The effect of foreign entry and ownership structure on the Philippine domestic banking market ☆

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Abstract

We examine the response of domestic Philippine banks to the relaxation of foreign entry regulations that occurred in the Philippines. We find evidence that foreign bank entry is associated with a reduction in interest rate spreads and bank profits, but only for those domestic banks that are affiliated to a family business group. Foreign entry corresponds more generally with improvements in operating efficiencies, but a deterioration of loan portfolios. Overall, we conclude that foreign competition compels domestic banks to be more efficient, to focus operations due to increased risk, and to become less dependent on relationship-based banking practices.
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1. Introduction

In recent years the Philippines has embarked on a number of economic policy reforms aimed at liberalizing and internationalizing its domestic financial markets. In

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general, these reforms involve the relaxation or removal of barriers to international investments and the easing of barriers to international capital flows. An important subset of these reforms is centered on liberalizing restrictions on the involvement of foreign interests in the domestic banking market. This liberalization is of two general forms; regulations that allow the entry of foreign-controlled banks, and regulations that provide incentives for foreign ownership of the common stock of domestic banks. The most consequential of these regulations is Republic Act no. 7721, which was passed in May 1994, and allows the entry of additional foreign banks to operate in the Philippines and allows a foreign bank to acquire up to a 60% interest in an existing domestic bank. [1] The intent of this particular act was to change the competitive landscape of the Philippine banking sector through an influx of foreign competition and was based on the premise that greater foreign competition will prompt sounder banking practices. Furthermore, there were additional incentives aimed at encouraging foreign ownership of the common stock of Philippine companies, including that of banks, that occurred over the years 1992–1998 as the Ramos administration focused on economic liberalization.

It has been conjectured that increases in foreign bank entry increase competition and, therefore, act to compel domestic banks to operate more efficiently (Terrel, 1986; Bhattacharaya, 1993; McFadden, 1994; Levine, 1996; Kroszner, 1998; Claessens and Jansen, 2000; Claessens et al., 2001). For example, Kroszner (1998) argues that greater foreign bank penetration in an emerging market economy improves banking practices, since foreign banks tend to be less politically connected and are less likely to exert self-promotional influence upon regulatory authorities. Levine (1996) summarizes purported benefits of allowing foreign bank entry to be (1) the improvement of quality and availability of financial services and the adoption of modern banking skills and technology, (2) stimulating development of the bank supervisory and legal framework, and (3) the enhancement of a country's access to international capital. Specifically, it is asserted that greater foreign penetration causes domestic bank interest rate spreads to narrow and profitability to decline as new competitors reduce the market price of funds in an attempt to build market share. However, direct empirical evidence demonstrating that foreign bank penetration affects interest rate spreads and bank efficiency is limited. Recent liberalization of foreign bank entry in the Philippines provides us the unique opportunity to undertake a comprehensive study of these issues within a natural laboratory setting due to four distinct advantages. First, foreign bank entry is confined to a single year where a sig-

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[1] Republic Act no. 7721 (RA7721), titled ''An act liberalizing the entry and scope of operations of foreign banks in the Philippines'', was passed into law on May 18, 1994. Bangko Sentral Circular no. 21 dated October 14, 1994 provided the implementing rules and regulations. RA7721 allowed the entry of foreign banks through one of the following methods. First, 10 new foreign banks were allowed entry into the Philippines with each given full banking authority and the rights for up to six branches. Second, an unrestricted number of foreign banks were allowed up to a 60% ownership stake in any new Philippine banking subsidiary. Third, an unrestricted number of foreign banks were allowed to acquire, purchase, or own up to a 60% ownership stake of an existing bank. This Act amended the General Banking Act of 1948, which had previously been amended by Republic Act no. 337. Republic Act no. 337 had limited the number of foreign banks operating in the Philippines to four.

nificant number of foreign banks were granted rights to establish operations. This allows us to better isolate the effects of foreign entry. Second, confounding effects, such as restrictions on capital accounts, are largely absent in the Philippines, as general economic liberalization took place prior to the liberalization of foreign bank entry. Third, the study of a single country allows a more direct test of the effect of foreign competition within a uniform environment. Finally, unlike many developing countries the Philippine government plays only a minimal role in the ownership of banks. A large degree of state ownership may create a cartel-like environment that could distort results (Cetorelli and Gambera, 2001).

Besides considering the impact of foreign bank entry, we also examine how changes in the level of foreign ownership affect domestic banks. Foreign ownership of domestic bank common stock may help alleviate two perceived problems in the Philippine banking market, namely a lack of effective monitoring and the preponderance of relational banking practices (Li, 2000). These problems occur in the Philippines, and commonly in other emerging market economies, due to a corporate governance system that is typified by high ownership concentration. In the Philippine case this ownership concentration is centered around family corporate groups that control a large portion of corporate assets, and likewise, have significant ownership in the nation's large commercial banks. [2] For example, we find that 10 of the 16 large domestic Philippine commercial banks are subject to significant group ownership. Additionally, when affiliation is more broadly defined to encompass related parties, including group companies, affiliated companies, and managerial insiders, we find all large commercial banks are effectively controlled by these related parties. As a consequence, bank managers are often related or appointed by the dominant ownership group, and therefore, owe some allegiance for their position (see Rivera and Koike, 1995). The resulting system of relationship-based banking may hinder economic growth, since these banks may not fulfil an intermediary role by acting as effective corporate monitors (Li, 2000). [3] Consequently, a decline of group influence may act to diminish the presence of relationship-based banking, and in turn, may enable large commercial banks to better monitor corporate activities.

Within this framework, we investigate how foreign bank entry and changes in foreign ownership affect the operation and structure of domestic banks in the Philippines. We undertake this analysis using bank-level accounting data and general macroeconomic data for the time period covering 1990–1998. We find evidence that

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[2] We define corporate governance from an agency perspective similar to Shleifer and Vishny (1997). Corporate governance is viewed as the relationship between corporate stakeholders and managers and how these participants determine the direction and performance of the corporation. Corporate stakeholders can include both holders of equity and debt, as well as employees and suppliers. In other words, corporate governance focuses on who controls corporate assets and on the decision-making process regarding where capital funds are allocated.

[3] For example, severe economic downturns occurred in Thailand, South Korea, and Indonesia in 1997, at least in part, due to problems exacerbated by the ownership structure of banks and the relationship between these banks and corporate groups (Krugman, 1998; Li, 2000). In addition, Philippine banks are found to concentrate their lending to large, related corporations raising concerns about lending risk (Hutchcroft, 1998).

an increase in foreign bank entry acts to reduce interest rate spreads and operating expenses. This evidence supports our conjecture and the evidence of related studies (Denizer, 1999; Claessens et al., 2001). However, the narrowing of interest rate spreads are concentrated only in banks with higher levels of group-affiliate ownership, while gains in efficiency are lower for domestic bank subject to rising foreign ownership of their shares. We also uncover evidence that foreign entry brings about an increase in loan loss provisions similar to findings of Barajas et al. (1999b), while changes in the percentage of foreign ownership of domestic banks is inversely related to the amount of income earned from non-traditional banking sources.

