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台灣銀行業國際化型態、國際化程度、以及績效關係之研究

Pattern and Degree of Internationalization and the Performance of Taiwanese Banks

中文摘要

在加入 WTO 後，台灣銀行業面臨強烈的國際競爭，國際化是提升企業競爭力重要的方法之一。本研究主要探討全體台灣銀行業的國際化策略效率與績效間之關係。本文以台灣全體銀行業在 25 個國家的 219 個海外據點資料進行分析。結果發現，影響銀行業國際化拓展的主要地主國區位因素為：台灣製造業的直接投資與出口貿易多寡，亦即本國銀行進行國際化，最重要的國際化動機是跟隨原有顧客的國際化；此外，銀行的國際化程度對於經營效率有正向影響，但對於績效則無顯著的正向影響，效率扮演國際化與績效間的中介角色。然而效率對績效能產生正向影響。所以銀行透過國際化仍能有助於提升效率，進而提升績效。最後並建議政府應該對銀行業進行國際化採取更開放的態度與措施。

關鍵字：銀行業，國際化，績效，經營效率，台灣

ABSTRACT

This research stresses entry location factors, which may affect internationalization strategy of Taiwanese banks, and the relationship between banks' internationalization and performance. This article combines foreign direct investment theory with country and bank level panel data, and analyzes the 219 affiliates of all Taiwanese commercial banks in twenty-five countries from 2000 to 2005. Results generally support predictions. First, Taiwan's export and MNCs' FDI are the most important location factors. Second, increasing levels of internationalization of banks may improve their operational efficiency but do not improve banks' performance directly. Internationalization improves operational efficiency, which in turn increases performance. Finally, we suggest that related limitation of regulations should be released.

Keywords: banking; internationalization; performance; operational efficiency; Taiwan

內容：

INTRODUCTION

Taiwanese banks represent an important part of Asia banking and foreign direct investment in international banking; there are several meaningful reasons to examine international expansion for Taiwanese banks. Firstly, Taiwan ranks as the top fifteenth international trading country in 2006. Taiwan, with its comprehensive industrial infrastructure, well-educated human resource, and strong research and development, has recently become one of East Asia's strongest economies, especially in information technology (IT) industries. According to the recent "2008 IT industry competitiveness index" released by the Economist Intelligence Unit, Taiwan ranks second globally in terms of IT industry's global competitiveness (Economist Intelligence Unit 2008). Those IT MNEs, banks' big and important clients, have expanded overseas aggressively during recent years. Banks establish foreign affiliates, branches or subsidiaries, before or after their clients (Tschoegl 2002). Therefore, Taiwanese banks provide strong evidence for business literature on FDI banking. Previous literatures have studied bank internationalization in western countries (Miller and Parkhe 1998; Tschoegl 2002). This paper provides insight from emerging Asian markets. Secondly, examining non-mainstream cases improves and proves dominant cases by broader testing. Examining these cases may also offer directions for widening coverage of the internationalisation theory (Jacobsen & Tschoegl 1997). In sum, from the Taiwan case offers opportunity to observe strategy determinants pursued by banks from a newly industrialized Asian country in their international expansion and their financial outcome.

Internationalization measures have successfully promoted competition in a banking sector and achieved economies of scale and scope. Internationalisation is an effective way for firms to improve efficiency (Sullivan 1994; Delios and Beamish 1999). Firms may observe and catch overseas advanced technology and management knowledge through cross-border networking (Dunning 1998) and exploit excess foreign market resources to earn extra profits (Dunning 1998; Teece 1986) after internationalisation, thus enhancing efficiency. Customer relationships are very important resources for banks. Therefore, banks have to follow their customers' business abroad (Jacobsen et al. 1997).

The relationship between internationalisation and performance has also captured scholarly interest, while most research studies focuse mainly on industrial multinational enterprises (MNEs) rather than service MNEs. Recent researches explore internationalization and performance of service MNEs (e.g. Capar and Kotabe 2003; Contractor, Kundu and Hsu 2003; Hitt, Bierman, Uhlenbruck and Shimizu 2006a). However, little effort has been made to understand internationalisation effects on banking industry performance or the effects of other organizational factors (e.g., operating efficiency) on performance. Therefore, empirical studies related to banking industry internationalisation are far behind theoretical development. The gap results partly from lacking relevant data and this study attempts to fill this gap. We obtained comprehensive data from the Banking Bureau of Financial Supervisory Commission (FSC), Taiwan on 219 Taiwanese bank affiliates operating in twenty-five countries. Using this data, we conduct a series of empirical tests on important hypotheses.

This research firstly focuses on entry location factors which may affect internationalisation strategy of Taiwanese banks and banks' internationalisation performance. Secondly, this work reviews previous research in related areas and presents research hypotheses. The third section explains research design. Finally, the fourth section reports empirical results and managerial implications and the final section ends with concluding remarks.

THEORY AND HYPOTHESES

Internationalisation of the Taiwan Banking Industry

Taiwanese domestic banks, following the enlargement trend, have speed up internationalization and rapidly increased overseas affiliates. Taiwanese bank had 219 overseas affiliates by the end of 2006. Most of the 85 branches (39%) among them were established in the U.S. (25), followed by Hong Kong (14). Thirty-two overseas representative offices were mostly in Vietnam (10), followed by Hong Kong (6). Subsidiaries were 102 (46%) and most in the U.S. (44), followed by the Philippines (24). Most Taiwanese banks selected the U.S. as a host country (71), followed by the Philippines (28), Hong Kong (28) and Vietnam (26). Most Taiwanese banks in the last four years established overseas affiliates in Hong Kong and Vietnam, with good profit and performance. Taiwanese banks can only set up representative offices in Mainland China, due to restrictions, accounting for 15 percent.

Most Taiwanese banks, from a regional perspective, set up foreign operation in Asia, accounting for 113 affiliates (52%), followed by America, accounting for 84 affiliates (38%). Europe accounts for ten affiliates (5%). The top three countries are the U.S. (66), Hong Kong (25), and the Philippines (24). Chinatrust Bank, First Commercial Bank, International Commercial Bank of China, and Bank SinoPac are the most aggressive internationalised banks.

We summarized two factors for Taiwanese banks to select host countries. One is the foreign operation site or congregate location of Taiwanese firms, such as Vietnam, the Philippines, China, and western America. Banks can exploit original relationships of these firms and provide foreign operation services. The other factor is global or regional financial centers, such as London, Hong Kong, and Singapore. These cities have the most advanced financial information and excellent human resources which may afford Taiwanese banks the latest financial information, management knowledge, and financial human power, enhancing banks' efficiency.

Location Factors

1. Taiwan's FDI

Slager (2006) proposes that banks will consider host country advantages, such as customer needs, regulation and government policy, financial infrastructure, economic structure, and risk diversification when making internationalisation strategy. Geographical similarity also explains one factor that helps banks decide on an overseas operating site. Common language, similar administrative system, and culture are helpful for banks entering host countries. U.S. banks established branches in London in 1950s and 1960s for common language and culture (Roberts and Arnander 2001). Australian banks set operations in New Zealand and Pacific Islands all belonging to Great Britain to provide similar financial products and services (Merrett 2002).

Miller et al. (1998) found that banks may follow manufacturing industry clients, the most important clients and main sources for banking profits, to set affiliates. Taiwanese banks may take advantage of existing customer relationships and continue providing financial services for foreign Taiwanese firms, engaging in production financing (funding for purchasing materials, funding for turnover), trading financing, and consumption financing (deposits, remittance, or wealth management). Credit cost for these services can also be reduced.

Uzzi (1999) proposes that long-term relationships between banks and firms may affect bank performance through three functions. Namely, trust, fine-grained information transfer, and joint problem solving. Banks undertake a large transaction risk when withdrawing to clients. Bad debt causes big bank loss; therefore banks need to investigate client credit before withdrawing. This investigation also costs, especially for new clients. Taking time and money to investigate existing clients is unnecessary, and the cost difference may reflect in client interest rate. Host country banks will require a higher interest rate for credit investigation for foreign firms setting up new foreign affiliates, thus increasing funding costs for foreign firms. Therefore, Taiwanese firms will be more willing to borrow money from Taiwanese-based banks. Local banks transferring existing client information to their overseas affiliates (Kogut and Zander 1993; Almeida, Song and Grant 2002) can reduce credit risk and provide lower interest rate for clients and enhance the relationship between existing clients and banks.

A bank trusts the client when it believes the client will repay the debt. Trust is the decision or behavior to leave ones fate to another (Curral and Inkpen 2002). Banks have more information on or better trust toward existing clients, known as process-based trust (Zucker 1986). Better trust leads to better relationships (Gulati and Gargiulo 1999). Trust reduces opportunistic behavior and raises the possibility for cooperation and relationship. Therefore, overseas Taiwanese firms tend to interact with experienced overseas Taiwanese banks, enhancing performance for internationalised banks.

In addition to trust, long-term relationship helps banks know client details, and leads clients to provide secret information for banks (Uzzi 1999), including information transfer and joint problem-solving (Uzzi 1997). Banks follow clients for three possible reasons: bad service or financial condition of banks in the host country, insufficient bank service in the host country, and competitive advantage and internationalised capability of banks in the home country (Aliber 1984). Since host country banks need to take more time to investigate credits of Taiwanese firms, Taiwanese firms always prefer to maintain business relationships with Taiwanese banks when entering a foreign country. Therefore, banks follow clients to provide services and enter Taiwanese FDI country operation sites. Gray and Gray (1981) indicate that banks receive commercial intelligence from long-term client relationships. Dunning (1980) proposes information asymmetry costs. Building an overseas operating site is one way to keep specific client information and enhance internationalization competitiveness (Hymer 1976). Miller and Parkhe's (1998) empirical study also supports this finding. Therefore, we propose that the number of Taiwanese bank affiliates in a country positively relates to Taiwan's FDI in that host country.

