

# 行政院國家科學委員會專題研究計畫 成果報告

## 外國銀行進入模式選擇對經營績效與獲利性的影響－全球 銀行的實證研究 研究成果報告(精簡版)

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中華民國 101 年 01 月 16 日

中文摘要： 是否外國銀行的進入模式的選擇差異對其日後經營效率與獲利表現上具有顯著的影響，近年來儼然已受到多國籍企業與國際金融專家的高度關注，但目前多數的進入模式選擇之實證分析多以特定國家或單一區域為研究對象，以全球外國銀行的比較實證分析相當不足，無法提供更充分且完整的觀點與證據。有鑑於此，本專題研究計畫首先認定影響外國銀行進入模式的決定因素為何，特別是同時控制銀行特性，以及跨國間國家特性差異等因素，更完整認定跨國重要的影響因素。當地主國金融市場的經營環境愈競爭時，對於外國銀行在篩選放款效率的能力要求標準則愈低，且預期外國銀行的平均放款篩選效率的能力也較低。跨國放款傾向於最嚴格管制的業務，且最有效率的外國銀行傾向於以併購國內銀行而進入地主國。實證研究結果將更瞭解外國銀行選擇進入模式的差異性，有助於各國金融當局在調整其外國銀行進入政策執行方向上，作為重要的參考依據。其次，應用「共同邊際法」(Meta-Frontier Approach)將全球外國銀行區分成新設投資與跨國併購兩類後，再以資料包絡法(DEA)估計全球外國銀行的效率值，藉以探討不同進入模式對外國銀行在經營效率與獲利性的差異性為何，同時也控制「地主國」與「母國」(Home Country)間在總體經濟表現、法規制度結構以及機構治理結構等方面的差異性與相似性等因素。實證研究結果將瞭解採用不同的進入模式對外國銀行在經營效率與獲利性的差異性，有助於外國銀行在擬定進入模式策略選擇上，作為重要的參考依據。本研究使用 1996 至 2009 年間，來自 54 國總共認定 1,035 家外國銀行中，包括 301 家跨國併購及 724 家新設投資作為進入模式的完整追蹤資料。當外國銀行其母國銀行擁有較佳的貸款篩選技術時，則較傾向於選擇以新設投資方式進入大市場規模的地主國。當選擇以跨國併購作為進入模式的外國銀行，在進入地主國市場後淨利息收益、資產報酬率、以及權益報酬率方面表現出較佳的績效。但是淨利息收益在進入後 10 年轉為負，而選擇以新設投資方式進入地主國的外國銀行，其獲利表現在進入後皆表現不佳。依據共同邊界資料包絡法所求得 TGR 效率值來看，選擇以跨國併購的外國銀行進入地主國市場時，其效率較選擇以新設投資的銀行為高。同時，本研究發現外國銀行不論在獲利性或效率方面，都展現出顯著的持續性。然而，當外國銀行其母國銀行和母國經濟情況較佳時，可顯著提升地主國外國銀行的經營效率與獲利。

中文關鍵詞： 外國銀行；進入模式；資料包絡法(DEA)；共同邊界法(Meta-Frontier approach)；技術差距比率(Technology Gap)

Ratio, TGR)；銀行競爭；動態縱橫資料(Dynamic Panel Data Model)；聯立一般動差法(System GMM)

英文摘要： This paper uses comprehensive panel data on 1,035 multinational banks with different entry mode choice including 301 Cross-Border Mergers and Acquisitions (CB M&As) banks and 724 Greenfield Investment (GI) banks from 54 countries for the period 1996 to 2009. Controlling for the endogeneity of entry mode choice by foreign bank, we empirically investigate key factors differentiating post-entry performance in terms of efficiency and profitability. Foreign banks with better screening technology from their parent banks are more likely to choose GI as entry mode while those prefer GI as the entry to a host country with comparatively larger market scale. Foreign banks via CB M&A present better performance with higher Net Interest Margins (NIMs), Return on Assets (ROA), and Return on Equity (ROE). Although CB M&A mode presents positive effects on post-entering NIMs but it has inverse effect since 10th years after entry while GI and JV persist negatively related to bank's ROE and ROA. Foreign bank's profitability is significantly persistent. Regarding efficiency analysis based on Meta-Frontier approach, our empirical findings indicate that foreign banks via CB M&As show better TGR than those via GI according to efficiency scores from cost and profit measures. However, obvious improvement on cost efficiency is positively associated with parent bank and the economic condition in the home country while profit efficiency is significantly and positively related to financial characteristics of foreign banks.