2. Related literature

There are only a handful of empirical studies that directly examine the impact of liberalizing foreign bank entry on domestic banking markets. The most comprehensive of these is by Claessens et al. (2001). Using bank level data for 80 developed and developing countries over the 1988–1995 period they examine the impact that foreign bank entry has on domestic bank net interest margins, profitability, non-interest income, overhead expenses, and loan loss provisions. They find that an increase in foreign bank presence is associated with a reduction in profitability, non-interest income, and overall operating expenses of domestic-owned banks. These results are interpreted as evidence that foreign bank entry improves the efficiency of national banking markets and provides positive welfare implications for a domestic economy.

Studies investigating the effect of bank liberalization for particular countries include Terrel (1986), Bhattacharaya (1993), McFadden (1994), Clarke et al. (1999), Denizer (1999), and Barajas et al. (1999a,b). Terrel (1986) studies aggregate accounting data for the banking markets of 14 developed countries and finds that countries where foreign bank entry is allowed tend to have relatively lower gross interest margins, lower before tax profits, and lower operating costs. In Bhattacharaya's (1993) investigation of the national banking markets of Pakistan, Turkey, and Korea he discovers that entry by foreign banks increased the amount of foreign capital available to fund domestic projects. Through an examination of the Australian banking sector McFadden (1994) uncovers evidence that foreign bank entry improves domestic bank operations.

In a study of Argentine banks Clarke et al.'s (1999) data supports a contention that greater foreign bank presence instills competition in some areas for domestic banks. However, they believe this effect is somewhat mitigated since foreign banks primarily specialize in areas that are not in direct competition with domestic banks. In addition, their work looks primarily at indirect forms of foreign entry. Most of the rise in foreign presence is derived from the foreign acquisition of troubled domestic banks and an increase in the size of foreign banks. Denizer (1999) examines the effect of foreign entry on Turkish banks finding that foreign entry reduced domestic bank profitability and overhead expenses, and interprets this as evidence that foreign entry increased efficiency. However, he surmises that the effect of for-

eign entry would have been greater if capital account had been opened earlier. Turkey allowed foreign entry starting in 1980, whereas capital accounts were not opened until 1989.

Barajas et al. (1999b) investigate how the liberalization of foreign participation affected the Colombian financial sector. They find some confirmation that liberalization reduced intermediation spreads and loan quality, but that liberalization increased administration costs. However, when considering specific relationships based on the number of foreign banks entering Colombia they find that intermediation spreads are not affected by entry. A problem is that it is difficult to evaluate the effect of foreign bank entry using Colombian data for the following reasons. First, the government owned a substantial portion (55%) of bank assets in 1991 when liberalization began. A conversion of much of these assets to private banks throughout the decade may have overwhelmed any effect attributed to foreign bank entry. Second, an increase in foreign bank participation apparently took years to occur in any significant sense. While the percentage of domestic banks with foreign participation was at 7.6% in 1991, it increased to only 9.7% by 1996 before accelerating to 31.4% in 1998.

These studies are subject to some limitations based on their structure and the countries studied. First, studies investigating effects across countries are inherently confronted with the problem of separating our effects associated with foreign bank entry from effects attributed to contrasting economic and regulatory factors. Second, any effect derived from increased foreign penetration depends on whether other financial reforms have taken place, such as, domestic financial deregulation, strengthening the regulatory and supervisory framework, capital account liberalization, and privatization of bank assets (Claessens and Jansen, 2000). In the aforementioned studies, these other financial reforms have taken place either simultaneously or subsequent to the deregulation of foreign penetration. Finally, in previous studies deregulation of foreign entry has occurred over long periods of time, such that, it becomes more difficult to isolate associated effects.

There is also a body of related research that highlights the importance of an effective banking regulatory system. Demirgüç-Kunt and Detragiache (1998) have demonstrated that countries with weak institutional environments, characterized by ineffective legal enforcement, inefficient bureaucracies, and corruption, are faced with greater prospects of instability in their banking sector in the time period immediately following financial liberalization. LaPorta et al. (1998) investigate how certain legal and political features evolve and demonstrate that a country's legal system is determined primarily by its culture and history. Rajan and Zingales (2000) expand on this work and demonstrate a link between political considerations and the institutional impediments to financial development. Overall, these studies report that many countries do not develop efficient financial and legal systems, even when it is generally agreed to be economically beneficial, because politicians fear a redistribution of economic wealth and the loss of political control. However, Rajan and Zingales (2000) believe globalization and technological change may be important catalyst to overcome entrenched political interests and act as impetus for financial development.

3. Variable description and predicted relationships

As a means of investigating the effect of liberalization that has taken place in the Philippines we analyze how greater foreign presence in the domestic banking sector affects domestic bank operations. We define changes in foreign presence as additional foreign bank entry and the change in ownership in domestic bank common stock by foreign investors. Our sample includes all 16 domestic expanded commercial banks (ECBs). We feel this sample forms an accurate representation of the Philippine domestic banking market. These 16 ECBs constitute on average roughly 70% of the total assets of the entire commercial banking sector over the period of study, 1990–1998. The domestic ECBs in our set are all publicly traded on the Philippine Stock Exchange (PSE) and all rank as one of the largest 1000 corporations in the Philippines. Using these large ECBs also allows for a direct investigation of the effect of foreign bank entry since the markets served and the services provided by new foreign banks are comparable to those provided by the domestic ECBs. We believe the smaller domestic banks not included in our analysis serve unique market segments that are less likely affected by a change in foreign presence. We also consider other factors that may affect bank operations, specifically measures of ownership structure, bank-level variables, and general economic variables. The variables used in this study are defined in Table 1.

One way to measure the change in foreign presence is to use a measure of foreign bank entry. For this variable we simply use the proportion of foreign banks to the total number of large commercial banks (FOR#). With this variable we conjecture that domestic banks react at the time of foreign bank entry in an effort to effectively compete against these new market entrants. [4] We posit that foreign banks are motivated by profit and market penetration and that domestic banks are forced to adopt more efficient bank practices to maintain market share. Our other measure of foreign presence is the percentage foreign ownership of domestic bank common stock. The level of stock ownership by foreign investors may provide an indication of the openness and efficiency of that market. A rise in foreign ownership is thought to increase outside monitoring activity and result in improvements in bank practices. To demonstrate why this variable may be important, we find that foreign ownership of domestic ECBs increased markedly from 8.69% of the total in 1992 to 14.81% in 1998.

To evaluate how changes in foreign presence affect bank operations we analyze the effects of foreign entry on interest rate spreads, various measures of operating performance, and risk. Similar to Terrel (1986), Barajas et al. (1999b), and Claessens et al. (2001), we expect interest rate spreads will decline with greater foreign presence. This narrowing of interest rate spreads may occur due to either a decrease in interest income or an increase in interest expenses. Interest income may decline if loan rates are

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[4] Since this variable ignores the relative size of a bank, we also include a measure of foreign bank penetration. The variable used to measure foreign bank penetration is the percentage of foreign bank assets to total assets in the banking sector (FSZ). Use of this variable assumes that greater competitive pressures result from a higher percentage of bank assets in foreign hands. Results of our tests using FSZ are similar to those using FOR#, and therefore, are not reported.