2. *Taiwan manufacture export*

Aliber (1984) find that American banks establish overseas affiliates for the following reason: providing finance services for clients. Cross-border trade generally needs to exchange currency through banks. Banks may assist clients making finance trading by a stable foreign currency (such as USD, Euro and Yen) and help clients engage in FDI (Gray et al. 1981). Grosse and Goldberg (1991) find that bilateral trade causes foreign banks to set affiliates in the U.S. Heinkel and Levi (1992) suggest that FDI by banks in a host country highly correlates with exports to the foreign host location from banks' home countries. Mutinelli and Piscitello (2001) and Miller and Parkhe (1998) also verify this finding. Therefore, we propose that the number of Taiwanese bank affiliates in a country positively relates to Taiwan manufacture export to that host country.

Internationalization, Operational Efficiency, and Performance

Some researchers propose moving beyond direct relationship examinations to the "black box" process by which internationalization leads to performance (Hitt, Tihanyi, Miller and Connelly 2006b), due to the mixed results in the research on relationships between internationalization and performance. Therefore, adding a mediator such as operational efficiency and organizational learning offers more insight into the process by which internationalization leads to performance. For example, Zahra, Ireland and Hitt (2000) demonstrate that internationalization improves the depth and breadth of technological learning. They propose that technological learning facilitates innovation and differentiation, which enhance performance.

Venkatraman and Ramanujam (1986) argue that strategic management scholars should pay more attention to non-financial measurement, such as operational efficiency, which has a strong positive effect on financial performance. Operational efficiency measures, such as cost-efficiency and risk, serve as important mediators of the relationship between internationalization and performance. Wagner (2004) finds that cost-efficiency is obtained from a low-to-middle degree of internationalization, and cost-efficiency mediates the connection between internationalization speed and financial performance. Han, Lee and Suk (1998) suggest that internationalization enhances operating performance while it has no effect on financial performance.

Other studies point out the risk factor to be a significant consequence of internationalization. Several researches demonstrate that internationalization leads to lower firm risk because of risk dispersion (Al-Obaidan and Scully 1995; Kim et al. 1993). Thus, we propose that banks' operational efficiency consists of cost-efficiency and risk-efficiency. This study analyses the internationalization pattern of Taiwanese banks and finds that they mainly set up foreign locations in cities where Taiwanese multinational companies (MNCs) locate, such as the Philippines, Vietnam, and in financial centers such as New York, London, and Hong Kong. Thus, we argue that the motivation for Taiwanese banks to internationalize is to serve customers abroad, to gather information, and to absorb best practices, knowledge, and intelligence from financial centers. The location theory also argues that internationalization achieves significant cost benefit because of overseas resource diversity. Accordingly, this study hypothesizes that internationalization improves bank operational efficiency through the two following paths: 1. Acquiring more advanced knowledge, best practices, technology, and intelligence from world financial centers, 2. Applying existing customer relationships, with verified credits, abroad. Therefore, bank internationalization improves bank operational efficiency.

Proficiency in deploying and managing bank assets, expense and workforce are vitally important. Banks obtain better financial performance through controlling cost and expense and allocating assets efficiently. Such performance acquires financial innovation know-how that improves financial assets management and information technology for minimizing operational cost. International businesses must pay attention to accomplishing and upholding good operational efficiency when expanding operations (Pan at al. 1999). Applying customer information, such as credit verification, also improves loan quality and saves related expense (Li, Hu and Chiu, 2004), enhancing performance. This work further hypothesizes operational efficiency as an important mediator of the internationalization-performance relationship, based on the above analysis and those more efficient banks, achieved by expanding abroad, lead to better financial performance. Therefore, we propose that banks' operational efficiency positively relates to performance.

Increasing levels of internationalization improve operational efficiency but do not improve performance directly. However, operational efficiency positively impacts performance. In other words, internationalization improves operational efficiency, in turn increasing performance. Banks must invest huge resources, including capital (purchase of building and equipment), expenditure (e.g. personnel, rents, and legal compliance related fee) and time (e.g. preparation, apply to home and host countries' competent authorities) to start offshore affiliates, especially subsidiaries. However, some inefficient banks set up costly branches at global financial centres (e.g. New York and London) and return limited advantages and benefits. Therefore, their poor efficiency cannot transfer numerous inputs for internationalization into final output, financial performance. In sum, operational efficiency serves as an important mediator of the internationalization-performance relationship.

RESEARCH METHODOLOGY

Firstly, this study takes a country as a unit of analysis and discusses Taiwanese banks building overseas affiliates with variables in host countries. Data include all overseas affiliates of Taiwanese banks from 2000 to 2006, FDI and trading data of the Taiwanese manufacturing industry. The current study also refers to the internationalization theory and proposes related variables affecting location variables, including FDI and bilateral trading variables of the Taiwanese manufacturing industry to host countries. Then we take bank level as a unit of analysis and discuss the level of internationalisation and bank performance. Taiwanese commercial banks are the sample used in this study during 2002 to 2005. The time period is limited because comprehensive data have been compiled only since 2001 to 2005. The dataset, obtained from the Banking Bureau of Financial Supervisory Commission (FSC), represents the most comprehensive collection to date of the number of overseas banking affiliates and employees and the amount of Taiwanese bank overseas assets.

Affiliates consist of representative offices, branches, and subsidiaries. Firstly, foreign subsidiaries with networks are subject to the regulations of the host country government, in direct competition for retail clients with local commercial banks and maintain separate legal entities. Branches and representative offices concentrate on niche segments such as wholesale and investment banking business and information collection respectively. Secondly, overseas branches are supported by the funding capabilities and resources of the parent bank. These offices perform all of the traditional banking deposit and loan functions. Thirdly, representative offices, the first step toward international expansion, are the most restricted patterns and used mainly for investigative purposes (e.g., gathering and delivering overseas information to the head quarter of parent bank). These offices are not allowed to perform banking function, such as accepting deposits and issuing loans.

Two bank efficiency measures enable us to capture bank cost-efficiency and risk-control efficiency: (1) the ratio of employee numbers over total assets (Pan, Li and Tse 1999) and (2) the efficiency ratio: the ratio of a bank's non-interest expense to its total revenue (Chotigeat, Kramer and Pyun 2004). This study hypothesizes the coefficient of operational efficiency variables as negative because lower ratios mean higher efficiency. The higher the ratio, the more inefficient the bank is deemed to be.

Financial performance is measured in terms of return on assets (ROA) of a bank. Several previous papers widely use this measure, including financial literature (Hitt et al., 1997 & 2006a; Verreynne 2006). ROA evaluates profit earned in relation to total assets and a key indicator of bank performance, offering information on how banks utilize total resources to earn returns.

EMPIRICAL RESULTS

In summary, export and manufacturing industry FDI are the most significant factors affecting banks in establishing affiliates. Branches and p-values especially are all less than 0.001. Host country financial environment soundness is less significant than export and FDI, which means that following the client is the most important location factor for banks to set up affiliates. Our empirical results are consistent with Miller (1998) and Heinkel et al. (1992). Furthermore, internationalization variables show no significant influence on performance, when combining the significant effects of operational efficiency on performance in the same model, supporting our suggestion that operational efficiency mediates the association between internationalization level and financial performance.

DISCUSSION AND CONCLUSTIONS

Internationalization is an important way to enhance firm efficiency. Taiwanese banks face keener competition and need to raise efficiency to survive. Internationalization also is an important strategy for banks to improve competitiveness. This study analyses Taiwanese bank internationalization, operation type, and proposed location factors and examines the relationship among internationalization, FDI, manufacturing industry trade, and host country financial environment. Our empirical results are consistent with existing literatures.

Taiwanese banks have recently upgraded their internationalization levels and increased overseas affiliates. This research finds that banks choose affiliates due to FDI clustering sites of Taiwan-based firms. Following clients and applying customer relationships abroad are main motivations for Taiwanese banks to internationalize. Therefore, following clients is one of the most important motives for banks to set up overseas affiliates. Banks provide overseas services for and maintain existing relationships with existing clients. Furthermore, Taiwan is an export-oriented country, and export influence is higher than trade. Overseas bank affiliates provide managers and employees of Taiwan-based firms with consumption financing, such as remittance and wealth management. Banks may internalize this tacit knowledge and make profits by following clients through establishing overseas affiliates (Miller et at, 1998).

Banks enhance efficiency and performance by following clients, exploiting relationships with existing clients, and obtaining international financial information. Taiwanese banks may measure their own resources and examine their clients to set affiliates in appropriate host countries to provide subsidiary service for their clients. Recently, 80 percent of Taiwanese firm invested in China in 2006 according to statistics published by the Ministry of Economic Affairs. The opportunity of providing services may be seized by other foreign banks if Taiwanese banks are restricted from investing in China. This issue needs further discussion in the futher.

Second, this research examines internationalization, performance, and operational efficiency as a mediating role in the banking industry in a newly developed economy. The result shows that bank internationalization level has important impact on operational efficiency, resulting in better financial performance. However, internationalization does not directly enhance financial performance without improving operating efficiency. The average proportion of internationalization index and foreign affiliate ratio of Taiwanese banks are only 3.2 percent and 5.02 percent respectively. Despite the low level of internationalization for banking industry in Taiwan, this article has proposed a significant relationship between the level of internationalization and operational efficiency.

Internationalization improves bank operational efficiency through acquiring knowledge, intelligence, and more advanced global standards from monetary centers and applying customer relationships abroad. Thus, Taiwanese bank foreign locations are mainly located near Taiwanese MNCs and monetary centers. Taiwanese banks in recent decades have actively expanded overseas business for following reasons. Establishing branches in highly intensive financial knowledge and information areas helps domestic banks receive international best practices and the most updated financial management information, therefore increasing banking system operational efficiency. Taiwanese banks recognize that Taiwanese enterprises are expanding overseas and making greater economic impact in host countries, therefore banks are setting up overseas affiliates to target these enterprises. Taiwanese bank domestic branches can transfer customer information and data to overseas affiliates of the same bank, reducing credit investigation costs abroad and maintaining customer relationships, thereby increasing efficiency

(Kogut et al. 1993). Furthermore, location diversification achieves credit dispersion, resulting in bank risk reduction. Reducing default loans may decrease bank costs, hence improving outcome.