英文關鍵詞： Foreign Bank； Entry Mode Choice； Cross-Border Mergers and Acquisitions； Greenfield Investment； Efficiency； Profitability； Endogeneity； International Study； DEA； Meta-Frontier Approach； Technology Gap Ratio (TGR)； Dynamic Panel Data Model； System GMM

行政院國家科學委員會補助專題研究計畫  成果報告  
 期中進度報告

## 外國銀行進入模式選擇對經營績效與獲利性的影響

### — 全球銀行的實證研究

計畫類別： 個別型計畫  整合型計畫

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中 華 民 國 100 年 10 月 30 日

## **International Investigation on Foreign Bank's Post-Entry Performance**

### **—The Differential Impact of Entry Mode Choice**

#### **Abstract**

This paper uses comprehensive panel data on 1,035 multinational banks with different entry mode choice including 301 Cross-Border Mergers and Acquisitions (CB M&As) banks and 724 Greenfield Investment (GI) banks from 54 countries for the period 1996 to 2009. Controlling for the endogeneity of entry mode choice by foreign bank, we empirically investigate key factors differentiating post-entry performance in terms of efficiency and profitability. Foreign banks with better screening technology from their parent banks are more likely to choose GI as entry mode while those prefer GI as the entry to a host country with comparatively larger market scale. Foreign banks via CB M&A present better performance with higher Net Interest Margins (NIMs), Return on Assets (ROA), and Return on Equity (ROE). Although CB M&A mode presents positive effects on post-entering NIMs but it has inverse effect since 10<sup>th</sup> years after entry while GI and JV persist negatively related to bank's ROE and ROA. Foreign bank's profitability is significantly persistent. Regarding efficiency analysis based on Meta-Frontier approach, our empirical findings indicate that foreign banks via CB M&As show better TGR than those via GI according to efficiency scores from cost and profit measures. However, obvious improvement on cost efficiency is positively associated with parent bank and the economic condition in the home country while profit efficiency is significantly and positively related to financial characteristics of foreign banks.

**JEL Classification:** C68; F30; G21; G34

**Keywords:** Foreign Bank; Entry Mode Choice; Cross-Border Mergers and Acquisitions; Greenfield Investment; Efficiency; Profitability; Endogeneity; International Study; DEA; Meta-Frontier Approach; Technology Gap Ratio (TGR); Dynamic Panel Data Model; System GMM

# **1. Introduction**

## *1.1 Motivation*

Do different choices on entry mode by foreign banks matter to their post-entry profitability and efficiency in host country? While prior banking finance literature focus on foreign bank's efficiency and profitability, however, little empirical evidence aims to identify the differential impacts of entry mode by foreign banks on their post performance especially considering the potential problem from the endogeneity of bank's decision to Cross-Border Mergers and Acquisitions (CB M&As) or Greenfield Investment (GI) in host country. Therefore, this paper empirically investigates how different entry models in terms of CB M&As and GI affect foreign bank's profitability and cost efficiency post entering host country.

There are two research questions in this paper. We first to answer factors determining entry mode choices by foreign banks around the world. In resent, Lehner (2009) theoretically demonstrates that multinational banks choose their entry mode according to their efficiency in screening potential borrowers. Foreign bank with rather inefficient in screening would not like to choose to expand abroad and otherwise those with increasing efficiency would like to grant the loans from cross-border borrowers. Furthermore, efficient foreign bank would engage de novo investment while the most efficient foreign banks favor the acquisition with a local bank in host country. The author also indicates that the degree of development significantly affect entry mode by foreigner. In less developed banking markets, foreign bank prefers cross border lending and acquisition via entry, but well-developed markets would attract GI. Entry modes by foreign banks are strongly associated with their screening ability and its profitable strategy to invest abroad.

