.3). This difference in results could be due to the fact that external shocks might not be a good source of exogenous variation of GDP growth for industrial countries.[8] Columns 11 and 12 repeat the experiment by substituting the main effect of the exogenous component of GDP growth with country-year fixed effects and obtain results that are qualitatively similar to the ones discussed before.

While discussing why there might be a relationship between ownership and lending cyclicality, we mentioned that some of the stabilizing effects of foreign and state-owned banks

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[7] In particular, for each country, we start by computing an external shock defined as the growth rate ofcountry's *i* trading partners: $EXSHOCK_{i,t} = \sum_j Y_{j,t} \frac{EX_{i,j}}{Y_i}$. Where $Y_{j,t}$ is GDP in year *t* in country *j*, Y_i is average GDP in country *i* and $EX_{i,j}$ are average exports from country *i* to country *j*. Next, we compute the exogenous component of GDP in country *i* as the predicted value of the regression of $Y_{i,t}$ over $EXSHOCK_{i,t}$.

[8] In fact, it is reasonable to think that the growth rate of, say, Mexico's main trading partner (ie the US) causes GDP growth in Mexico. However, GDP growth of the trading partners of large industrial countries like the US, Japan, or Germany might be endogenous with respect with the growth rate of these countries.

may come from a more stable deposit base. The first two columns of Table 2 test this hypothesis. They reproduce the same regressions of columns 5 and 6 of Table 1 but replacing loan growth with deposit growth. We find that γ_1 (the coefficient associated with public ownership) is always negative but statistically significant only in the sub-sample of industrial countries. In the case of developing countries, the coefficient is not statistically significant and very close to zero. This may be due to the fact that state-owned banks located in developing countries with serious fiscal problems are not perceived to be safer than private banks. In the case of γ_2 (the coefficient associated with foreign ownership), we find that the coefficient is negative but not statistically significant (however, at –0.332, it is economically significant) when we focus on developing countries and positive and statistically significant in the case of industrial countries. This last result indicates that the deposit base of foreign banks located in industrial countries is more procyclical than the deposit base of domestic banks (both private and state-owned).

2.1 Do they smooth or are they just lazy?

Table 1 provided some evidence in support to the idea that state-owned banks play a useful smoothing role. A less benign interpretation would be that public banks manager are just "lazy" and lacking incentives to maximize profits they do not aggressively look for lending opportunities during good phases of the cycle and do not cut lending during low phases when risk increases. A possible way to discriminate the role of public banks as "useful smoothers" from that of "lazy managers" is to compare how the non-lending activities of public and private banks vary over the business cycle. We look at this in the last four columns of Table 2. The table reports regressions similar to those of Table 1 but the dependent variables are now the growth rate in other earning assets (i.e., earning assets which are different form loans) and the growth rate of non-interesting income (i.e., income that derives from fee and services and not from lending or bond-holding activities). The key idea is that, if public banks play a useful smoothing role, we should observe a difference in behavior (when compared with private banks) in their lending activity but no difference in behavior in other revenue generating activities that are performed by both private and state-owned banks (we see no reason why managers of public banks should have a mandate to stabilize non-lending activities). Columns 3 and 4 show that the growth rate of other earning assets held by state-owned banks is never less procyclical than that of private domestic banks. In fact, in the case of industrial countries, we find that it is significantly more procyclical. The procyclical behavior other earning assets may be due to the fact that state owned banks smooth more lending than deposits and hence need to substitute lending with other earning assets.

As a consequence, their lending to deposit ratios would increase during good times (when state owned banks reduce lending and increase other earning assets) and decrease during bad times (when state owned banks replace other earning assets with lending activities).

When we focus on non-interest income, we find some countercyclicality for public banks located in developing countries, however, the coefficient is not statistically significant. In the case of industrial countries, we find that, if anything, state-owned banks are more procyclical than private banks (however, the coefficient is not statistically significant).[9] Taken together, these results seem to provide some evidence in favor of the credit smoothing interpretation rather than for the "lazy managers" interpretation.

In the case of foreign banks located in developing countries, we find that the coefficient is always negative but never statistically significant. When we focus on industrial countries, we find a puzzling sign reversal. In particular, we find that the coefficient is positive and statistically significant in the other earning assets regression in developing countries and negative and statistically significant in the non-interest income regressions.

3. Conclusions

This paper provides evidence for the fact that state-owned banks may play a useful credit smoothing role. In particular, it shows that lending of state-owned banks is much less responsive to macroeconomics shocks than the lending of private banks (both domestically and foreign owned) and hence state-owned bank could play a useful role in the transmission mechanism of monetary policy (a result which is somewhat in contrast with the findings Cecchetti and Krause, 2001, who, however, focus on a different test). The paper checks whether this differential behavior is due to an explicit objective to stabilize credit or to the presence of "lazy" public bank managers and finds some evidence in support of the former hypothesis.