Last, as far as financial authority of newly industrialized Asian countries is concerned, in addition to encouraging banks to enlarge through M&A or diversify through establishing financial holding companies, government should also encourage bank internationalization or establish affiliates to absorb financial information, management knowledge, and human resource of international financial centers, thus enhancing performance and competitiveness of banks.

計畫成果自評：

在加入 WTO 後，台灣銀行業面臨強烈的國際競爭，國際化是提升企業競爭力重要的方法之一。本研究主要探討全體台灣銀行業的國際化策略效率與績效間之關係，研究結果發現與原先預測大致符合，證實影響銀行業國際化拓展的最重要地主國區位因素為：台灣製造業的直接投資與出口貿易多寡，亦即本國銀行進行國際化，最重要的國際化動機是跟隨原有顧客的國際化；此外，銀行的國際化程度對於績效雖無法直接產生顯著的正向影響，但對於經營效率則有正向影響，亦即效率扮演國際化與績效間的中介變數角色。所以銀行透過國際化策略仍能有助於提升效率，進而提升績效。本研究初步研究結果已分別發表於 2008 美國管理學會年會（Academy of Management, AOM）與 2007 澳紐管理學會 Australian and New Zealand Academy of Management, (ANZAM)國際學術研討會，且獲 2008 年底亞洲管理學會（AAOM）年會接受發表，並進一步分別投稿 SSCI（已在 2008 年 8 月進入複審階段）與 TSSCI 期刊（在 2008 年 9 月投稿）。

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出席國際學術會議心得報告（一）

計畫編號	NSC 96-2416-H-263 -004 -
計畫名稱	台灣銀行業國際化型態、國際化程度、以及績效關係之研究
出國人員姓名 服務機關及職稱	黃啟瑞 致理技術學院國際貿易系
會議時間地點	4-7 December 2007, University of Western Sydney, Sydney, Australia
會議名稱	2007 Australian and New Zealand Academy of Management, ANZAM
發表論文題目	Internationalization, Performance and the Mediating Role of Operational Efficiency: Evidence from Taiwan Domestic Banks

一、參加會議經過

2007 年的澳紐管理學會（Australian and New Zealand Academy of Management, ANZAM）於 2007 年 12 月 4 日至 7 日於雪梨的 Sofitel Wentworth Sydney 飯店舉行。此學術研討會為管理學會（Academy of Management, AOM）的分支學會，每年年底由澳洲與紐西蘭輪流主辦。本次會議主題為管理智慧與社會資本（Managing our intellectual and social capital），會中邀請兩位在該主題領域中研究卓著的國際知名學者：哈佛商學院的 Dorothy Leonard 與 Imperial College London 的 John Bessant 擔綱專題演講。此次規模勝過以往，來自全球的投稿超過五百多件，經過匿名審查後，接受三百篇與會發表。參與學者來自美、英、澳、紐、新加坡、中國、台灣、香港等 28 個國家。共分為 16 個領域，筆者發表的論文為 *Internationalization, Performance and the Mediating Role of Operational Efficiency: Evidence from Taiwan Domestic Banks*，歸類在國際企業管理組（International Management）。筆者在四天會議期間，參與國際企業管理與組織管理議題之論文發表會。

會議期間，拜會發表論文的知名學者：香港中文大學的 Kenneth S. Law（羅勝強）教授，羅教授以其曾擔任 AMJ 等優良期刊主編之豐富經驗，分析美國、歐洲及澳洲、新加坡與香港等各國質化、量化研究之趨勢（英國與紐澳地區較重質化研究；美國、新、港則較多量化研究），並慷慨分享發表國際期刊（SSCI）之心得與要領。

此外，筆者並利用訪澳機會，透過前金管會銀行局同事，代為聯絡，在會議前一天拜會國際化較成功的兆豐金控下的中國國際商業銀行（ICBC）雪梨分行（周照賢經理），及澳洲台灣商會會長吳進昌（澳洲前三大健康食品公司 Nature’s Care Austraila 總裁），以實地瞭解台灣銀行業海外分支機構的運作實況及其與台商之商業網路。訪問的內容支持本研究的結果，證實台灣銀行業者主要的客戶群仍以台商為主，台灣銀行業國際化最重要的動機為追隨客戶。且國內金融業有過度競爭（overbanking）的現象，以致數年來獲利情況一直難以改善。因此，向外發展，國際化策略已成為台灣銀行業提升競爭力，增加獲利的重要途徑。近年來，台灣銀行業的海外獲利佔總營收的比重亦逐年提高，即為明證。ICBC 的周經理指出，海外分行賺得的利差高於國內，國際聯貸機會多，服務我國企業之貿易融資等業務均有獲利空間。惟主管機關須注意台灣銀行業海外拓點設立分支

機構在評估銀行業的開放個案時，仍須關注各該海外市場有無台灣銀行業過渡集中，以致台灣的銀行業又面臨激烈的互相競價競爭，導致利潤被稀釋、侵蝕之現象發生，並予以適度的調整。

二、與會心得

本次赴澳洲參加 ANZAM 學術研討會主要目的，係與海外教授討論未來可進行合作研究之主題與方向，另一目的在於瞭解目前國外學者研究潮流與興趣。此行與各國國際企業與組織管理領域的學者充分交流、交換意見，並討論合作的論文事宜，成果豐碩。例如，與香港中文大學管理學系的 Jane Yang 教授研究合作「**Employee - customer dynamics in co-production of professional service**」論文的可能性，就如何建立研究方法：例如計量模型、計量分析（本人負責台灣地區 40 多位理財專員連續 15 天的 daily survey，Yang 負責香港與大陸地區理專之問卷蒐集）等內容與進度進行討論。初步決定於 2009 年初完成，並投稿 2009 AOM 或 AIB，並以 AMJ 為投稿目標。

對於本計畫所進行的台灣銀行業國際化研究，與會學者及分組主持人 Timothy Devinney 教授給予許多寶貴的建議，對於論文的完成助益甚多。此外，在國際企業管理分組上，亦體會到各國學者對中國的研究興趣，及來許多期刊常以中國為特刊主題。而在組織領域組上，也瞭解國外學界對於公司治理議題甚為重視，澳洲幾所大學甚至成立公司治理研究中心，研究比較各國的公司治理制度與成效，討論範圍涵蓋管理、法律制度、策略與經濟發展等各面向，而國內多集中於資本市場與會計資訊揭露等問題。筆者亦考慮在研究銀行業競爭策略的同時，銀行業的公司治理情況與績效應也是值得探討的議題，因而決定在回國後，對此一課題進行初探，並搜尋銀行業國際化、公司治理與績效之相關資料與文獻，進一步瞭解該研究的可行性。

以上心得在未來均能引導本人的研究方向，企盼經由此次雪梨 ANZAM 之行的經驗，能在往後學術研究領域上有更好的表現，也希望研究成果有助國內金融主管單位、銀行業在實務上的決策之用。

Internationalization, Performance and the Mediating Role of Operational Efficiency: Evidence from Taiwan Domestic Banks

ABSTRACT Past research examines the direct relationships between internationalization and performance but finds no consistent results. Recently, scholars realize that there must be some mediators in the relationship between internationalization and performance. This research stresses on the mediating role of operational efficiency between internationalization and performance. Using 204 affiliates of 50 Taiwanese commercial banks operating in 26 countries from 2002 to 2005, we examine the relationships between internationalization, operational efficiency and performance of Taiwan domestic banks. The results show that increasing levels of internationalization improve operational efficiency but do not improve performance directly. However, operational efficiency has significant impact on performance. In other words, internationalization improves operational efficiency, which in turn increases performance. Our results support the argument that operational efficiency serves as an important mediator of the internationalization-performance relationship.

Keywords: banking; internationalization; performance; operational efficiency; Taiwan

The service industry has played a major role not only in developed economies such as U.S., U.K., Germany and Japan, but also in newly-developed economies such as Taiwan, Singapore, Hong Kong and Korea. Since 2003, services industries contribute to GDP more than 60 percent of all abovementioned economies. The share of service sector on U.S. GDP has risen significantly from 62 percent in 1970 to 78 percent in 2004. In 1970, service industries contributed to 48 percent of Taiwanese GDP and they contributed to 72 percent in 2006. Financial service industries are particularly important. The percentage of production value of financial services to Taiwanese GDP has risen from 5.46 percent in 1983 up to 11.6 percent in 2006. Furthermore, the outward foreign direct investment (FDI) of financial service industries constitute a soaring percentage on total Taiwanese outwards FDI from 25 percent in 1994 to 50 percent in 2006. The number of overseas affiliates1 of Taiwanese bank has increased almost seven times from about 35 affiliates in 1991 to 222 affiliates in 2006. The trend of internationalization is especially robust in banking service in this newly-developed economy, where privatization and liberalization prevail in recent years.

The relationship between internationalization and performance has captured numerous interests of scholars, while most research focuses mainly on industrial multinational enterprises (MNEs) rather than service MNEs. Recently, scholars begin to move their interests to explore internationalization and performance of the service MNEs (e.g. Capar & Kotabe, 2003; Contractor, Kundu, & Hsu, 2003; Hitt, Bierman, Uhlenbruck & Shimizu, 2006).

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[1] Affiliates consist of representative offices, branches and subsidiaries.

However, little effort has been made to understand the effects of internationalization on the performance in banking industry or the effects of other organizational factors (e.g., operating efficiency) on performance. Therefore, empirical studies related to internationalization of banking industry are far behind the theoretical development. This gap results partly from lack of relevant data. This study attempts to fill this gap. We obtained recent and comprehensive data from the Banking Bureau of Financial Supervisory Commission (FSC), Taiwan on the 204 affiliates of 50 Taiwanese banks operating in 26 countries. Number and revenue of overseas affiliates of Taiwan domestic Banks in 2005 are showed as and Appendix A. Using this data, we conduct a series of empirical test on important hypotheses.