Next, the second question to be answered is that do different entry modes chosen by foreign banks conditionally influence their post entering performance in host country? This could be explained by Vo Thi and Vencappa (2008) focusing on the comparative cost efficiency of GI versus M&As in Czech Republic, Poland, and Hungary, and then concluding foreign banks with better management quality perform better efficiency. Moreover, authors also indicate that foreign banks via M&As as entry mode on average perform better in terms of efficiency by GI banks.

Some researchers point out that De Novo foreign banks are much smaller but perform better than acquired banks. Specifically, Havrylchyk and Jurzyk (2011) examine the profitability of foreign banks in ten Central and Eastern European countries from 1995 to 2003. Authors also take into account the two modes of entry of foreign banks and find GI banks perform better in terms of ROA than M&A and domestic banks, respectively. From theoretical perspective, Claeys and Hainz (2007) suggest the impacts of foreign bank's behavior highly depend on their entry mode. Though little empirical research focus on global investigation due to data unavailable, we believe international banking industry offers an interesting setting to examine these issues.

### *1.2 Research Purpose*

Different from previous studies this paper copes with the endogeneity problem by identifying the cross-country determinants of entry mode by foreign bank in terms of GI versus CB M&As in context of international study. We then empirically investigate the key factors affecting foreign banks efficiency and profitability conditioning on different entry modes while controlling for differences in home countries and host countries such as finance system, legal origin, the quality of institutions, and regulatory structure.

### *1.3 Major Contributions*

This paper contributes to the related literature on foreign bank's entry mode by providing international evidences on bank's efficiency and profitability after entrance via either M&As versus GI while existing research most focuses on the impact of foreign entry to the host country. Second, the policy implication on this study for foreign banks is that when choose entry via M&A, their post-entering performance is superior to those via GI since ten years later. Once foreign banks decide to acquire a smaller local bank, its potential development and practical transition should be concerned about the first stage of the acquisition. The remainder of the paper proceeds as follows. Section 2 presents the literature review and hypothesis development. Section 3 describes the model specifications and how we construct our datasets.

Section 4 reports our empirical results and Section 5 offers conclusions and future recommendations.

## **2. Related Literature**

### *2.1 The Real Effects of Foreign Bank Entry*

Since the liberalization of the banking market starts since early 90s, foreign banks actively expand their business to other country in seeking a new profitable opportunity. Previous studies indicate the real impact of foreign bank entry and existence on local banking industry in host country. Recently, Tsai et al. (2011) indicate the existence of a credit reporting agency increases the probability of banks entering a particular host country and also improves bank incentives to further expand activities by establishing branches or subsidiaries in a host country.

A number of literatures support the perspective that foreign ownership has positive effect on the banking industry in the host country. Beck et al. (2010) examine the impact on banking outreach using new collected data on Mexico where foreign bank participation rose from 2% to 83% of assets during 1997–2005. In addition, Bruno and Hauswald (2009) provide strong evidences that foreign entry alleviates financial constraints without hurting economic growth, especially in developing countries whose companies often lack access to alternative sources of financing. This implies that foreign bank entry into the host country leads to a improved local economic activities.

Foreign banks outperform critically domestic banks due to its stable credit supply during crisis period (De Haas and van Lelyveld, 2006) and benefit young firms further helping to mitigate connected-lending problems and to improve capital allocation (Giannetti and Ongena 2009). In addition, Dell'Arricia and Marquez (2004) as well as Sengupta (2007) argue that the high cost of acquiring borrower-specific information might induce entrants of foreign banks to only lend to the best credit risks (Gehrig 1998), thereby engaging in “cream skimming” negatively affecting local banks' profitability and increasing the competition pressure over the host market.

### *2.2 Entry Mode Choice by Foreign Bank*



Regarding effects of entry mode choice, De Haas and van Lelyveld (2006) point out that if foreign banks enter a new market by establishing new local branches, as primarily happened in Eastern Europe in the early nineties, their entry does not reduce the number of banks with local information. From this point of view, we assume that foreign bank via GI entry mode generally come out with a well-developed market in a relatively better economic growth. Besides, when a stronger home currency is average related to a higher propensity to choose a subsidiary and that the change in shareholder wealth around subsidiary, announcements is greater when the home currency is stronger (Baek and Kowk 2002). Under these premises, foreign direct investment does not cause the chaos in the host banking market, but will benefit in shareholder wealth.