Table 1
Description of dependent and independent variables

Variable	Description
Dependent variables	
Interest rate spreads (IRS)	The difference between the ratio of interest income on loans to total loans and the ratio of interest expense on total deposits to total deposits
Operating performance	
Accounting profitability (AP)	Ratio of before-tax profits to total assets
Non-interest income (NII)	Ratio of non-interest income to total assets
Operating expenses (OE)	Ratio of total overhead expenses to total assets
Risk (RSK)	Ratio of loan loss provisions or reserves to total assets
Independent variables	
Foreign presence	
Entry number (FOR#)	The number of foreign banks as a percentage of all commercial banks
Foreign ownership (FOR%)	The percentage of foreign ownership
Ownership structure	
Group affiliation (GRP)	Affiliation to a domestic family corporate group, a dummy variable equal to 1 if bank is affiliated and 0 otherwise
Ownership concentration (OWN)	The percentage of insider, group, and related party ownership of the top 20 owners
Group ownership (GROUP)	The percentage of group ownership of the top 20 owners
Bank-level factors	
Non-interest earning assets (NIA)	Ratio of cash, non-interest earning deposits at other banks, and other non-interest earning assets to total assets
Equity levels (EQ)	Ratio of the book value of shareholder's equity to total assets
Operating expenses (OE)	Ratio of overhead expenses to total assets
Relative bank size (RSZ)	The total assets of the bank as a percentage of all commercial banks total assets
General economic factors	
Inflation (INFL)	Percentage change in the consumer price index
Capital scarcity (RINT)	The real interest rate, calculated as the nominal interest rate on short-term government securities minus the inflation rate
Reserve requirement (RR)	Set by Bangko Sentral ng Pilipinas
Economic growth (GDP)	The year-to-year percentage change in real gross domestic product

reduced as a bank attempts to fend off declines in the size of their loan portfolio. Likewise, interest expenses may increase with rising deposit interest rates as the ability to attract new deposits becomes increasingly competitive. Interest rate spreads (IRS) are defined as the average interest rate received by banks from their lending activities less the average interest rate paid by banks to their depositors. [5]

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[5] Claessens et al. (2001) and Demirgüç-Kunt and Huizinga (1998) use net interest margin as a measure of bank interest spread. They define net interest margin as the ratio of net interest income to total assets, where net interest income equals total interest income less total interest expense. We instead chose to focus on interest earned and paid through more traditional banking activities. For example, total interest income includes income from investments and trading account securities, as well as interbank loan receivables and deposits with other banks.

Hypothesis 1. An increase in foreign presence is expected to result in a decline in interest rate spreads.

We measure a bank's operating performance with three alternative measures; accounting profitability, non-interest income, and operating expenses. Accounting profitability consists of profits from all sources including interest rate spreads, as well as, any profits derived from non-lending sources. Here we attempt to include the possibility that domestic banks may respond to increasing competition by seeking alternative sources of business to replace traditional bank business that was lost. However, the realization of any non-lending profits may occur gradually. Therefore, in the time period immediately following an increase in foreign bank presence, we expect that accounting profits will decline.

Hypothesis 2. An increase in foreign presence is expected to result in a decrease in accounting profits.

We also look separately at non-lending operations, because many commercial banks in the Philippines engage in non-traditional banking activities, including investment banking and brokerage services. In addition, the importance of these activities may increase as competition erodes the market share of domestic banks in these traditional banking areas. We use non-interest income as our proxy for a bank's level of non-lending activities.

Hypothesis 3. An increase in foreign presence is expected to result in an increase in non-lending activities.

We analyze the effect a change in foreign presence has on operating expenses since any associated improvements in managerial efficiency and organizational structure is expected to result in a decline in operating expenses (Claessens et al., 2001). Similarly, Berger and Hannan (1998) discuss the possibility that with an increase in foreign bank entry, domestic bank managers may be forced to give up their sheltered 'quiet life' and exert greater focus on cost efficiency. In this study, operating expenses are proxied by overhead expenses. These are expenses associated with a bank's lending and non-lending operations, including employee and managerial compensation, fringe benefits, depreciation charges, overhead, and equipment-related expenses.

Hypothesis 4. An increase in foreign presence is expected to result in a decrease in operating expenses.

Claessens et al. (2001) argue that an increase in foreign bank presence may induce domestic banks to take on relatively less creditworthy customers, thereby, increasing bank risk. For example, domestic banks may give greater focus to retail lending as foreign competition takes away safer wholesale business. Therefore, we expect that

the immediate impact of an increase in foreign presence is to increase the risk of domestic banks as competition decreases profit margins, induces profit volatility, and encourages the underwriting of riskier loans (see Shaffer, 1998 for a discussion of adverse borrower selection). However, in the long-run, an opposing effect may occur if competition encourages improved bank management, including underwriting procedures and greater bank disclosure. In this study we proxy bank risk by total loan loss provisions. We assert that loan loss provisions are a reflection of the quality of a bank's loan portfolio.

Hypothesis 5. An increase in foreign presence is expected to increase bank risk in the short term.

4. Data for the Philippine banking industry

We use accounting-based measures for interest rate spreads, operating performance, and risk to circumvent problems associated with differences in market liquidity of commercial banks in our sample, since trading activity in the Philippine stock market is limited. Besides investigating how a change in foreign presence affects bank operations, we also include variables to control for the possible influence of ownership structure, bank-level factors, and general economic factors as Demirgüç-Kunt and Huizinga (1998) find such variables as important. We gather specific accounting-based bank data from bank annual reports, the Philippine Stock Exchange Research Department, and the Securities and Exchange Commission. Macroeconomic data and data used to measure foreign bank entry are obtained from the Bangko Sentral ng Pilipinas Statistical Center. Ownership data is obtained from the Philippine Stock Exchange Research Department and the Securities and Exchange Commission.

Ownership structure variables include group affiliation and ownership concentration. [6] Group affiliation is a dichotomous variable describing whether a bank is considered affiliated to a domestic family corporate group. A domestic bank's response to a change in foreign presence may be affected by whether the bank is affiliated to a group. Close ties to a corporate group may equate to close relational banking ties that are largely immune to the effects of foreign bank entry. Or conversely, foreign bank entry may have a more forceful effect on group-affiliated firms if this entry helps reduce relational banking ties.

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[6] We also included a variable that measures the asset concentration of the three largest banks (3CON). If foreign entry is important, this entry may decrease the concentration of bank assets. We find that asset concentration increases from 31.98% in 1990 to 34.52% in 1994. Whereas in the post-liberalization period asset concentration declines from 33.32% in 1995 to 28.53% in 1998. However, in subsequent tests we found this variable did not have a significant effect and have therefore elected not to report related results.

Similar to Rajan and Zingales (2000), we use ownership concentration as our proxy of political obstacles and the level of transparency. Because many emerging economies are subject to high ownership concentration, we are interested in first determining if this is the case with Philippine commercial banks, and if so, determining the effect this ownership concentration has on bank operations. Ownership concentration is calculated as the percentage ownership of the five largest stockholders. We surmise greater ownership concentration is an indication of the presence of political obstacles and a resulting diminished transparency (see Kroszner, 1998). Therefore, we expect relatively higher ownership concentration to lessen any effects from foreign bank entry.