This paper attempts to investigate the impacts of internationalization on the operational efficiency and on the performance of Taiwanese banks respectively. Following the introduction, we review previous research in related area and present research hypotheses. We will explain the research design in the third section. Finally, we report the empirical results and managerial implications in the fourth section and the final section ends with concluding remarks.

THEORY AND HYPOTHESES

Driven by theories of FDI that promise myriad advantages of geographic extension, several scholars have surveyed the relationship between internationalization and firm level performance (e.g., Grant. 1987; Tallman & Li, 1996), aiming to obtain empirical support to these theories. Yet, existing findings have been mixed (Capar & Kotabe, 2003; Gomes & Ramaswamy, 1999). Vernon (1971) argued that internationalization was positively related to performance due to location-based advantages and economies of scale. Numerous studies of a positive linear relationship were prompted by argument of Vernon during the 1970s and 1980s (Grant, 1987; Grant, Jamine & Thomas, 1988). Even recently, researchers (Delios & Beamish, 1999; Tallman & Li, 1996) have showed that the scope of internationalization is positively related to performance because it enlarges market opportunities and disperses risk (Kim, Hwang & Burgers, 1993). However, other researches have discovered a negative relationship and/or no relationship at all (Fatemi, 1984). Williams (2003), Forcarrelli and Pozzolo (2001) presented that financial performance of international banks in the OECD and Australia has a negative correlation to internationalization.

Recently, scholars propose a more sophisticated linkage between internationalization and performance to reflect its costs and benefit simultaneously and S-shaped curves (Lu & Beamish, 2004), U-shaped (Lu & Beamish, 2001) and inverted-U-shaped (Gomes & Ramaswamy, 1999; Hitt et al, 1997) are presented.

Internationalization, Operational efficiency and Performance

Whereas there are mixed results in the research on the relationship between internationalization and performance, a few researchers propose the requirement of moving beyond examinations of their direct relationship and revealing the "black box" of the process by which internationalization leads to performance (Hitt et al., 2006). Therefore, adding a mediator such as operational efficiency and organizational learning will offer more insight into the process by which internationalization leads to performance. For example, Zahra, Ireland & Hitt (2000) demonstrate that internationalization improves greater depth and breadth of technological learning. They propose that technological learning facilitated innovation and differentiation which turn out to enhance performance.

Venkatraman & Ramanujam (1986) argue that strategic management scholars should pay more attention to nonfinancial measurement, such as operational efficiency, which has a strong positive effect on financial performance. Operational efficiency measures, such as cost-efficiency and risk, serve as an important mediator of the relationship between internationalization and performance. Wagner (2004) finds that cost-efficiency is obtained from low-to-middle degree of internationalization, and cost-efficiency mediates the connection between internationalization speed and financial performance. Han, Lee & Suk (1998) suggest that internationalization enhances operating performance while it has no effect on financial performance.

Other studies have pointed out risk factor to be a significant consequence of internationalization. Several researches demonstrated that internationalization led to lower risk for the firm because of risk dispersion (Al-Obaidan & Scully, 1995; Kim et al., 1993).

We analyse the internationalization pattern of Taiwanese banks, finding that the foreign locations of Taiwanese banks are mainly where monetary centers (e.g. New York, London, Singapore, Hong Kong) and where Taiwanese multinational companies (MNCs) locate, such as Vietnam (showed as Appendix B). Thus, we argue that the motivations for Taiwanese banks to internationalize are to apply their customer relationships abroad and to absorb knowledge and intelligence from monetary centers. Besides, location theory argues that internationalization facilitate to achieve significant cost benefits because they access diversified source of resources overseas. Accordingly, we hypothesize that internationalization can improve operational efficiency of banks through three paths: 1. Acquiring more advanced knowledge, technology and intelligence from world monetary centers; 2. reducing risks for the bank because of risk dispersion; and 3. applying customer relationships abroad. Therefore,

Hypothesis 1. A bank's level of internationalization is positively related to operational efficiency.

Hypothesis 1a. A bank's level of internationalization is positively related to cost-efficiency.

Hypothesis 1b. A bank's level of internationalization is positively related to risk-efficiency.

Based on the above analysis that operational efficiency is an important mediator of the relationship between internationalization and performance, we further hypothesize that more efficient banks achieved by expanding abroad can lead to better financial performance through acquiring financial innovation know-how to improve financial assets management and information technology to minimize operational cost and applying customer information to control nonperforming-loan risk. Therefore,

Hypothesis 2. A banks' operational efficiency is positively related to performance.

METHODS

Data Set

Our sample is Taiwanese commercial banks, showed as Appendix A**,** which operate in 26 countries around the world during 2002 to 2005. The time period is limited because comprehensive data have been compiled only since 2001. The dataset, obtained from the Banking Bureau of FSC, stands for the most comprehensive collection to date in the number of overseas banking affiliates and employees and amount of overseas assets of Taiwanese banks.

Variables and Measures

Internationalization (INT)

Since the late 1980s, scholars have researched the level of internationalization by analysing the share of foreign operations--assets, affiliates, and employees--within the firm (Carpar & Kotabe, 2003; Contractor et al., 2003; Hitt et al., 2006; Tallman et al., 1996; UNCTAD, World Investment Report 2005; Sullivan ,1996). Katrishen & Scordis (1998) apply the ratio of foreign assets to total assets, while the ratio of foreign affiliates to total affiliates is applied by Carpenter & Fredrickson (2001), Lu et al. (2004), Wan & Hoskisson (2003). Recently, the level of internationalization in professional service firms has been captured based on the number of foreign affiliates and the number of employees in every affiliate (Hitt et al., 2006). Accordingly, we operationalize the construct with abovementioned three measures—the share of foreign assets to total assets, the number of foreign affiliates to the number of total affiliates, and the number of foreign employees to the number of total employees. Furthermore, a composite internationalization index, the average of all three dimensions (assets, employees and affiliates), was developed and introduced.

Operational Efficiency (OPEFF)

We have two measures of a bank's efficiency which enable us to capture cost-efficiency and risk-controlled efficiency of a bank. They are the following two ratios: (1) the ratio of number of employees over total assets (Pan et al. 1999) and (2) non-performing loan ratio (Chotigeat, Kramer & Pyun, 2004)

Financial Performance

Financial performance is measured in terms of return on assets (ROA) of a bank. This measure has been widely used in several previous papers in this area (Bonn, 2004; Hitt et al., 1997 & 2006; Verreynne, 2006). ROA is an evaluation of profit earned in relation to total assets. It is a key indicator of the bank's performance as it offers information on how banks are utilizing total resources to earn returns.

Control Variables

To avoid the impact caused by variables that are absent from our model, this paper refers to extant researches (Grant et al., 1988; Tallman et al., 1996) and control three variables. Obviously, a bank's operational efficiency and performance are determined by several factors. We first control the size of a bank, which are measured as the total assets of a bank. In addition to internationalization factor, the size of firms has long been of interest to researchers. Large firms have abundant resources to invest in innovation (Cohen, 1996), pursue more aggressive growth strategies (Buckley & Pearce, 1979), and achieve better performance (Smith, Guthrie & Chen, 1989). Large firms benefit from economies of scale, scope, and learning (Katrishen & Scordis, 1998; DuBois, Toyne & Oliff, 1993). Some research reveals that large firms tend to perform more efficiency (Pan, Li & Tse, 1999). Therefore, we control the size of a bank. Second, we control the experience of the bank, which is measured by the number of years for which the bank has operated. Finally, we control time effect (2002~2005) because of panal problem. Year dummies are thereby introduced.

Analysis

Data were analyzed by regression models. In order to avoid endogenous issue, Data of the previous year are adopted in all independent variables. Hypothesis 1 and 2 are tested with the following linear regression equations:

$$OPEFF_{it} = \beta_0 + \beta_1 INT_{it-1} + \beta_2 SIZE_{it-1} + \beta_3 EXP_{it-1} + \beta_4 T_{it} + \varepsilon_{it} \quad (1)$$

$$PERF_{it} = \beta_0 + \beta_1 OPEFF_{it-1} + \beta_2 INT_{it-1} + \beta_3 SIZE_{it-1} + \beta_4 EXP_{it-1} + \beta_5 T_{it} + \varepsilon_{it} \quad (2)$$

Where "it" represents the i^{th} Bank at the sample at time period t, "OPEFF" is the operational efficiency variable, "*INT*" denote level of internationalization, "*EXP*" is the experience of the bank, "*T*" denote Time effect and "*PERF*" is the ROA of a bank.

RESULTS

Table 1 summarizes the means, standard deviations, and correlations of variables, and the results of the multiple regression analyses are presented in table 2 and table 3, denoting the empirical results to equation 1 for hypothesis 1, hypothesis 1a, hypothesis1b and equation 2 for hypothesis 2 respectively. In general, the results provide broad support for the hypotheses presented in this paper.

First, table 2 shows that the effects of internationalization were significant no matter in efficiency 1 (employees over assets) or efficiency2 (NPL ratio). Negative coefficients represented that higher degree of internationalization can improve operational efficiency resulting in reducing the number of employees and risk. Our hypothesis 1 that higher level of internationalization improves operational efficiency is thus supported. Moreover, all of four internationalization measures were significant strongly in efficiency 1 (employees over total assets), supporting highly hypothesis 1a. Internationalization combined index and the ratio of foreign affiliates to total affiliates were significant in efficiency 2 (NPL ratio), supporting hypothesis 1b as well.

Second, model 1 and model 2 of table 3 showed that on the effects of operational efficiency and internationalization on the financial performance, only the operational efficiency matter. Negative coefficients stood for better operational efficiency, with lower cost and risk, resulting in higher financial performance. Both of the two measures of operational efficiency were significant to ROA, and efficiency 2 (NPL ratio) was significant strongly to the ROA, supporting hypothesis 2.

Concerning the control variables, size showed significant effect on efficiency and time variable was significant for efficiency 2 variables in table 2 because Taiwanese banks actively pursued in writing off bad debt in some years. NPL ratios have continued to decline from a high of 8.09% in April 2002 to a level of 2.78% in December 2004.