On the contrary, as for determining foreign bank choice on CB M&A mode, Poghosyan and de Haan (2010) find that foreign banks target are relatively larger and much efficient when they enter transition economies with weak institutions, when foreign banks enter more developed transition economies that have made progress in economic reform, they acquire less efficient banks. The study of Beccalli and Frantz (2009) highlights the importance of geographical relatedness in order to achieve better post-M&A performance. In this paper, we also combine the distance of cultural and economic difference between host and home country to investigate the determinants of entry mode choice and the post-entering performance under two main different modes.

The condition of the host country may alter the decisions that foreign bank entry choice, meanwhile the mode also affect the performance of the bank after entry; likewise the health condition of the home country is also important to the case of foreign investment. Hryckiewicz and Koalewski (2007) present empirical evidence of the causes of multinational bank exiting from other countries and conclude that a multinational bank's decision to close or sell a subsidiary in another country is motivated by problems in the home country, with the weak performance of the foreign subsidiary in the host country. Therefore, our empirical model not only measures the effect by the host banks' characteristic but also includes the condition of parent banks during the current time and post-entering period.

### *2.3 The Effects of Entry Mode Choice on Foreign Banks' Performance*

Turning to the point of effects of entry mode choice on foreign banks' performance, Al-Sharkas et al. (2007) indicate that mergers have improved the cost and profit efficiencies of banks because they use the most efficient technology available (technical efficiency) as well as a cost minimizing input mix (allocative efficiency). Bernad et al. (2010) evaluate the effects of mergers and acquisitions on the long-run productivity of Spanish savings banks with and show that productivity improvements can be found in only half of the mergers that take place during the period analyzed. In contrast, the greenfield banks are closely integrated with their parent banks by depending on them for equity and interbank loans, participating in common liquidity management and applying risk and portfolio management techniques (Havrylchyk and Jurzyk 2011), the economic shocks in home countries and deteriorating health of parent banks could particularly be harmful to their subsidiaries in other country.

According to Havrylchyk and Jurzyk (2011), parent banks pursue different strategies when they choose different modes of entry, they should have different results in post-entering performance. Acquisition of existing banks is preferred when parent banks search for new market opportunities and therefore we document a negative relationship between the profits of takeover banks and the opportunity costs of parent banks. Greenfield banks, however, follow their clients and thus there is a complementary relationship between profits in host markets and opportunities at home. In other words, banks entry via M&A should consider more about the condition of the host market, decision on the mode choice which is suitable for the nation is important.

## **3. Methodology and Data**

### *3.1 Predicting the Probability of Different Entry Mode*

Following the theoretical framework from Lehner (2009) who indicates bank efficiency of home country are different caused by the choice of entry modes, we estimate the probabilities for different entry mode choice affected by the development

and market scale of the host country. Finally, we study the relationship between entry mode and bank competition. Panel Multinomial Logit model is utilized to estimate the following equation (1) in predicting the probability of bank's decision to involve CB M&A or GI in comparison to the Joint Venture (JV) while specifically controlling for the cross-country difference in market scale, development of economy, and entry supervision in the host country.

$$(1) \text{Entry Mode}_{i,j,t} = \alpha_0 + \beta_0 \text{Screen}_{i,j,t}^{\text{Home}} + \beta_1 \text{DC}_{j,t}^{\text{Host}} + \beta_2 \text{MarketScale}_{j,t}^{\text{Host}} + \beta_3 \text{Entry}_{j,t}^{\text{Host}} + \sum_h \gamma_h X_{i,j,t}^h + \varepsilon_{i,j,t}$$

where  $\text{Entry Mode}_{i,j,t}$  is defined as the dependent variable of the mode choice of foreign entry. it equals to zero if foreign bank i in country j entry host country via JV in year t, and equals to one if foreign bank i country j via GI in year t, and equals to two if foreign bank i in country j entry host country via CB M&As in year t.