To control for bank specific effects we include four bank-level variables; non-interest earning assets, equity levels, operating expenses, and relative bank size. These variables are included since they may be directly related to bank profitability and are consistent with previous research including the general model of Claessens et al. (2001). The measure of non-interest earning assets controls for the level of assets that do not directly generate interest income and is used to proxy for bank efficiency. Although conventional wisdom predicts that higher equity levels should be associated with lower earnings since higher equity levels correspond with lower risk, findings for US banks demonstrate equity levels are positively related to earnings (Berger, 1995). This positive relationship has been attributed to higher equity levels being associated with lower expected costs of financial distress and a signal of better future performance. Operating expenses are used as an independent variable in cases where we expect operating efficiency to be an important factor. The relative size of the bank is included to capture any scale efficiency effects that may be present. We hypothesize that a domestic bank's response to foreign bank entry may be related to the domestic bank's size, which proxies for the extent of its relationships and reputation. Having more concrete relationships and an enhanced reputation are expected to be positively correlated with the relative size of the bank.

We also include a set of general economic variables that may affect interest rate spreads, operating performance, and bank risk. These variables include the yearly inflation rate, a measure of capital scarcity, reserve requirements, and economic growth. The level of inflation controls for the expected direct relationship between inflation with interest rate spreads and profits. Greater capital scarcity allows banks to increase their spreads and profits but may have an adverse impact on loan losses. The legal reserve requirement ratio is used because changes in this ratio will impact on bank performance. A measure of general economic growth is included to control for any effect that general increases in economic activity may have on bank operations and profits.

Descriptive statistics for the entire Philippine commercial banking sector are presented in Table 2. These data highlight the dramatic jump in the number of foreign-owned commercial banks starting in 1995, corresponding to regulation passed in 1994. The number of foreign-owned commercial banks increased from 4 in 1994 to 14 in 1995, or on a percentage basis went from 12.1% to 31.1% of the total number

Table 2
Descriptive statistics for Philippine commercial banks for 1990–1998[a]

Year	Total	Foreign		Total assets			Total deposits			Average size		INFL	RINT	GDP	3CON
		Number	%	Foreign	Domestic	Total	Foreign	Domestic	Total	Foreign	Domestic				
1990	30	4	13.3	66,613	446,588	513,201	22,610	246,367	312,980	16,653.3	17,176.5	13.2	12.9	3.04	32.0
1991	31	4	12.9	64,196	504,605	568,801	22,983	299,962	364,158	16,049.0	18,689.1	18.5	5.4	−0.58	33.2
1992	32	4	12.5	63,705	581,191	644,896	26,043	352,107	415,812	15,926.3	20,756.8	8.6	9.4	0.34	33.1
1993	32	4	12.5	75,956	696,630	772,586	32,905	438,993	514,949	18,989.0	24,879.6	7.0	7.1	2.12	34.5
1994	33	4	12.1	86,522	889,731	976,253	42,073	574,502	661,024	21,630.5	30,680.4	8.3	5.5	4.39	34.1
1995	45	14	31.1	115,466	1,156,912	1,272,378	42,007	701,667	817,133	8,247.6	37,319.7	8.0	5.4	4.76	33.3
1996	46	13	28.3	202,977	1,515,700	1,718,677	51,680	831,017	1,033,994	15,613.6	45,930.3	9.1	4.3	5.85	31.4
1997	51	14	27.5	350,533	1,956,705	2,307,238	104,837	1,022,571	1,373,104	25,038.1	52,883.9	5.9	7.7	5.17	28.2
1998	50	13	26.0	387,734	1,886,107	2,273,841	134,244	1,060,473	1,448,207	29,825.7	50,975.9	9.7	7.7	−0.48	28.5

Includes all commercial banks except for three Specialized Government Banks (Al-Amanah Islamic Bank, Development Bank of the Philippines, and Land Bank of the Philippines). Total assets and total deposit, and average size are in millions of pesos. Inflation (INFL), real interest rate (RINT), real gross domestic product growth rate (GDP) are defined in Table 1, and bank asset concentration (3CON) is the asset concentration in the three largest banks, measured as a percent of total bank assets.

[a] Sources include the Bangko Sentral ng Pilipinas (1996, 1997a,b,c, 1998a,b, 1999).

of commercial banks. [7] Similarly, a rise in the amount of total assets and liabilities began in 1995, but instead of an immediate jump the increase has been gradual. For example, the average size of a foreign-owned commercial bank declined from PhP21,630.5 million in 1994 to PhP8,247.6 million in 1995. However by 1998 the average size of foreign commercial banks surpassed the 1994 level reaching PhP29,825.7 million. In addition, the average size of domestic commercial banks appears to have increased in reaction to entry of foreign commercial banks. While the average size of domestic commercial banks increased steadily from 1990 to 1993 from PhP17,176.5 million to PhP24,879.6 million, this trend accelerated in 1994, perhaps due to anticipation of the regulation liberalizing foreign bank entry. By 1998 the average size of domestic commercial banks had increased to PhP50,975.9 million.

Our statistics vary from the summary statistics reported by Claessens et al. (2001) and Cetorelli and Gambera (2001) for the Philippines. For example, Claessens et al. (2001), using data from BankScope for the years 1988–1995, gathered a sample of 17 banks in which they found that 46% were foreign having 57% of bank assets. In contrast, based on a sample that includes all domestic commercial banks and all foreign banks, we find for the year 1995 that 31% of banks are foreign having 9.1% of bank assets. Over the period 1990–1998 we find that on average foreign banks make up 21.2% of all banks and possess 12.8% of bank assets. In addition, Claessens et al. (2001) and Cetorelli and Gambera (2001) report that the three largest banks have a 40% market share of total assets, while we find that the market share of the three largest banks averages 32.0%. These differences in summary statistics are probably due to using different sources for data. Where these previous studies relied on a limited number of banks reported by BankScope, we collected data on all Philippine commercial banks and we cross-check our data through multiple sources.

Table 3 presents statistics for interest rate spreads, accounting profits, non-interest income, operating expenses, risk, and relative size for the 16 domestic ECBs in operation during the years 1990–1998. Interest rate spreads are shown to vary widely

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[7] Prior to the passage of RA no. 7721 in May 1994, the four foreign banks that operated a branch or branches in the Philippines were the Bank of America, Citibank, Standard Chartered Bank, and The Hong Kong and Shanghai Banking Corporation Limited. After the passage of RA no. 7721, ten new foreign commercial banks began operations in the Philippines in 1995 using the first entry mode, which was the establishment of branches with full banking authority. These banks, including home country and year that operations began, are as follows. ANZ Banking Group Ltd. from Australia started operations in 1995, Bangkok Bank Public Co. Ltd. from Thailand in 1995, Development Bank of Singapore from Singapore in 1995, Deutsche Bank AG from Germany in 1995, ING Bank from the Netherlands in 1996, International Commercial Bank of China from Taiwan in 1995, Korea Exchange Bank from South Korea in 1995, The Bank of Tokyo-Mitsubishi Ltd. from Japan in 1996, The Chase Manhattan Bank from the USA in 1995, and The Fuji Bank Ltd. from Japan in 1997. However, in 1998, Development Bank of Singapore (DBS) changed to the third mode of entry, acquiring an existing bank. DBS merged with a domestic commercial bank called the Bank of Southeast Asia, to form what is now called DBS Bank Philippines, Inc. which is classified as a subsidiary of a foreign bank. Four foreign banks began operations in the Philippines using the second entry mode between 1995 and 1998. These are Banco Santander Philippines, Inc. which is majority owned by Banco Santander, S.A. from Spain and which started operations in 1996, Chinatrust (Phils) Commercial Bank Corporation in 1996, Dao Heng Bank, Inc. in 1996, and Maybank in 1998.