Finally, internationalization variables showed no significant influence on performance in model 2 of table 3, when combining with the significant effects of operational efficiency on performance in the same model, supporting our suggestion that operational efficiency mediates the association between level of internationalization and financial performance.

DISCUSSION AND CONCLUSTIONS

This research examined internationalization, performance and the mediating role of operational efficiency in banking industry in an emerging economy. The results show that level of internationalization of a bank have an important impact on operational efficiency, which results in better financial performance in turn. However, internationalization could not enhance financial performance directly.

The average proportion of internationalization index and foreign affiliate ratio of Taiwanese banks are only 3.2 percent and 5.02 percent respectively. Despite the low level of internationalization in banking industry in Taiwan, this article has proposed a significant relationship between the level of internationalization and operational efficiency.

Internationalization can improve operational efficiency of banks through acquiring knowledge, intelligence and more advanced global standards from monetary centers and applying customer relationships abroad. Thus, the foreign locations of Taiwanese banks are mainly where Taiwanese MNCs and monetary centers locate. Taiwanese banks have been expanding overseas business actively in recent decades. Establishing branches in an area where there is high intensive financial knowledge and information will help domestic banks to receive the most updated financial management information, therefore increasing operational efficiency of whole banking system. In addition, recognizing that Taiwanese enterprises are expanding their engagement overseas and making more and more economic impact in host countries, Taiwanese banks therefore set up overseas affiliates to target on these enterprises. The domestic branches of a Taiwanese bank can transfer customers' information and data to oversea ones of the same bank. It will reduce the costs of credit investigation abroad and maintain the customer relationship, thereby increasing the efficiency (Kogut and Zander, 1993).

The service sector of the economy will get attention continually as it keeps growing into a larger and larger part of the economy. In particular, Banking and financial industries play a key role in the service industries. The shortage of study on the internationalization of banking and financial institutions in newly industrialized countries suggests that there is still much need for future research. Given trend of liberalization, deregulation, privatization and economic growth of emerging economies, it is necessary to develop paradigms applicable to financial institutions operating in those countries (Stewart et al., 1998). Foreign direct investment in banking and financial services has been permitted, yet regular with limitations in terms of scope of business operations and ownership. The extant studies may provide a useful beginning in this field. Future research should investigate more in-depth the processes through which internationalization enhances operational efficiency, which in turn contribute to the bank' performance as outlined above. More refined measures would improve the research on internationalization of banking industry in the future as well.

Last but not least, the sampling border may influence the pattern of relationship observed between internationalization and performance. There is still much need for future empirical effort as well as theoretical development concerning industry-specific differences of the connection between internationalization and performance.

Table 1: Correlation between Variables

Variables	Mean	S.D.	1	2	3	4	5	6	7	8
1. Return on Assets (%)	-0.14	2.336	1							
2. Risk- NPL ratio (%)	5.7091	8.1277	-.542**	1						
3. Employees/ Assets (Billion New Taiwan Dollars)	75.73	37.32	-.297**	.359**	1					
4. Internationalization (%)	3.21	6.13	.160*	-.212**	-.416**	1				
5. % Foreign Employees	1.80	4.40	.132	-.150*	-.313**	.904**	1			
6. % Foreign Assets	2.80	5.61	.146*	-.192**	-.377**	.841**	.834**	1		
7. % Foreign affiliates	5.02	10.51	.147*	-.205**	-.396**	.923**	.719**	.588**	1	
8. Total Assets (Billion NTD)	483.25	543.17	.105	-.221**	-.578**	.265**	.226**	.391**	.161*	1
9. Experience (years)	27.31	22.0	-.016	-.048	-.378**	.013	-.029	.090	-.014	.506**

N=188

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

Table2: Regression Analysis for Relationship between Internationalization and Operational Efficiency

	Operational Efficiency (Dependent Variables)							
	Efficiency1: Employee/ Assets β (t-value)				Efficiency2: NPL ratio β (t-value)			
(constant)								
Size	-.417*** (-6.127)	-.509*** (-6.888)	-.431*** (-5.826)	-.453*** (-6.471)	-.190* (-2.271)	-.204* (-2.525)	-.194* (-2.217)	-.215* (-2.566)
Experience	-.166* (-2.529)	-.157* (-2.453)	-.145* (-2.117)	-.158* (-2.317)	.068 (.847)	.072 (.897)	.078 (.963)	.076 (.937)
Time variable	.037 (.660)	.031 (.561)	.040 (.660)	.039 (.672)	-2.252*** (-3.651)	-.255*** (-3.709)	-.250*** (-3.600)	-.251*** (-3.613)
Internationalization	-.305*** (-5.212)				-.153* (-2.135)			
% Foreign affiliates		-.326*** (-5.823)				-.17* (-2.501)		
% Foreign Assets			-.199** (-3.107)				-.106 (-1.396)	
% Foreign Employees				-.217*** (-3.608)				-0.88 (-1.220)
Adjusted R^2	41.7%	43.5%	36.4%	37.5%	12.1%	12.7%	10.8%	10.6%
F-value	34.423***	36.992***	27.741***	29.024***	7.417***	7.815***	6.678***	6.547***

* $p < 0.05$; ** $p < 0.01$; ***$p < 0.001$

SIZE Total Assets

Internationalization Internationalization Index

Table3: Regression Analysis for Relationship between Operational Efficiency and Performance
Dependent Variable: Return on Assets

	Model 1	Model 2
(constant)		
Size	-.080 (-.971)	-.094 (-1.083)
Experience	-.074 (-1.006)	-0.72 (-.965)
Time variable	.015 (.225)	.012 (.186)
OE1: Employee/ Assets	-.197* (-2.318)	-.207* (-2.394)
OE2: Efficiency2: NPL ratio	-.490*** (-7.087)	-.493*** (-7.076)
Internationalization	-.004 (-.055)	
% Foreign affiliates		-.063 (-.672)
% Foreign Assets		.015 (.127)
% Foreign Employees		.045 (.337)
Adjusted R^2	29.6%	29.0%
F-value	14.094***	10.550***

$* p < 0.05$; $** p < 0.01$; $***p < 0.001$
OE: Operational Efficiency

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Appendix A Top 10 National Ranking of Overseas Affiliates of Taiwanese Banks in 2005

	Total	Share %	Branch	Representative Office	Subsidiary
America	66	32.35	24	1	41
H.K.	25	12.25	14	6	5
Philippines	24	11.76	2	2	20
Vietnam	17	8.33	6	9	2
Indonesia	9	4.41	0	2	7
Singapore	8	3.92	7	1	0
China	8	3.92	0	7	1
Canada	8	3.92	1	0	7
British	7	3.43	4	3	0
Japan	6	2.94	6	0	0
Total	178	87.25	64	31	83

出席國際學術會議心得報告（二）

計畫編號	NSC 96-2416-H-263 -004 -
計畫名稱	台灣銀行業國際化型態、國際化程度、以及績效關係之研究
出國人員姓名 服務機關及職稱	黃啟瑞 致理技術學院國際貿易系
會議時間地點	August 8-13, 2008, Anaheim, California, U.S.A.
會議名稱	2008 Academy of Management (AOM) Annual Meeting
發表論文題目	Board, ownership, and performance of banks with a dual board system: evidence from Taiwan

三、參加會議經過

2008 年的管理學會（Academy of Management, AOM）於 2008 年 8 月 8 日至 13 日於美國加州的 Anaheim 舉行。此年會為全球管理學界的年度盛事，筆者自費出席，發表本計畫下的延伸研究結果。本次會議主題為 The question we ask。此次規模盛大，來自全球的投稿超過五千多件，經過匿名審查後，接受一千餘篇與會發表。八千餘位參與學者來自美、英、加、台等 83 個國家。參與學者最多為美國（4492 位），次為英國（500 位），加拿大居第三（424 位），台灣排名高居第四（288 位），發表成果豐碩，成績可能是歷年之最，已引起國際學術社群關注，第五為德國（256），荷蘭（252 位）排第六、澳洲（212 位）則排名第七（香港：109 位，新加坡：117 位，中國：145 位）。共分為 19 個領域，筆者發表的論文為 *Board, ownership, and performance of banks with a dual board system: evidence from Taiwan*，歸類在組織與管理理論領域（Organization and Management Theory Division）。筆者在六天會議期間，參與國際企業管理(International Management)與組織管理議題之論文發表會。

會議第一天，香港的中文大學、科技大學與城市大學等香港大學均在附近飯店辦理歡迎接待會，透過非正式的社交機會拉近各國學者交流機會，更藉此提升國際知名度與曝光度，新加坡大學更大手筆在 Hilton 包下 1F 宴會廳，參加的各國學者雲集，規模更甚香港多所大學，充分展現其國際接軌，在亞洲眾大學中領先的實力。國內參與學者人數比香港、新加坡更多，國內學界似可參考港、新作法，拉近與國際學群的距離，進一步提升整體能見度與學術地位。

此外，在參加國際企業管理領域的研討會中，拜訪國際文化研究的大師，荷蘭籍的 Geert Hofstede。請教其著名的文化五面向研究，Hofstede 指出，他在 1990 年代初期所新增的第五面向（長期/短期導向），最適合用來解釋亞洲國家（如中國、台灣等）與非洲國家發展與競爭力之差距：由於亞洲國家重視長期，所以會投資在教育、所得的相當比例會進行儲蓄，不會過渡消費，所以國家競爭力會遠優於較短期導向的非洲國家。Hofstede 謙虛穩重，且對亞洲國家（特別是中國與台灣）充滿興趣。能向大師當面請益，可謂獲益良多。

四、與會心得

因已於 2007 年 12 月參與 ANZAM，故此行係自費前往。收穫有二，第一，參與 AOM 年度盛會得以瞭解全球頂尖管理學者最新研究方向與主題，其二是與各國國際企業與組織管理領域的學者充分交流、交換意見，並討論合作的論文事宜。