For the consistency with theoretical hypothesis based on Lehner (2009), we consider parent bank's screening technology ( $\text{Screen}_{i,j,t}^{\text{Home}}$ ), economic development ( $\text{DC}_{j,t}^{\text{Host}}$ ), market scale ( $\text{Scale}_{j,t}^{\text{Host}}$ ) and the finance supervision in host country ( $\text{Entry}_{j,t}^{\text{Host}}$ ) as the major determinants of mode choice by foreign bank. The advance technology consolidates bank's quality of loan portfolio and hence has direct effect on the entry mode choice. Moreover, the screening efficiency of local bank is one of the important factors. Therefore, we use loan-loss provision as a proxy of screening technology ( $\text{Screen}_{i,j,t}^{\text{Home}}$ ) for individual bank i which include two kinds of foreign banks, less loan-loss provision that parent banks have indicate more efficient the banks is on screening better borrowers.

$\text{DC}_{j,t}^{\text{Host}}$  Stands for the dummy variable and equals one if the host country is a developing country and otherwise 0.  $\text{Scale}_{j,t}^{\text{Host}}$  denotes domestic credit provided by banking sector. Considering cross-country differences in banking supervision,

$Entry_{j,t}^{Host}$  is designated for the control on the preference of policy maker on foreign entry mode in explain whether the participation in bank CB M&A and GI.

Additionally, Detragiache et al. (2008) indicate foreign banks had better skill at monitoring “hard” information than domestic banks, such as accounting information or collateral values, but not well at “soft” information, such as the borrower’s entrepreneurial ability or trustworthiness. We calculate the cultural, legal or economic distance between home and host banking markets to proxy soft information problem and these variables then specified to be interacted with a dummy variable that captures entry via Greenfield investment on the one hand and acquisition of a domestic bank on the other hand. We control these dummy with some plenty of bank characteristics ( $\sum_h \gamma_h X_{i,j,t}^h$ ) as  $Log(TA)_{i,j,t}$  defined as the natural logarithm of the bank’s total assets. Likewise, we alternatively use the relative profitability measured with the ratio of return on equity ( $ROE_{i,j,t}$ ), respectively (see Feito-Ruiz and Menendez-Requejo, 2011). Considering the banking competitive degree in host market may affect the preference of foreign entry, we explain it by using the degree of transparency and Panzer-Ross  $H$  statistics proxied for the banking market competition.

*Hypothesis 1: The relationship between main determinants of entry mode choice and the probability of foreign bank presents in different mode JV, mode GI and mode CB M&A, respectively.*

(1a) Foreign banks with the best screen efficiency will choose entry via CB M&A mode, otherwise choose Greenfield or Joint venture mode. The probability of foreign entry ( $Entry Mode_{i,j,t}$ ) are negative relate to parent bank’s screen ability ( $Screen_{i,j,t}^{Home}$ ), the effect is stronger to the Acquisition banks than Greenfield banks.

(1b) Foreign banks in developing country are more likely to choose CB M&A mode, and more foreign banks choose GI mode to entry in well-developed country. The

probability of foreign entry by CB M&A mode are positive relative if the foreign bank is in a developing country ( $DC_{j,t}^{Host}$ ).

(1c) Foreign banks are more likely to choose GI mode to entry in host country with larger market scale ( $Scale_{j,t}^{Host}$ ); and entry the host country with small market scale in via CB M&A.

(1d) The probability of foreign entry ( $Entry Mode_{i,j,t}$ ) are positive relate to the level of competition in the host country ( $Entry_{j,t}^{Host}$ ), the effect is stronger to the Acquisition banks than Greenfield banks.

(1e) Cultural distance between home and host banking markets is positive relate to foreign entry, and the distance incentive foreign banks choose GI while a small cultural gap between host and home country is easier for Acquiring banks to adapt the investment environments. Pagano and Jappelli (1993) consider banks have the greatest incentive to establish credit bureaus when they experience the lack of a previous relationship and the lack of information on many customers

(1f) Macro Economic condition in host country (GDP growth, real interest rate and inflation ratio) should positive relative to the foreign entry, and the Greenfield banks evidence stronger effect than Acquiring banks.