Table 3

Descriptive statistics on selected variables for 16 publicly traded domestic ECBs for 1990–1998[a]

	1990	1991	1992	1993	1994	1995	1996	1997	1998	Average
Interest rate spreads (*IRS*)										
Average	7.34	9.21	8.06	6.44	6.85	5.60	5.59	6.17	6.87	6.90
Standard deviation	5.51	8.40	4.52	3.09	1.70	1.76	1.86	1.75	2.34	1.17
Minimum	1.35	2.27	4.06	3.63	4.34	2.48	2.43	2.56	1.88	5.59
Maximum	22.19	39.16	23.10	17.26	10.29	9.92	9.46	8.89	9.82	9.21
Accounting profit (*AP*)										
Average	2.87	2.70	2.65	2.33	2.32	2.24	2.44	1.97	1.17	2.30
Standard deviation	0.94	1.06	0.90	0.66	0.64	0.43	0.48	0.64	1.68	0.50
Minimum	1.35	0.39	0.48	0.83	1.38	1.42	1.86	0.67	−4.09	1.17
Maximum	4.77	4.60	4.13	3.26	3.98	3.02	3.52	3.05	3.41	2.87
Non-interest income (*NII*)										
Average	3.83	2.70	3.56	2.96	2.44	2.81	2.24	2.08	2.23	2.76
Standard deviation	0.98	0.86	1.91	0.56	0.65	2.60	1.03	0.79	0.64	0.61
Minimum	2.35	0.78	2.18	2.18	1.65	1.63	0.66	0.99	1.49	2.08
Maximum	6.28	4.37	10.29	3.78	4.43	12.42	4.49	3.92	3.62	3.83
Operating expenses (*OE*)										
Average	3.95	4.13	4.32	4.20	4.02	3.70	3.44	3.19	3.66	3.85
Standard deviation	0.70	0.60	0.99	0.83	0.80	0.70	0.53	0.52	0.60	0.38
Minimum	2.98	3.08	3.05	2.99	3.04	2.83	2.60	2.44	2.62	3.19
Maximum	5.25	5.81	6.66	6.10	5.97	5.37	4.51	4.26	4.75	4.32
Loan losses (*RSK*)										
Average	0.60	0.26	0.25	0.18	0.16	0.82	0.25	0.80	1.43	0.53
Standard deviation	0.40	0.24	0.22	0.17	0.12	2.22	0.20	0.45	1.03	0.43
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.16
Maximum	1.30	0.73	0.67	0.51	0.37	9.11	0.84	1.50	4.43	1.43
Relative size (*RSZ*)										
Median	4.46	4.68	4.57	4.74	4.74	4.80	4.54	4.28	4.21	4.56
Standard deviation	2.69	2.68	2.55	2.52	2.83	2.58	2.80	2.80	2.48	4.57
Minimum	0.43	0.46	0.52	0.59	0.63	0.64	0.59	0.53	0.52	4.21
Maximum	14.31	16.49	15.14	17.05	15.18	13.79	13.03	11.84	12.77	4.80

For the annual figures, the statistics are reported as percentages and computed based on individual bank data for the each year. Variables are defined in Table 1.

[a] Sources include the Philippine Stock Exchange (1997), individual bank's Annual Reports, and individual bank's audited financial statements submitted to the SEC and PSE.

between banks. Data for operating performance (AP, NII, and OE) corroborate this finding highlighting that some commercial banks perform substantially better than others. These data also highlight responses to the structural changes in the Philippine

banking sector. Interest rate spreads, profits, and non-interest income appear to decline throughout this period. Whether those declines are associated with changes in foreign presence is investigated further in the next section. Overall our results are consistent with Claessens et al. (2001), except in the case of interest rate spreads. Where they find an average spread of 3.5% over the 1988–1995 period, we find an average spread of 6.4% over the 1990–1998 period. These differences may be due to sample construction as referred to previously, or due to our sample excluding two economically troubled years, 1988–1989.

Ownership data, reported in Table 4, reveals that ECBs are closely controlled. Comparing ownership data for the pre-liberalization year of 1992 to that of the post-liberalization year of 1998, we find that average insider ownership declined from 55.34% to 43.25%. It is interesting to note how insiders are split between direct insiders and group-affiliated companies, where direct insiders are defined as directors, officers, and related interests (DOSRI). In 1992 the total insider ownership portion of 55.34% is composed of 17.77% by DOSRI and 37.57% by group-affiliated companies. However, by 1998 DOSRI ownership increased to 23.73%, while group-affiliated ownership declined to 19.52%. This suggests a movement by group affiliates away from investing in ECBs and may be a response to banking and financial market liberalization. Perhaps group-affiliated companies are finding other alternatives for obtaining funds. An alternative explanation is that the ability of group-affiliated companies to extract wealth through bank ownership has declined. According to the private interest theory developed by Kroszner (1998), well-organized groups are able to use coercive power over the state to capture rents for these groups at the expense of other dispersed interests. As the influence of these groups

Table 4
Descriptive statistics on ownership variables for 15 publicly traded domestic ECBs[a]

Ownership category	Ownership from 1992			Ownership from 1998		
	Average	Minimum	Maximum	Average	Minimum	Maximum
Foreign ownership	8.69	0.00	39.97	14.81	0.00	40.00
Insiders	55.34	0.00	89.07	43.25	0.00	68.31
DOSRI	17.77	0.00	60.74	23.73	0.00	58.02
Group	37.57	0.00	87.01	19.52	0.00	48.92
Government	2.26	0.00	19.54	5.32	0.00	48.90
Other	33.73	10.90	99.01	36.63	6.63	69.80
Top One	18.17	2.24	39.97	25.12	7.50	48.52
Top Five	50.36	7.93	81.77	61.22	25.93	93.67
Top Twenty	73.94	15.55	99.99	81.29	58.66	99.54

Ownership variables are based on data for year end 1992 and 1998 and descriptive statistics are computed based on individual bank data for the respective year. Ownership figures are based on the percentage ownership by category of the top 20 shareholders. Insiders are defined as directors, officers, related interests, and group-affiliated companies. DOSRI ownership is defined as directors, officers, related interests. One bank is excluded from the original sample due to lack of ownership data for 1992 or any of the years between 1990 and 1993.