One important caveat is that the dataset used in this paper does not allow to investigate the general equilibrium effect of the smoothing activity of state-owned banks. It may be possible that state-owned bank lending just crowds out lending from private banks and hence the presence of state-owned banks does not affect aggregate lending during the business cycle. Analyzing such an hypothesis goes beyond the purpose of this paper because it would require moving from micro to macro data leading to much more serious endogeneity issues.

[9] In the regression for non-interest income, we control for loans growth because some fee might be related to lending activity. The results are unchanged if we drop this control.

The paper also looks at the behavior of foreign owned banks. Here the results are less clear-cut. In particular, in most regression, we find no significant difference between the lending behavior of foreign-owned banks and private domestic banks These weak results might be due to the fact that the way in which foreign owned banks react to macroeconomic shocks is much more complex (as shown by Galindo et al., 2004) and our findings could be due to the fact that deposit and opportunity shocks tend to balance each other over the business cycle.

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Appendix: Description of the data[10]

The purpose of this appendix is to describe the steps used in constructing the dataset used in this paper. As mentioned in the text, our main source of data is Bankscope (BSC). We obtain data for the 1995-1999 period from the June 2001 update of BSC and data for the 2000-2002 period from the February 2004 update of BSC. Processing the date required two main steps that we describe below.

Avoiding duplications. For most banks, BSC reports balance sheet data at both the consolidated and unconsolidated levels. In order to avoid duplications, it is necessary to use only one of the two definitions. This could be easily done by just dropping either all the consolidated or unconsolidated statements if BSC reported both type of statements for all banks. However, some banks only have a consolidated statement and other only have an unconsolidated statement, hence dropping just one category would lead to loss of information. Furthermore, it is impossible to automatically keep the, say, unconsolidated statement if the consolidated is missing because, in some cases, there are slight changes in the reported name of the bank when one moves across different levels of consolidation. An even more difficult problem to solve is that in some cases BSC reports information for the same bank several times. This is especially the case at time of mergers. An example may be helpful here. Consider the case of INTESA, the largest Italian banking group. INTESA was created in 1998 with the merger of CARIPLO and AMBROVENETO. In 1999, Banca Commerciale Italiana (COMIT) joined the INTESA group and in 2001 COMIT completely merged with INTESA that took the name of INTESABCI. As of 2000, BSC reports data for (i) COMIT; (ii) AMBROVENETO; (iii) CARIPLO; (iv) INTESABCI. Clearly, considering all these four banks would lead to a large overestimation of Italian banking assets. To address this problem, we make use of a variable included in BSC that ranks banks within a country and it is built in order to limit duplications (the variable name is CTRYRANK). In the above case, CTRYRANK takes value one for INTESABCI (recognizing that this is the largest bank in the country) 5 for CARIPLO and 12 for AMBROVENETO. COMIT is not ranked (CTRYRANK takes the value NR). Therefore, dropping the banks that are coded as non-ranked can help us in avoiding duplication. There are, however, still two problems with this strategy. First, the dataset would still include INTESABCI and two of its component (AMBROVENETO and CARIPLO). Second, the ranking variable refers to the last year, and hence if we were to drop all the banks that are not ranked, we would drop COMIT also for the 1995-1999 period. To address this issue, we adopted looked at all the banks that have assets that

[10] This appendix is from Micco et al. (2004) and it is introduced for the ease of the referees. We plan to

are greater than the country average that are coded as non-ranked and explored their merger history. This led to a massive amount of recoding that helped us to include in the dataset most of the relevant information and avoid duplications.[11] After eliminating duplications, we end up with a total of 49,804 observations, corresponding to a number of banks that ranges between 5,445 (in 1995) and 6,628 (in 2001). Banks located in industrial countries represent approximately 70 percent of total observations and banks located in developing countries the remaining 30 percent. It is interesting to note that the share of banks located in developing countries increased by two percentage points between 1995 and 2002.

Coding Ownership BSC includes an ownership variable (measuring whether a given bank is owned by the public sector or by foreign investors) but this variable has limited coverage (question for Monica what percentage of banks are coded in BSC) and is only available for the current year (so BSC does not provide ownership history). Therefore, coding ownership history require to look at one bank at a time (we use different sources, the internet, bank websites, publications like Euromoney, or directly calling experts in a given country), as this is a particularly time consuming and difficult endeavor and the cost of coding all banks included in the dataset would have been too high, we decided to adopt some cut-off points under which a bank would not be coded. The cut-off was as follows. In all countries we coded the 10 largest banks (this is the strategy followed by La Porta et al., 2002) and, if these banks represented less that 75 percent of total assets of the banking system we coded all the banks up to 75 percent of total assets of the banking system. In Latin American and industrial countries, we coded the larges 20 banks. Again, if these 20 banks represented less that 75 percent of total assets of the banking system, we coded up to 75 percent of assets of the banking system. If a bank was not among the top twenty or in the 75th percentile but the coding was obvious (for instance in the case of foreign branches) it was also coded. [12]

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drop this appendix from the final version of the paper.