### *3.2 Effects of Entry Mode on Foreign Banks' Profitability*

Following Havrylchuk and Jurzyk (2011) as well as Chen and Liao (2011), we further empirically investigate differential effects of entry mode by foreign bank on profitability in terms of different specification of post entering period.

$$\begin{aligned}
(2) \quad Profit_{i,j,t} &= \alpha_1 \Phi(\overline{EntryMode}_{i,j,t}^{M\&A}) + \alpha_2 \Phi(\overline{EntryMode}_{i,j,t}^{GF}) + \alpha_3 \Phi(\overline{EntryMode}_{i,j,t}^{JV}) \\
&+ \sum_{h=1}^{12} \beta_h \times T_{t_0 \sim t+h} \times \left[ \Phi(\overline{EntryMode}_{i,j,t}^{M\&A}) + \Phi(\overline{EntryMode}_{i,j,t}^{GF}) \right] \\
&+ \sum_k \delta_k HostContrl_{i,j,t} + \sum_p \delta_p HomeContrl_{i,j,t} + \lambda_t + \pi_j + \mu_{i,j,t}
\end{aligned}$$

where  $Profit_{i,j,t}$  in equation (2) stands for bank's profitability for bank  $i$  in host country  $j$  in year  $t$ .  $\mu_{i,j,t}$  represents for the error term. There are three measures on bank's profitability as Net Interest Margins (NIM), Return on Average Assets (ROA), and Return on Average Equity (ROE) used alternatively for dependent variable. NIM is the net interest margin generated by the net interest income (= interest income – interest expense) divided by current assets. This ratio suggests that the higher net interest margin implies better performance. ROA is defined as the net profit divided by total assets represents the earning performance of the bank based on the total assets. ROE is calculated as the return on equity which is the net profit after tax divided by the shareholders' equity and represents the earning performance of the bank based on the shareholders' stake.

$\Phi(\overline{EntryMode}_{i,j,t}^{M\&A})$ ,  $\Phi(\overline{EntryMode}_{i,j,t}^{GF})$ , and  $\Phi(\overline{EntryMode}_{i,j,t}^{JV})$  are the predicted probability of CB M&As, GI and JV banks that is jointly estimated from Equation (1). To further investigate the interaction between post profitability and entry mode choice, we then use the dummy variables as interval periods of post entering ( $T_{t_0 \sim t+h}$ ) from the entry year ( $T_0$ ) to 12<sup>th</sup> year after entry ( $T_{12}$ ) for foreign bank. We also control numbers of bank characteristics, banking competition and macroeconomic between home and host country for empirical analysis as profitability measures selected above, including equity to assets ratio, capital funds to assets ratio, capital funds to liabilities represents the capital strength of the banks following Pasiouras (2007) and Lensink (2008). We expect that bank raise its owned capital is attempt to strengthen the banks' quality on operation.

While logarithm of total asset denotes the bank size, Berger et al (2008) point out that foreign bank with larger size are generally with better efficiency in individual

developing nations, and Kosmidou et al. (2007) show bank's profitability might deteriorate by the asset growth. Therefore, we divide loan loss provision by equity to exam the credit risk effect on banks' performance. The bank's liquidity can be the proxy with net loans to deposit funding or total deposit and borrow (Pasiouras and Kosmidou, 2007). Detail definition on variables used in equations is shown in Table 2.

*Hypothesis 2: Acquisition of existing banks should have a negative relationship between the profits of foreign banks and parent banks; however, Greenfield banks should have positive relationship between profits in host markets and home market.*

### 3.3 Meta-Frontier approach

Let  $y$  and  $x$  be nonnegative real output and input vectors of dimension  $M \times 1$  and  $N \times 1$ , respectively. The metatechnology set contains all input-output combinations that are technologically feasible,  $T = \{(x,y) : x \geq 0; y \geq 0; x \text{ can produce } y\}$ . Associated with this metatechnology set are input and output sets. For example, the output set is defined for any input vector,  $x$ , as:  $P(x) = \{y : (x,y) \in T\}$ . We refer to the boundary of this output set as the output metafrontier. We assume the output set satisfies the standard regularity properties listed in Färe and Primont (1995). Since the main focus of this paper is to measure efficiency, it is convenient to represent the technology using the output metadistance function, defined as:  $D(x,y) = \inf_{\theta} \{\theta > 0 : (y/\theta) \in P(x)\}$ . This function gives the maximum amount by which a firm can radially expand its output vector, given an input vector. The distance function inherits its regularity properties from the regularity properties of the output set. An observation  $(x, y)$  can be considered technically efficient with respect to the metafrontier if and only if  $D(x,y)=1$ .