[a] Sources include Philippine Stock Exchange (1997), individual bank's Annual Reports, and individual bank's audited financial statements submitted to the SEC and PSE.

declined after the fall of the Marcos presidency in 1986 and the subsequent economic reforms, the ability of groups to extract rents may have also declined.

Further evidence of the concentration of commercial bank control is provided with data for average ownership of the top one, five, and twenty shareholders, also reported in Table 4. It is interesting to note that these measures of ownership concentration increased from 1992 to 1998. However, these statistics must be viewed with caution for the following reasons. First, ownership data for Philippine companies is difficult to decipher. Some owners mask their identities using front companies or investors. This was probably more common in the early 1990s as many ex-Marcos cronies hid assets to avoid government scrutiny. For example, for the Philippine National Bank in 1992 the top one, five, and twenty ownership stakes were 2.2%, 7.9%, and 15.6%, respectively. By 1998, as the government had sequestered shares deemed to be illegally obtained by ex-President Marcos cronies, the Philippine National Bank ownership stakes of the top one, five, and twenty categories had risen to 45.6%, 84.1%, and 86.6%, respectively. As evidence, government ownership increased from less than 1.0% in 1992 to 45.9% in 1998. Second, there have been problems associated with the reporting of ownership data by regulators. Lack of enforcement powers of regulators and severe under-staffing problems result in significant inaccuracies in the filing and recording of mandatory ownership data.

5. Analysis of foreign presence

To investigate how a change in foreign ownership affects the operation of domestic banks, we employ a random-effects model to analyze our sample of panel. We also consider a more generic generalized-method-of-moments (GMM) approach and a fixed-effects model. Although GMM only requires the specification of certain moment conditions, its use with small sample sizes as found in our study, may result in a finite-sample bias (Woolridge, 2001). In addition, whereas the GMM procedure may be more efficient than a fixed-effects or random-effects model when either heteroskedasticity or serial correlation are present, Woolridge (2001) argues that since basic econometric methods can use robust inference techniques allowing for arbitrary heteroskedasticity or serial correlation, the gains from using GMM may be immaterial. The fixed-effects estimator is robust to the omission of any relevant time-invariant regressors (Johnston and DiNardo, 1997). However, because of this, a fixed-effects model cannot include time-invariant explanatory variables, such as those included in our model. A fixed-effects model removes any effect associated with these variables, while a random-effects model considers the association between these time-invariant variables and the dependent variable. [8] Further comparison of these techniques through a Hausman test indicates that the hypothesis that the individual

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[8] Zhou (2001) specifically demonstrates the potential problem when using a fixed effects model to analyze panel data in cases when investigating the relationship between ownership and performance for US data. He argues that managerial ownership substantially differs across firms, but typically only changes marginally across time.

effects do not correlate with the other regressors in the random-effects model cannot be rejected. [9] Therefore, since the fixed-effects estimates are not efficient relative to the random-effects estimates, we accept the less restrictive random-effects model in our paper.

In Table 5 we present results of three separate models for each of five dependent variables, including interest rate spreads (IRS), profits (AP), non-interest income (NII), operating expenses (OE), and risk (RSK). In the first model we present measures of foreign presence that capture both the number of new foreign banks entering the market (FOR#) and the change in the percentage ownership by foreign investors (FOR%). The second model uses these measures of foreign presence interacted with a dummy variable that designates whether the ECB is affiliated to a domestic family group (GRP). The third model again uses these measures of foreign presence but these are instead interacted with the percentage of group ownership in the ECB (GROUP). We include these interaction terms because a large proportion of productive assets are controlled by domestic family corporate groups and the degree of group ownership may affect the relationship between foreign entry and a domestic bank's operations (for a discussion see Unite and Sullivan, 2000). For example, LaPorta et al. (1999) find that in many developing countries the actions of firm managers are oftentimes controlled by the founding families. The control position taken by these founding families help reduce any severe agency problems that are present in countries with undeveloped corporate governance systems (Shleifer and Vishny, 1997).

We find that foreign bank entry (FOR#) is inversely related to both interest rate spreads and profits, but only in cases where group-affiliation is important. For example, interest rate spreads and profits significantly decline in response to the competitive pressures induced by foreign entry only when those domestic banks are affiliated to a domestic family business group. Therefore, it is only when the ECB is affiliated to a domestic group that our findings for the Philippines support those of Terrel (1986), Bhattacharaya (1993), McFadden (1994), and Claessens et al. (2001). We surmise that a decline in group ownership, and therefore the relational banking ties these groups have with certain affiliated domestic banks, creates an environment in which these affiliated banks are significantly impacted by competition from the newly entered foreign banks. Overall, it appears that group-affiliated banks are affected more by foreign entry because group-affiliated banks have relatively higher pre-liberalization spreads. [10] We take this to be evidence of a decline in the influence of relationship-based banking.

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[9] The Hausman test is a chi-squared statistic based on the Wald criterion: $\mathbf{W} = \chi^2[\mathbf{K}] = [\mathbf{b} - \hat{\beta}]' \hat{\Sigma}^{-1} [\mathbf{b} - \hat{\beta}]$, where $\mathbf{b}$ is the vector of slope estimates, in the fixed-effects model, $\hat{\beta}$ is the vector of slope estimates in the random-effects model, and $\hat{\Sigma}$ is the difference in the estimated covariance matrices of the slope estimates with the individual dummy variables of the fixed-effects model and the estimated covariance matrix in the random-effects model, excluding the constant term.

[10] We find that for the pre-liberalization period from 1990–1993 the IRS of group-affiliated banks averaged 9.05%, while for the non-affiliated banks IRS averaged 6.11%. In the post-liberalization period from 1995–1998, IRS was more similar between these subsamples. For group-affiliated banks IRS averaged 6.43% and for non-affiliated banks 5.58%.

Table 5
The regressions are estimated using a random-effects model for a sample of 16 Philippine commercial banks for the years 1990–1998