首先，與香港中文大學管理學系的 Jane Yang 教授，美國馬里蘭大學的 Huei Liao 教授（AOM 人力資源分組的協調人）就合作的「Employee - customer dynamics in co-production of professional service」論文事宜，就如何計量分析（本人負責台灣地區 40 多位理財專員連續 15 天的 daily survey，已全數完成，Yang 與 Liao 則負責香港與大陸地區理專之問卷蒐集）等後續撰寫內容與進度進行細部討論。預期應可於 2009 年初完成，並先投稿 2009 AOM，並以 AMJ 為投稿目標。

此外，並與美國達拉斯大學的博士候選人 Sun Li（APJM 主編 Michael Peng 的指導學生）商討合作研究 Chinese－Taiwan Corporate Governance 之相關議題。合作細節均已獲初步共識，預計於 2008 年 10 月底完成台灣與中國兩地資料之蒐集與研究假說之建立。在 2008 年底在台北舉行的 AAOM 中進一步商討細節。合作論文以 Corporate Governance: IR(SSCI 期刊) 為投稿目標。本計畫下的台灣銀行業國際化之另一部份研究投稿 2008 AAOM 業獲接受發表。Sun Li 亦有文章在 2008 AAOM 中發表。

最後，參與對於本計畫所延伸的台灣銀行業公司治理研究，與會學者及分組主持人均給予許多寶貴的建議，對於論文的完成助益甚多，回國後，該篇論文投稿 Journal of Management and Organization(SSCI 級期刊)已得到修改再審的機會，經調整後目前在複審階段。以上心得在未來均能引導本人的研究方向，企盼經由此次美國 AOM 之行的經驗，能在往後學術研究領域上有更好的表現，在學術上能更上一層樓。

Board, ownership, and performance of banks with a dual board system: evidence from Taiwan

ABSTRACT

Corporate governance influence on firm performance has recently been studied in the industrial enterprise and developed countries context rather than services such as banks with a dual board system in Asian newly industrialized economies (NIEs). This research stresses the importance of board and ownership of bank structure to enhance performance. This study uses forty-one commercial banks of an Asian NIE (Taiwan) from 1996 to 2006 as samples to examine the relationships between board, ownership structure, and financial performance. Results show that board size, numbers of outside directors, and family-owned shares are positively associated with bank performance; whereas number of supervisors has negative influence on performance. This study provides empirical support for the corporate governance in improving managerial efficiency of banks through acquiring broader knowledge, intelligence, and exerting control and monitoring responsibilities. The results shed lights on research concerning service industry and performance perspectives.

Keywords: dual board system, board of directors, banking and finance, newly industrialized economies, corporate governance, supervisors

INTRODUCTION

Corporate governance issues have been receiving attention internationally due to the widespread influence of the Asian financial crisis and worldwide financial scandals such as the Enron accounting scandal. At the ministerial meeting of the Organization for Economic Co-operation and Development (OECD) convened in 1998, the lack of strong corporate governance was pointed out as a key factor preventing further improvements in the international competitiveness of Asian enterprises. In 1999 the OECD Principles of Corporate Governance were issued, which have served internationally as a reference for countries in upgrading their standards of corporate governance. A set of revised Principles was announced in January of 2004. The Basel Committee on Banking Supervision also published "Enhancing Corporate Governance for Banking Organizations" in February 2006.

Taiwan government is promoting corporate governance on companies and scholars have designed internal and external governance and supervision mechanisms to solve problems caused by separate ownership and minority shareholder protection. In light of international trends and domestic corporate governance issues, Taiwan on 7 January 2003 approved the establishment of the Taskforce for Reform of Corporate Governance. Promotion of better corporate governance for specified organizations (including financial service enterprises) was listed as one of its functions, and a resolution was passed making financial service enterprises the focus of reform efforts during the first phase.

To achieve more effective corporate governance practices and further the sound development of the financial system, in March 2003 Taiwan financial authority formulated “Best-Practice of Corporate Governance Principles for Banks”, which developed through consultation with the Bankers Association and with reference to the OECD Principles of Corporate Governance and the principles embodied in rules issued by the Basel Committee on Banking Supervision for corporate governance of banks.

The relationship between corporate governance and performance has captured the attention of many scholars, with most research focusing on industrial enterprise with a unitary board, which is where there is only a board of directors and developed countries context, rather than service such as the banks with a dual board system, namely where there is a board of directors and a board of supervisors, in Asian newly industrialized economies (NIEs). The Asian financial crisis exploded in 1997, while a similar case overflowed in Taiwan. These abnormal phenomena undoubtedly highlighted the importance of corporate governance in banking industry.

Banks plays a vital role in the allocation of resources between surplus and deficit units and are very essential source of external finance in both corporate governance system. Therefore, poor bank governance has potential repercussions for every economy (Levine, 1997; Hagendorff, Collins and Keasey, 2007). Banks, as lenders to enterprises and companies, have played a key role in corporate governance through equity-holdings, cross-shareholdings and reciprocal board membership (Mallin, Mullineux and Wihlborg, 2005). Therefore, to study the corporate governance of banks themselves is essential and meaningful.

This research follows principles published by Basel Committee, emphasizing board of director responsibilities and functions. I take board characteristics and family ownership as essential elements affecting internal supervision that may greatly influence corporate governance. The most significant factor, "asset quality," vitally determines "success or failure" of banking operations, focusing on loan quality to ensure business survival. Loan or asset quality is closely linked with (1) the establishment of loan policy and/or its system, and (2) its thorough execution process. This paper therefore investigates these two elements of corporate governance to Taiwanese banking quality. Except for asset quality, this paper uses return on asset (ROA) and return on equity (ROE) as profitability indicators to measure bank performance. These variables are good measures if a bank utilizes equity and resources to gain profits.

This study reviews previous related research and presents research hypotheses in next section. The third section explains the research design. Finally, the fourth section reports empirical results and managerial implications the final section presents conclusions.

LITERATURE REVIEW

Boards not only supervise companies but also exempt fraud owing to manager misconduct. Boards may also provide functions to create company values such as information access, resource supply, strategy formation, and executing and enlarging company geographic scope. Therefore, boards are essential in corporate governance and influence corporate performance directly or indirectly. The board of directors has three principal functions: (1) Supervisors. The director role is usually discussed according to the agency theory (Nicholson & Kiel, 2007). (2) Consultants. The board of directors may provide suggestions or company direction as consultants for CEO and top management (Nicholson & Kiel, 2007; Forbes & Milliken 1999; Johnson et al.1996). (3) Resource suppliers or geographical scope extenders. The board assumes this role since it may set up all kinds of committees, including the audit committee, which supervises the companies in many western countries such as the United States (Nicholson & Kiel, 2007). Research in western countries mainly focuses on director characteristics when discussing board function. In Taiwan, boards are composed of directors and supervisors and the latter is similar to an audit committee whose main function is fraud prevention. Compared to supervisors, directors in Taiwanese company are more willing to provide company resources for strategies and value creation. Hence the board of directors in Taiwanese company is often regarded as the top decision-making unit. Information asymmetry and company management connection between inside and outside directors also results in difference of willingness and ability to prevent fraud, as discussed in the following section.

Furthermore, the board structure in Germany, Netherlands, Japan, and China, is also characterized by a dual board system. One important characteristic of the dual board system is that this system relies on supervisory board to monitor the board of directors (Rose, 2005). According to the German Corporate Governance Code, the board of directors is in charge of managing its firm and the supervisory board is responsible for supervision and advice. Both boards are separated from each other (Nietsch, 2005). People in German usually expect that supervisors play a role in monitoring organizations. Therefore, when a company fails, supervisors are typically been criticized regardless (Schilling, 2001). Additionally, the status of the board of supervisors is similar to the board of directors in Japan. Companies are asked to have three or more statutory auditors (supervisors) if capital of these companies is more than 500 million yen (Cooke & Sawa, 1998).

While there are increasing studies involving organizations with dual board system (Cooke & Sawa, 1998; Dahya, Karbhari, Xiao & Yang, 2003; Rose, 2005; Schilling, 2001), more research is needed (Dahya et al., 2003; Turnbull, 1997). Particularly, among these few studies, little attention is placed on banking industry with a dual board system. Thus, using the existing literature as foundational knowledge, I investigated the nature of board roles in the dualistic board system found in Taiwanese domestic banks.

Board Size

Board size is regarded as a significant element of successful corporate governance (Bonn, 2004; Dalton, Daily, Johnson & Ellstrand, 1999). Influence outcome depends on board capability to take advantage of expertise and resources or to reach agreements with transaction partners.

The board is typically composed of eight to sixteen directors. The number of directors in a large and mature company is usually more than a small and growing company. The board goal includes human resources with different specialties and effective problem solving. Some companies, especially banks, have bigger boards that include twenty to twenty-five directors, inviting essential clients or powerful bodies to join the board. Small or big board size has different pros and cons. Directors in a small board are more willing to participate in company affairs, have a clear focus, build better relationships and cooperate better with directors. However, small board function may be damaged by a specific controlling group or party (John et. al., 2005).

Jensen (1993) suggests not more than a seven to eight member board to function efficiently because small boards are more likely to reach consensus. Dalton et al. (1999) conducted a meta-analysis of 27 studies that featured a board size variable and found having more directors was associated with higher levels of firm financial performance. Large boards lack cohesiveness and are difficult to coordinate. A small board on the other hand, cannot take advantage of the expertise, knowledge, social network resource, instructions, and guidance of a larger board (Bonn, 2004). Furthermore, these strengths emerge as the board grows, especially in the banking sector with huge capital and a severe competitive environment. The above arguments expect a positive relationship between board size and bank financial performance.

- *Hypothesis 1. Board size is positively related to bank financial performance.*

Number of Outside Directors

Inaccurate decisions are one reason for company failure. Board functions are promoting effective strategies and revising faulty decisions. In fact, under regulation the board is the top decision-making unit, which directs strategy and company resource allocation. Therefore, directors frequently gather to discuss group decisions and devise executive strategy.