#### 3.3.1 Group Frontiers

It is also possible to conceptualize the existence of sub-technologies that represent the production possibilities of groups of firms. We consider the case where the universe of firms can be divided into  $K (>1)$  groups, and we suppose that resource, regulatory or other environmental constraints may prevent firms in certain groups from choosing from the full range of technologically feasible input-output combinations in the metatechnology set,  $T$ . Rather, the input-output combinations available to firms in the  $k$ -th group are contained in the group-specific technology set:

$T^k = \{(x,y) : x \geq 0; y \geq 0; x \text{ can be used by firms in group } k \text{ to produce } y\}$ . The  $K$  group-specific technologies can also be represented by the following groupspecific output sets and output distance functions:  $P^k(x) = \{y : (x,y) \in T^k\}$ ,  $k=1, 2, \dots, K$ , and  $D^k(x,y) = \inf_{\theta > 0} \{y/\theta\} P^k$ .

### 3.3.2 Technical efficiency (TE) and Technology gap ratio (TGR)

More generally, an output-orientated measure of the technical efficiency of an observed pair  $(x, y)$  with respect to the metatechnology is:  $TE(x, y) = D(x, y)$ . We can also measure technical efficiency with respect to the group- $k$  frontier. Specifically, an output-orientated measure of technical efficiency with respect to the technology of group  $k$  is:  $TE^k(x, y) = D^k(x, y)$ . We can obtain a measure of how close the group- $k$  frontier is to the metafrontier. Specifically, the output-orientated metatechnology ratio for group- $k$  firms is defined as  $TGR^k(x, y) = \frac{D(x, y)}{D^k(x, y)} = \frac{TE(x, y)}{TE^k(x, y)}$ . O'Donnell, Rao, and Battese (2008) provides for the following convenient decomposition of the technical efficiency of a particular input-output combination as  $TE(x,y) = TE^k(x,y) \times MTR^k(x,y)$ .

The cost and profit efficiency score that estimate from equation above, we address this result to empirical the impacts of entry mode on foreign bank's efficiency by controlling some bank characteristic in home and host country.

### 3.4 Impacts of Entry Mode on Foreign Bank's Efficiency

Our empirical model to investigate impacts of entry mode on foreign banks' post-entry efficiency with cost and profit is specified as follows:

$$\begin{aligned}
 (6) \quad Efficiency_{i,j,t}^{Cost} &= \alpha_1 \Phi(\overbrace{EntryMode_{i,j,t}}^{M\&A}) + \alpha_2 \Phi(\overbrace{EntryMode_{i,j,t}}^{GF}) + \alpha_3 \Phi(\overbrace{EntryMode_{i,j,t}}^{JV}) \\
 &+ \sum_{h=1}^{12} \beta_h \times T_{t_0 \sim t+h} \times \left[ \Phi(\overbrace{EntryMode_{i,j,t}}^{M\&A}) + \Phi(\overbrace{EntryMode_{i,j,t}}^{GF}) \right] \\
 &+ \sum_k \delta_k HostContrls_{i,j,t} + \sum_p \kappa_p HomeContrls_{i,j,t} + \lambda_t + \pi_j + \mu_{i,j,t}
 \end{aligned}$$



$$\begin{aligned}
(7) \quad Efficiency_{i,j,t}^{Profit} &= \alpha_1 \Phi(\overline{EntryMode}_{i,j,t}^{M\&A}) + \alpha_2 \Phi(\overline{EntryMode}_{i,j,t}^{GF}) + \alpha_3 \Phi(\overline{EntryMode}_{i,j,t}^{JV}) \\
&+ \sum_{h=1}^{12} \beta_h \times T_{t_0-t+h} \times \left[ \Phi(\overline{EntryMode}_{i,j,t}^{M\&A}) + \Phi(\overline{EntryMode}_{i,j,t}^{GF}) \right] \\
&+ \sum_k \delta_k HostContrl_{i,j,t} + \sum_p k HomeContrl_{i,j,t} + \lambda_t + \pi_j + \mu_{i,j,t}
\end{aligned}$$