Dependent variable	Interest rate spreads (IRS)			Profits (AP)			Non-interest income (NII)			Operating expenses (OE)			Risk (RSK)		
Intercept	−2.39***	−1.55	−1.18	10.89*	12.27*	12.10	1.14	1.38	1.27	−4.40*	−4.20*	−4.46*	4.55**	5.23*	5.05**
	(−1.70)	(−1.12)	(−0.87)	(4.96)	(5.51)	(5.18)	(1.11)	(1.26)	(1.17)	(−18.13)	(−14.79)	(−16.94)	(2.45)	(2.65)	(2.51)
NIA	0.19	0.13	0.13	−0.92*	−1.02*	−0.98*	0.07	0.06	0.05	−0.02	−0.02	−0.02	−0.34***	−0.38**	−0.39**
	(0.31)	(0.73)	(0.81)	(−3.28)	(−3.56)	(−3.42)	(0.48)	(0.41)	(0.39)	(−0.46)	(−0.53)	(−0.44)	(−1.95)	(−2.20)	(−2.19)
EQ	0.23	0.42**	0.41**	2.31*	2.64*	2.47*	0.15	0.23	0.18	0.01	0.04	−0.00	−0.63***	−0.46	−0.56
	(1.26)	(2.00)	(2.13)	(5.58)	(5.83)	(5.98)	(1.12)	(1.58)	(1.23)	(0.19)	(0.64)	(−0.05)	(−1.66)	(−1.58)	(−1.50)
OE	0.34	0.29	0.38***	−1.09	−1.23***	−1.01	0.81*	0.77*	0.81*				0.76	0.68	0.79
	(1.41)	(1.23)	(1.69)	(−1.57)	(−1.70)	(−1.39)	(4.14)	(4.19)	(4.16)				(1.49)	(1.47)	(1.56)
RSZ	−0.21**	−0.15	−0.18***	0.03	0.11	0.07	0.09	0.11	0.12	−0.14*	−0.14*	−0.14*	−0.02	0.03	0.02
	(−2.00)	(−1.34)	(−1.68)	(0.22)	(0.84)	(0.58)	(1.19)	(1.40)	(1.62)	(−4.16)	(−3.99)	(−3.87)	(−0.28)	(0.44)	(0.34)
GRP	0.63*	0.08	0.22	0.58*	−0.64	0.25	−0.08	−0.39	−0.15	0.01	−0.14	0.04	−0.13	−0.91	−0.30
	(3.34)	(0.24)	(1.25)	(2.79)	(−1.30)	(1.04)	(−0.60)	(−1.12)	(−1.07)	(0.23)	(−1.12)	(0.56)	(−0.64)	(−1.07)	(−1.35)
OWN	−0.79	−0.42	−1.19	−0.31	0.01	−0.51	0.07	0.12	0.24	−0.03	−0.09	0.01	0.02	0.25	0.12
	(−1.20)	(−0.62)	(−1.59)	(−0.27)	(0.01)	(−0.36)	(0.18)	(0.34)	(0.55)	(−0.12)	(−0.30)	(0.02)	(0.02)	(0.31)	(0.11)
INFL	−0.05	−0.02	−0.02	0.36	0.41***	0.39	0.16	0.18***	0.17***	−0.01	0.00	−0.01	−0.06	−0.03	−0.04
	(−0.29)	(−0.11)	(−0.10)	(1.50)	(1.71)	(1.62)	(1.62)	(1.77)	(1.70)	(−0.13)	(0.08)	(−0.22)	(−0.51)	(−0.21)	(−0.35)
RINT	−0.08	−0.06	−0.06	−0.35	−0.32	−0.32	0.42*	0.43*	0.43*	−0.05***	−0.04	−0.05***	0.52*	0.55*	0.54*
	(−0.45)	(−0.35)	(−1.23)	(−1.38)	(−1.29)	(−1.30)	(4.54)	(4.73)	(4.69)	(−1.77)	(−1.63)	(−1.88)	(4.21)	(4.94)	(4.39)
GDP	−3.01	−2.71	−2.60	18.96*	19.42*	19.37*	2.69***	2.77***	2.73***	−1.19**	−1.14**	−1.22**	−8.10*	−7.89*	−7.93**
	(−1.36)	(−1.27)	(−1.23)	(5.01)	(5.14)	(5.19)	(1.88)	(1.92)	(1.94)	(−2.47)	(−2.36)	(−2.50)	(−2.73)	(−2.66)	(−2.77)
RR	−0.09	0.01	−0.01	5.81*	6.01*	5.88*									
	(−0.21)	(0.03)	(−0.02)	(4.90)	(4.99)	(4.89)									
FOR#	−0.09	0.11	0.08	0.19	0.57*	0.33	−0.11	−0.03	−0.09	−0.19*	−0.17*	−0.21*	1.08*	1.31*	1.14*
	(−0.78)	(0.75)	(0.60)	(0.99)	(2.59)	(1.61)	(−1.37)	(−0.24)	(−0.99)	(−6.83)	(−4.50)	(−6.64)	(3.34)	(2.82)	(3.43)
FOR%	0.79	1.51***	1.09	0.95	1.35	1.16	−1.08*	−1.03**	−0.89**	1.49*	1.21*	1.45*	−0.82	−0.40	−0.59
	(1.25)	(1.93)	(1.62)	(0.88)	(1.22)	(0.98)	(−3.21)	(−2.15)	(−2.16)	(5.21)	(2.89)	(4.55)	(−0.96)	(−0.42)	(−0.68)
FOR#*GRP		−0.37**			−0.71*			−0.17			−0.06			−0.48	
		(−2.33)			(−3.02)			(−1.19)			(−1.14)			(−1.27)	
FOR%*GRP		−1.35			−0.58			0.01			0.49			−0.70	
		(−1.39)			(−0.51)			(0.01)			(1.08)			(−0.88)	
FOR#*			−1.05*			−0.84**			−0.17			0.08			−0.44***

Table 5 (*continued*)

Dependent variable	Interest rate spreads (IRS)			Profits (AP)			Non-interest income (NII)			Operating expenses (OE)			Risk (RSK)		
GROUP			(−3.22)			(−2.03)			(−0.67)			(0.76)			(−1.71)
FOR%*			−1.50			−1.86			−1.63			0.13			−2.21
GROUP			(−0.53)			(−0.56)			(−0.91)			(0.12)			(−0.89)
R^2 (%)	18.14	21.60	26.42	57.98	59.74	58.90	32.37	33.05	32.66	49.93	50.91	50.12	21.91	22.99	22.32

Parameter estimates of separate regressions relating various dependent variables, (1) bank interest rate spreads, (2) profits, (3) non-interest income, (4) operating expenses, or (5) risk, to a set of independent variables. Variables are defined in Table 1. We report *t*-statistics in parentheses based on White's (1980) heteroskedasticity-consistent variances and standard errors.

* Significant at the 0.01 level.
** Significant at the 0.05 level.
*** Significant at the 0.10 level.

In addition, we find that as the relative size of the bank (RSZ) increases, the greater will be the associated decline in interest rate spreads and profits. Because we also find evidence that the smaller banks are subject to greater decreases in interest rate spreads, we conclude that the smaller ECBs respond to foreign competition by increasing their size more quickly than larger ECBs. [11] We surmise that group-affiliated banks and smaller ECBs are often better politically connected with more established relationships, and therefore, liberalization which deregulated foreign bank entry had a more profound effect on the earnings and profits of these politically connected banks. It may be that these politically connected banks lost political influence during this period. These findings support the contention of Rajan and Zingales (2000) that politically powerful groups will not give up economic power easily. In the Philippines, this banking liberalization took place in a time period following a dramatic change in government when the ex-cronies of the past President Marcos had lost much of their political influence. Politically this type of deregulation was not possible prior to the pro-market administration of President Ramos that started in 1992 and extended through 1998 (Unite and Sullivan, 2000).

As opposed to group-affiliated banks, the relatively faster growing ECBs appear to be able to become more efficient, as indicated by the inverse relationship between operating expenses and relative size. We conclude that the intent of the banking liberalization, to make domestic banks more competitive and efficient, has worked effectively in the case of this set of fast growing ECBs. Group-affiliated banks, although adversely affected in terms of revenues and profits, are not found to be becoming more efficient. Perhaps these group-affiliated banks provide benefits to other group corporations that preclude them from markedly reducing operating expenses.