Kim (2005) compares board functions between U.S. and Korea and posits that Korea directors provide decision-making advice to CEOs and are less likely to be supervisors compared to the outside director auditing role in U.S. companies. I therefore predict that U.S. boards stress the importance of independence and avoid CEO interference, which may result in difficult CEO evaluation performance. Eastern country boards are less independent. Directors in family-owned enterprises are deeply involved in company strategy and provide aggressive advice and resources. However, two trends need more discussion. First, western researchers have emphasized the importance of director advising and resources. The board in a governed corporation stresses enhancing effective strategy and correcting faulty decisions rather than only focusing on staffing, supervising, controlling, and dismissing managers when necessary as in managed corporations. The outside director role in managed corporations may prevent companies from development and innovation while faulty decisions lead to company failure.

Contrary to western scholars, eastern countries have begun emphasizing directors as supervisors, asking companies to set up independent directors since the 1997 Asian financial crisis. For example, Taiwan required newly listed companies to appoint two independent directors (Luan & Tang, 2007), expecting a more independent board to supervise companies based on public benefits.

According to agency theory, outside directors are in a better position to exert supervision over administrative opportunism and self-interest because they are financially independent of the management team (Dalton & Desner, 1987; Fama, 1980) and do not have the same potential conflict of interest as inside directors (Rhoades, Rechner & Sundarmurthy, 2000). Therefore, outside directors are more likely to support shareholder interests and exert control and monitor responsibilities including substituting the CEO and evaluating administrative decisions and performance (Daily, Johnson & Dalton, 1999). Consequently, increasing the number of outside directors will likely enhance performance.

- *Hypothesis 2. Outside director size is positively related to bank financial performance.*

Proportion of Shares Owned by Controlling Family

Jensen and Meckling (1976) propose a convergent of interest hypothesis stating that the more concentrated stock holdings, the more identical benefits between shareholders and the company. Private, especially family-shareholders, may have more incentive to supervise managers through dominating the board of directors compared to government shareholders. Family shareholders with controlling power and big shares are more likely to supervise the company to protect their own benefits due to higher linkage between their own wealth and company performance.

Two major deregulations in the Taiwanese banking sector include privatization and public banks. Standards for the Establishment of Commercial Banks in 1990 were adopted pursuant to the authorized amended Banking Act, allowing the private sector to establish commercial banks. Required capital was set at NTD 10 billion (USD 312.5 million), and each bank was allowed to establish no more than five additional branches each year. More than ten state-owned banks have been privatized in the past fifteen years. The Taiwanese financial authority in 1991 approved the establishment of fifteen new banks, followed by one additional approval in June of the following year. The new banks commenced operations on 30 December 1991. Following their establishment, new bank numbers increased rapidly. Taiwan in 1980 had twenty-four bank head offices with a total of 996 branches, and forty-seven head offices with 3202 branches by March 2005.

Chiu et al. (2002) proposes a model to demonstrate that decreased government share improves performance and reduces cost inefficiency. Kesner (1987) examined 250 *Fortune* 500 companies and found that the percentage of shares owned by directors was strongly related to performance in high growth industries and unrelated in more mature industries. Taiwan has allowed banks to develop new business recently; therefore, banking sector belongs to developing edge. Besides, public shareholders require banks to achieve public and social goals rather than pursue profit maximization. The higher bank NPL ratio or lower ROA/ ROE directly deter bank performance and harm major shareholders (family shareholders). Major shareholders will oversee the NPL ratio and bank income to protect their own benefits. Therefore, I propose

- *Hypothesis 3. Family shares are positively related to bank financial performance.*

Supervisor

Research in western country (especially the U.S) usually focuses on audit committees rather than supervisors in eastern countries when discussing board functions. Taiwanese company boards include directors and supervisors with different tasks and functions. The board of directors according to Taiwan law and regulations, consists of at least three directors (§192 Company Law), with at least five public company directors (§17 Supplementary Rules to TSEC Listing Rules). Supervisors in the two-tier regulatory structure are in charge of monitoring the directors while directors are responsible for supervising and managing the company and management team. Taiwan supervisors are not involved in decision-making or voting, but monitoring the board of directors, including providing an objective and independent assessment of financial reporting, internal controls, and auditing. In short, the main function of Taiwanese company supervisors includes auditing, controlling, and preventing fraud.

Although a large number of supervisors can on one side affect efficiency of its monitoring functioning by making the assignment of tasks and achievement of consensus more difficult, and, on the other side, their activity may put unneeded constraints on managerial and directors' discretion, which could negatively affect performance. The final influence of size of supervisor on financial performance is mixed. Therefore, I hypothesize that

- *Hypothesis 4. Supervisor size has mixed influence on financial performance.*

RESEARCH METHODOLOGY

Data

This study collects relevant governance materials from the Taiwan Economic Journal (TEJ) from 1996 to 2006. The Central Bank measures the announced broad definition of non-performing loan (NPL) during 1996 to 2006. The board, directors, supervisors, and ownership data derive from the TEJ Corporate Database. Accounting information is collected from the TEJ Financial Report Database. The sample consists of all banks listed in the Taiwan Stock Exchange Corp. (TSEC). Appendix A shows forty-one Taiwanese domestic banks. Banks with missing data on boards, directors, supervisors, ownership information, ROA or NPL ratio are excluded from the sample, resulting in a total of 214 valid annual observations included in the research.

The following independent variables are examined: (1) board size: the total number of directors on the board of each bank, (2) outside directors: the total number of outside directors on the board of each bank, (3) inside directors: the total number of inside directors on the board of each bank, (4) family-owned shares: the percentage of total shares owned by a controlling group or a family including direct and indirect holdings (La Porta, Lopez-De-Silanes and Shleifer, 1999). Controlled holdings, such as controlled voting rights, is measured by the sum of direct and indirect holdings of final beneficiaries suggested by La Porta. (5) Number of supervisors: the total number of supervisors on the board of each bank.

Financial performance is measured in terms of the following two respects: loan quality, the most significant factor that vitally determines the success or failure of banking operations, and focuses on loan quality to ensure business survival. Default loans raise bank cost and hence decrease bank profit (Li, Hu & Chiu, 2004). Bank loan quality is closely linked with (1) loan policy establishment and/or its system, (2) thorough bank execution. Therefore, the dependent variable "loan asset quality" is measured by the non-performing loan ratio (Chotigeat, Kramer & Pyun, 2004).

Profitability is the other measured dependent variable, including return on total asset (ROA) and return on equity (ROE). ROA and ROE are profit evaluations earned in relation to total assets and equity, and widely used in several researches (Bonn, 2004; Hitt et al., 1997 & 2006; Verreynne, 2006). These variables are also key indicators of bank performance as they offer information on how banks utilize total resources and equity to earn returns.

This paper refers to extant researches (Bonn, 2004) and controls three variables to avoid the impact caused by variables absent from our model. Obviously, several factors determine a bank's corporate governance and performance. This work first controls bank size, measured as the total bank asset. Management researchers have long been interested in the size of firms. Large firms have abundant resources to invest in innovation (Cohen, 1996), pursue more aggressive growth strategies, and achieve better performance (Smith, Guthrie & Chen, 1989). Large firms benefit from economies of scale, scope, and learning (Katrishen & Scordis, 1998). Some research reveals that large firms tend to perform more efficiently (Pan, Li & Tse, 1999). Therefore, this study controls bank size and then controls bank experience, measured by the number of years of bank operation. Finally, I control time effect (1996-2006) and use year dummy variable to avoid panel problems. Year dummies are thereby introduced.

Analysis and Results

Regression models analyze data. Previous year data is adopted in all independent variables to avoid endogenous issues. Hypotheses are tested with the following linear regression equations:

(1) $NPL_{it} = \beta_0 + \beta_1 BOARD_{it-1} + \beta_2 OUTDE_{it-1} + \beta_3 INDE_{it-1} + \beta_4 SHAREFO_{it-1} + \beta_5 SUPERV_{it-1} + \beta_6 SIZE_{it-1} + \beta_7 EXP_{it-1} + \beta_8 T_{it} + \varepsilon_{it}$

(2) $ROA_{it} = \beta_0 + \beta_1 BOARD_{it-1} + \beta_2 OUTDE_{it-1} + \beta_3 INDE_{it-1} + \beta_4 SHAREFO_{it-1} + \beta_5 SUPERV_{it-1} + \beta_6 SIZE_{it-1} + \beta_7 EXP_{it-1} + \beta_8 T_{it} + \varepsilon_{it}$

(3) $ROE_{it} = \beta_0 + \beta_1 BOARD_{it-1} + \beta_2 OUTDE_{it-1} + \beta_3 INDE_{it-1} + \beta_4 SHAREFO_{it-1} + \beta_5 SUPERV_{it-1} + \beta_6 SIZE_{it-1} + \beta_7 EXP_{it-1} + \beta_8 T_{it} + \varepsilon_{it}$

Where “it” represents the ith bank of the sample at time period t, “BOARD” is the board size, “OUTDE” denotes outside directors, “INDE” is the inside directors of the bank, “SHAREFO” is family owned shares including direct and indirect holdings, “SUPERV” is the bank supervisors, “SIZE” is the total bank asset, “EXP” is bank experience. “T” denotes Time effect with year dummies, “NPL” is the NPL ratio of a bank and “ROA”, “ROE” are the ROA, ROE of a bank.

Table 1 summarizes the means, standard deviations, correlations of variables, and multiple regression analyses results, presented in Table 2 and Table 3. Model 2, 5, and 8 denote empirical results for Hypotheses 1 and 4; model 3, 6, and 9 for Hypotheses 2, 3, 4 respectively. Results generally provide broad support for the hypotheses presented in this paper.

First, model 2 in Table 2 shows that board size effect is significant in the NPL ratio. Negative coefficients represent that a larger board size improves decision quality, resulting in reduced risk. Furthermore, model 5 and model 8 of Table 3 show that board size is positively significant in ROA and ROE. Hypothesis 1 that larger board size improves bank performance is thus highly supported. A variety of reasons cause director alteration and one main reason results from conflict or ownership change. Directors on the other hand, may resign from a company due to bad company performance. Banks surveyed in this study show that bad banks often face director resignations causing frequent board composition change. Furthermore, competent authority creates high requirements for newly appointed directors making it difficult to find willing and capable directors. Therefore, banks with fewer directors may also perform poorly.