[11] In the case of the example described above, we adopted the following strategy. We re-ranked (and hence included in the dataset) COMIT from 1995 to 1999 and de-ranked (and hence excluded from the dataset) Ambroveneto and CARIPLO for 2000-2002 and Intesa BCI for 1995-1999. After dropping the non-ranked bank we end up with three banks (COMIT, Ambroveneto and CARIPLO) operating for the 1995-1999 period and one banks (IntesaBCI) operating for the 2000-2002 period.

[12] Even with this cut-off, coding ownership required two months of work of a full-time research assistant.

In coding ownership, we followed the same strategy of La Porta et al. (2002) and assumed that if X percent of bank A is owned by company B and that Y percent of company B is owned by a foreign company (alternately state owned), then we code bank A as being X*Y percent foreign (state) owned (in order to code ownership, we always went back at least two steps in the ownership structure).

Table 1: Credit Cyclicality

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Weighted Standard Fixed Effects Estimations			Weighted Standard Fixed Effects Estimations			Non-Weighted Fixed Effects Estimations		Exogenous Component of GDP Growth			
	GRLOAN	GRLOAN	GRLOAN	GRLOAN	GRLOAN	GRLOAN	GRLOAN	GRLOAN	GRLOAN	GRLOAN	GRLOAN	GRLOAN
YGR	1.464	1.440	0.521						1.597	3.003		
	(0.101)***	(0.223)***	(0.144)***						(0.355)***	(0.264)***		
YGR*PUB	-1.352	-1.404	-0.803	-0.835	-0.804	-1.480	-1.248	-1.294	-1.819	-6.272	-0.928	-4.101
	(0.147)***	(0.311)***	(0.320)**	(0.142)***	(0.307)***	(0.329)***	(0.429)***	(1.484)	(0.515)***	(0.521)***	(0.544)*	(0.564)***
YGR*FOR	-0.003	0.122	0.094	-0.011	0.036	-0.772	-0.658	-1.860	0.006	0.016	-0.189	0.092
	(0.134)	(0.294)	(0.199)	(0.136)	(0.297)	(0.274)***	(0.367)*	(1.461)	(0.460)	(0.253)	(0.433)	(0.260)
YGR*SIZE	-1.580	-0.958	-4.505	-1.559	-1.271	-5.869	-2.803	-3.946	-0.910	-6.185	-2.772	-1.456
	(0.459)***	(1.037)	(0.520)***	(0.513)***	(1.119)	(1.006)***	(1.839)	(5.296)	(1.485)	(0.624)***	(1.555)*	(0.863)*
Observations	25325	5496	19829	25325	5496	19829	3761	1544	5391	19360	5391	19360
R-squared	0.4937	0.5079	0.4108	0.7299	0.7449	0.6322	0.6908	0.5961	0.5140	0.4835	0.7454	0.6637
Group	All	Developing	Industrial	All	Developing	Industrial	Developing	Industrial	Developing	Industrial	Developing	Industrial
Weights	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

All regressions include bank fixed effect and country-year fixed effects. * significant at the 10 percent confidence level;
** significant at the 10 percent confidence level; *** significant at the 1 percent confidence level.

Table 2: Cyclicality of Deposits and other Sources of Income

	(1)	(2)	(3)	(4)	(5)	(6)
	Deposits Growth	Deposits Growth	Growth Other Earning Assets	Growth Other Earning Assets	Growth Non-Interest Income	Growth Non-Interest Income
YGR*PUB	-0.004	-1.301	0.070	1.603	-0.584	1.194
	(0.304)	(0.324)***	(0.565)	(0.481)***	(0.707)	(0.782)
YGR*FOR	-0.332	1.603	-0.643	2.090	-0.340	-3.045
	(0.293)	(0.269)***	(0.547)	(0.402)***	(0.669)	(0.600)***
YGR*SIZE	-1.995	-4.046	-1.322	-5.525	-1.444	-7.526
	(1.189)*	(0.991)***	(2.061)	(1.470)***	(2.562)	(2.096)***
GRLOANS					0.243	0.087
					(0.039)***	(0.016)***
Observations	5415	19207	5441	19665	5408	19562
R-squared	0.7238	0.6075	0.6428	0.5739	0.6251	0.5516
Group	Develop.	Industrial	Developing	Industrial	Developing	Industrial
Weights	Yes	Yes	Yes	Yes	Yes	Yes

All regressions include bank fixed effect and country-year fixed effects. * significant at the 10 percent confidence level; ** significant at the 10 percent confidence level; *** significant at the 1 percent confidence level

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