We also find that the entry of foreign banks leads to a decline in operating expenses and an increase in bank risk. The decline in operating expenses is consistent with findings of Claessens et al. (2001). This finding suggests that banking liberalization allowing foreign entry has resulted in greater efficiency. The increase in loan loss provisions associated with foreign bank entry supports the contention of Claessens et al. (2001) that domestic banks are forced to take on less creditworthy customers due to the increased competition brought by the entry of foreign banks.

Liberalization pertaining to foreign ownership of domestic banks does not appear to have as an important influence. We find only that increases in the percentage ownership by foreign investors in domestic banks (FOR%) cause an increase in operating expenses and a decrease in non-interest income. Whereas, operating expenses are shown to decline with foreign bank entry as expected, operating expenses increase as the percentage of ownership in domestic banks by foreigners increases. This finding may be comparable to Barajas et al. (1999b), who find that there is a component of liberalization unrelated to entry that causes the administrative costs of domestic

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[11] We find that for the pre-liberalization period the IRS of the three smallest ECBs averaged 12.29%, while the IRS of the three largest ECBs averaged 6.43%. In the post-liberalization period the IRS between these subsamples of ECBs became more similar. For the smaller ECBs IRS averaged 6.16%, while for the larger ECBs IRS averaged 5.33%.

banks to rise. Perhaps this is related to an increase in intermediation costs resulting from stricter provisioning and reporting requirements that accompanied liberalization. There may also be an increase in costs as banks ready themselves for competition, specifically costs related to activities, such as, the hiring of higher-skilled employees, training current employees, and the acquisition of upgrading of equipment. This suggests that increases in foreign ownership provide managers the impetus to modernize their operations. The decline in non-interest income associated with greater foreign ownership supports a view that with greater levels of foreign monitoring domestic banks reduce their dependence on non-banking areas of business. Although we do not find that foreign ownership levels are significantly associated with spreads or profits, there is assumably a corresponding increase in revenues from traditional banking sources associated with foreign ownership that makes up for this decline in non-interest income and increase in operating expenses.

Besides effects related to foreign presence, the bank-level and general economic factors we employ as control variables are found significant in many cases. Profit is found to be negatively associated with non-interest earning assets (NIA), the level of funding (FND), and operating expenses (OE), and positively associated with equity levels (EQ). The negative relationship between non-interest earning assets and profits suggests that banks that focus on non-interest earning assets suffer relatively greater profit erosion. This supports a view that banks are more profitable when they focus on traditional banking services. The direct relationship between profits and equity levels corresponds to findings for US banks. Berger (1995) discusses how profits should be positively related to equity levels since this will encourage more prudent lending, and therefore, better performance. The negative relationship between operating expenses and profits correspond to results of Denizer (1999) and Claessens et al. (2001). Our results imply that Philippine banks are unable to pass higher operating expenses on to customers.

With non-interest income (NII) as our dependent variable, we find evidence of a positive relationship with operating expenses. This supports the view of Claessens et al. (2001), that banks incur greater operating expenses in order to generate more income from alternative sources. Bank risk (RSK) is shown to be significantly affected by two bank-level variables, non-interest earning assets and equity levels. The inverse relationship between risk and non-interest earning assets may be a consequence of banks diversifying their cash flows streams by relying on sources of business rather than only loans. The inverse relationship with equity levels points to a general increase in risk in the banking sector, since banks are relying less on equity sources for funding at the same time bank asset quality appears to be deteriorating.

Of the general economic variables, the level of GDP and reserve requirements are positively related to profits, but not interest rate spreads. The effect of GDP growth makes sense from the aspect that when the spread between interest revenues and expenses is constant, profits will increase as the amount of business increases with economic activity. These findings correspond with findings of Demirgüç-Kunt and Detragiache (1998). The direct relationship between profits and reserve requirements is opposite than expected since higher reserve requirements reduce the level of funds available to earn interest. Perhaps this is related more to the timing of changes in re-

serve requirement by the Bangko Sentral ng Pilipinas, where the Bangko Sentral increases reserve requirements when bank profits are increasing and cuts reserve requirements when bank profits are declining.

Our finding that non-interest income is positively related to the level of real interest rates is contrary to that of Claessens et al. (2001). Our results suggest that Philippine banks turn to non-traditional sources of revenues in periods when real interest rates are high. Operating expenses are inversely related to GDP, corresponding to the findings of Claessens et al. (2001), but opposite of that found by Denizer (1999). This indicates that Philippine bankers do not react quickly to economic declines by cutting operating expenses. The level of loan loss reserves is found to be positively related to the level of real interest rates (similar to Barajas et al., 1999b) and negatively related to GDP (similar to Claessens et al., 2001, but opposite of findings of Barajas et al., 1999b). Loan quality of Philippine banks appears to strengthen as real interest rates rise, but deteriorates as expected when the economy suffers.

6. Conclusions

Recent reforms undertaken in the Philippines that liberalized restrictions on the involvement of foreign interests in the domestic banking market appear to have resulted in favorable consequences. Overall, we find evidence that interest rate spreads narrow and operating expenses decline with greater foreign bank entry. This supports the hypotheses that foreign competition reduces interest rate spreads as both domestic and foreign banks vie for the same business, and that foreign competition forces domestic banks to be more efficient. However, the narrowing of interest rate spreads is concentrated in banks with higher levels of group-affiliate ownership, while gains in efficiency are lower for domestic banks subject to rising foreign ownership of their shares. We conclude that the intent of the banking liberalization, to make domestic banks more competitive and efficient, has worked effectively in the case of larger Philippine banks. Group-affiliated banks, although adversely affected in terms of revenues and profits, are not found to be gaining in efficiency. Perhaps these group-affiliated banks provide benefits to other group corporations that preclude them from markedly reducing operating expenses.

We also find that the entry of foreign banks is directly related to increases in risk. The increase in loan loss provisions associated with foreign bank entry supports the contention of Claessens et al. (2001) that domestic banks are forced to take on less creditworthy customers due to the increased competition brought by the entry of foreign banks. The increase in the percentage ownership by foreign investors in domestic banks is shown to result in an increase in operating expenses and a decrease in non-interest income. This relationship may capture an increase in intermediation costs assuming increases in foreign ownership are related to providing managers the impetus to modernize their operations. The decline in non-interest income associated with greater foreign ownership supports a view that with greater levels of foreign monitoring domestic banks reduce their dependence on non-banking areas of business.

Overall, we conclude that foreign competition induces domestic banks to be more efficient. As a result of these competitive pressures and increased monitoring, we

expect a general weakening of relationship-style banking. Our findings support this view, as we find that banks that are likely to be more politically connected suffer greater declines in spreads and profits, and are able to reduce operating expenses to a greater extent. Therefore, overall we expect banks to become more independent and to lose much of their political influence. This should lead to better lending practices, where the allocation of funds depends more on merit. As a consequence, we believe liberalization of foreign presence will have positive effects on economic growth and will enhance the ability of the economy to overcome negative external shocks.

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