Second, model 3 of Table 2 shows that effects of outside directors and controlling family shares on the NPL ratio are strongly significant, as expected. Negative coefficients represent more outside directors and controlling family shares, with better monitor efficiency resulting in lower NPL ratio. Inside directors have insignificantly negative NPL association, showing that inside directors influence loan quality enhancement but not as strongly as outside directors.

Model 6 and model 9 of Table 3 also show that positive effects of outside directors and controlling shareholder shares on the ROA and ROE are noticeably significant as expected. Thus Hypothesis 2 and 3 are supported robustly. The inside director is insignificant on both ROA and ROE.

On the other hand, supervisor effect on the NPL ratio, ROA, and ROE are all strongly significant. Model 2 and Model 3 of Table 2 show positive coefficients of supervisors, representing more supervisors may result in poor performance because of higher NPL. Meanwhile, Model 5, 6 and Model 8, 9 of Table 3 show negative coefficients of supervisors, also representing more supervisors may cause poor performance because of lower ROA and ROE. Supervisors are usually members of family-owned companies who cooperate with directors without independence and fraud preventing functions. However, appointing a supervisor is costly, i.e. salary and bonus, causing a negative influence on performance. This study therefore finds that banks with good performance, such as Chinatrust Bank, Cathay Bank, Taipei Fubon Bank, International Commercial Bank of China, E.Sun Bank, tend to appoint only three supervisors, just fulfiling the legal regulation requiring more or equal to three supervisors for every bank, while banks with bad efficiency keep five to six supervisors. In conclusion, supervisor size is negatively associated with bank performance.

Concerning control variables, size shows insignificant effect on financial performance on Model 2, 3, 5, 6, 8, 9 which include corporate governance variables. Moreover, several year dummy variables are strongly positive for the NPL ratio and negative related to ROA and ROE. This result may derive from the Asian financial crisis and card debt crisis from 2004 to 2006. NPL ratios reached a record high at 8.09% in April 2002. In addition, the negative relationship between year dummy variables and financial performance shows that commercial banks in Taiwan, on average, performed poorly after the 2000, Asian financial crisis started to impact Taiwan banking industry. Finally, the experience variable shows insignificant influence on NPL ratio, ROA, and ROE in model 2 and model 3 of Table 2, and in all models of Table 3, respectively.

[Insert Table 1 here]
[Insert Table 2 here]
[Insert Table 3 here]

CONCLUSIONS

This research examines corporate governance elements related to directors, supervisors, ownership, and financial performance in an emerging economy banking sector. Results show that the outside director and controlling family bank shares have robust impact on decision making quality with larger board size, resulting in better financial performance, as predicted.

Concerning to Hypothesis 4, the empirical result shows a negative relationship between supervisors and bank performance, that means number of supervisors is negatively related to performance. The Taiwan financial authority should consider rebuilding the supervisor system in banking sector to further upgrade bank governance. One alternative could compulsorily set up an audit committee to replace supervisors. The Securities and Exchange Act amended in 2004 allows Taiwanese banks alternatives to appoint supervisors or set up audit committees. Furthermore, Taiwan regulates financial institutions by assigning independent directors to improve corporate governance in the banking sector. This arrangement leaves room for more research to examine the effect after a period of time in the future. Moreover, commercial banks in Taiwan on average performed worse after Asian financial crisis and card crisis. Thus, improving corporate governance of banks has become a vital solution to improve bank competitiveness.

Corporate governance is an emerging important norm to firms and banks in Taiwan. This study supports corporate governance in improving managerial efficiency of banks through acquiring broader knowledge, intelligence, and exerting control and monitoring responsibilities. The results of this research offer insightful references for banking authorities and the banking sector.

The economy service sector continually gains attention as it continues growing. Banking and financial institutions play key service industry roles. The research shortage on corporate governance of banking and financial institutions in newly industrialized countries suggests a need for future research. Given trends of liberalization, deregulation, privatization, and economic growth of emerging economies, developing paradigms applicable to financial institutions operating in these countries is necessary. Future research should investigate behavior dynamics and processes through which corporate governance enhances managerial efficiency, which in turn contributes to bank performance, especially loan asset quality, as outlined above. More refined future measures will improve the research on corporate governance of the banking sector.

Lastly, the sampling border may influence relationship patterns observed between individual corporate governance and organization performance. Future empirical efforts, as well as theoretical development concerning industry-specific differences between corporate governance and performance are needed.

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Table 1: Correlation between Variables

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. Experience (years)	25.4	19.734	1								
2. Ln Total Assets	19.57	0.8923	.708**	1							
3. Board Size	14.43	5.268	.105	-.075	1						
4. Inside Directors	9.09	4.406	.154**	.227**	.419**	1					
5. Outside Directors	4.97	5.181	-.084	-.310**	.676**	-.307**	1				
6. Family Own shares	35.33	35. 75	.163**	.443**	-.265**	.447**	-.572**	1			
7. Number of Supervisors	3.48	1..086	.500**	.289**	.427**	.204**	.268**	.013	1		
8. Risk- NPL ratio (%)	4.49	3.992	.172*	-.053	-.008	-.177**	.137*	-.305**	.161**	1	
9. ROA	0.54	1.730	-.034	-.197**	.152**	.226**	-.039	-.038	-.121*	-.241**	1
10 .ROE	1.49	37.904	-0.80	.078	.147**	.108*	.044	.078	-.070	-.358**	.558**

Valid N=313 (listwise)

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table 2: Hierarchical Regression Analysis for Relationship between Corporate Governance and Loan Asset quality

	Model 1	Model 2	Model 3
(Constant)	20.887**	10.580*	11.142*
	(3.195)	(1.679)	(1.767)
Board Size		-.117**	
		(-3.026)	
Outside Directors			-.156***
			(-3.191)
Inside Directors			-.071
			(-1.342)
Number of Supervisors		1.205***	1.222***
		(5.535)	(5.611)
Family own shares (%)		-.034***	-.038***
		(-5.471)	(-5.522)
Size	-.965**	-.479	-.512
	(-2.777)	(-1.418)	(-1.516)
Experience	.043**	.006	.004
	(3.162)	(.421)	(.316)
1997	.346	-.130	.120
	(.391)	(.161)	(.149)
1998	.840	.560	.504
	(.936)	(.682)	(.613)
1999	1.883*	1.351*	1.287*
	(2.161)	(1.687)	(1.607)
2000	1.699*	1.236	1.161
	(1.959)	(1.540)	(1.444)
2001	3.287***	3.267***	3.196***
	(3.783)	(4.061)	(3.970)
2002	2.280**	3.216***	3.103***
	(2.605)	(3.957)	(3.801)
2003	1.557*	2.628**	2.559***
	(1.744)	(3.155)	(3.070)
2004	.527	1.706*	1.633*
	(.585)	(2.026)	(1.938)
2005	-.302	.669*	.557*
	(-.330)	(.786)	(.652)
Adjusted R^2	12.2%	28.8%	29.0%
F-value	3.983***	7.745***	7.362***

β (t-value); N=313

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 3: Hierarchical Regression Analysis for Relationship between Corporate Governance and ROA, ROE

	Dependent Variable: Return on Asset			Dependent Variable: Return on Equity		
	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
(Constant)	-2.617	-1.028	-1.300	-53.711*	-16.773	-20.837
	(-1.621)	(-.615)	(.775)	(-2.146)	(-.648)	(-.803)
Board Size		.032***			.473**	
		(3.200)			(3.023)	
Outside Directors			.045***			.657***
			(3.491)			(3.319)
Inside Directors			.018			.263
			(1.358)			(1.257)
Number of Supervisors		-.273***	-.241***		-4.235***	-4.271***
		(-4.812)	(-3.593)		(-4.818)	(-4.872)
Family own shares (%)		.007***	.008***		.115***	.132***
		(4.085)	(4.374)		(4.402)	(4.641)
Size	.175*	.104	.118	3.331**	1.534	1.757
	(2.049)	(1.152)	(1.314)	(2.510)	(1.103)	(1.260)
Experience	-.005	.002	.002	-.059	.062	.063
	(.-1.582)	(.622)	(.638)	(-1.129)	(1.115)	(1.132)
1997	.156	.172	.169	1.564	2.526	2.485
	(.739)	(.819)	(.808)	(.476)	(.779)	(.769)
1998	-.351	-.332	-.321	-5.121	-3.905	-3.738
	(.-1.651)	(-1.578)	(.-1.530)	(-1.556)	(-1.199)	(-1.150)
1999	-.238	-.161	-.139	-4.376	-2.203	-1.873
	(.-1.128)	(-.770)	(-.666)	(-1.341)	(-.679)	(-.578)
2000	-.484*	-.440*	-.413*	-7.457*	-5.560*	-5.167
	(.-2.277)	(-2.094)	(-1.969)	(-2.264)	(-1.712)	(-1.590)
2001	-.518**	-.567**	-.542	-8.564**	-8.260**	-7.876**
	(.-2.455)	(-2.700)	(-2.578)	(-2.616)	(-2.541)	(-2.422)
2002	-1.251***	-1.480***	-1.441***	-20.798***	-23.362***	-22.791
	(.-5.879)	(-6.960)	(-6.757)	(-6.302.)	(-7.103)	(-6.903)
2003	-.225	-.478*	-.454*	-4.378	-7.275*	-6.906*
	(.-1.035)	(-2.191)	(-2.079)	(-1.302)	(-2.154)	(-2.045)
2004	-.189	-.471*	-.445*	-4.358	-7.616*	-7.225*
	(.-.866)	(-2.138)	(-2.020)	(-1.287)	(-2.233)	(-2.119)
2005	-.865***	-1.102***	-1.064***	-15.426***	-17.921***	-17.354***
	(.-3.893)	(-4.936)	(-7.754)	(-4.478)	(-5.189)	(-5.010)
Adjusted R^2	19.3%	30.0%	30.4%	21.3%	30.9%	31.3%
F-value	6.339***	8.303***	7.960***	7.035***	8.650***	8.271***

β (t-value); N= 313

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$