where  $i$ =bank,  $j$ =country,  $t$ =year;  $\lambda_t$  and  $\pi_j$  denote time effect and country-specific effects, respectively.  $\mu_{i,j,t}$  stands for the random error.  $EFF_{i,j,t}$  is the efficiency measure for foreign bank form DEA approach with respect to profit efficiency and cost efficiency by using different dependent variable of the translog regression with respect to profit before tax and total costs, namely.

We also include a number of bank characteristics, banking competition and macroeconomic between home and host country for empirical analysis.  $HostContrl_{i,j,t}$  includes the variables of bank specific characteristic and country level in banking competition is proxied with the indicator of Panzar-Rosse  $H$ -statistics from Chen and Liao (2011).

Regarding control variables for bank characteristics as internal determinants of performance, bank's total assets, the equity to assets ratio, the ratio of capital funds to total assets, the ratio of capital funds to total liabilities and the ratio of bank's loans divided by customers and short term funding, are used in our empirical model. In addition, external factors as cross-country differences are utilized to examine the impact of macroeconomic environment and economic risk on bank's performance.

$HomeContrl_{i,j,t}$  represents the specific characteristic of home country, including parent bank's bank size measured as nature log of total assets, parent bank's return on equity, and the screen ability of parent banks.

*Hypothesis 3: Foreign banks entry via CB M&A can improve its cost and profit efficiencies (Al-Sharkas et al. 2007), while Greenfield banks remain stable after entry(Baek and Kowk 2002) for long-term period.*

### 3.5 Data sources

The bank-level data on financial statement reports are mainly collected from the *BankScope* database produced by *Bureau Van Dijk Corporation*. We identify a bank as foreign-owned if more than 50% of the total stock of shares is ultimately held by non-domestic banks. It should be noted that the data on ownership provided by *BankScope* is not always complete and clear. In order to confirm the matched sample between parent and subsidiaries of these multinational banks, we further check the ownership information from each bank's website by reviewing its own history. After eliminating the missing information on foreign banks, the final and complete sample used for empirical analysis includes 1,262 foreign banks from 79 home countries over the period 1996 to 2009. The entry mode as CB M&As by foreign banks are mainly identified according to *SDC*, and Greenfield Investment, Joint venture, partnership and strategy alliance are classified from the description of the bank's history, in addition, check the brief overview record in *BankScope*.

Controlling the cross-country differentials in macroeconomic environment and institutions, country-level data are obtained from the online database of *World Development Indicators* (WDI) from World Bank as well as *Worldwide Governance Indicators* (WGI) developed by Kaufmann et al. (2010) with more than 50 countries, which are free downloaded from the webpage at [www.govindicators.org](http://www.govindicators.org). Cultural distance is calculated according to *Geert Hofstede*. The Market Transparency data are collected from the online report of *Transparency International Organization* free downloaded from [www.transparency.org](http://www.transparency.org).

## 4. Empirical Results

### 4.1 Descriptive Statistics and Efficiency Scores

We investigate the difference between CB M&As and GI to a number of variables and these results are given in Table 3. Table 3 shows the descriptive information about mean, maximum, and minimum. Screening ability for parent banks in sample are below minus six million US dollars and 10.5 million US dollars, respectively. The mean value of parent bank size is doubled larger than foreign banks.

The maximum and minimum values of transparency are 10 and 1, namely, while the most transparent market is in Norway and Indonesia suffers from severest corruption problems. The highest degree on foreign entry is Poland while other Eastern Europe countries restrict more on foreign entry.

The profitability proxy as ROE, ROA, and NIM are shown in Figure 1 to 6 with post entry of different mode choice by foreign banks. Obviously, foreign banks that entry host country via CB M&A are more profitable than those via GI. In the short and middle periods after entry, foreign bank's ROE and ROA have remarkable increase while net interest margin of CB M&As banks do dramatically fall below the mean performance of GI banks in the long run. By accumulating the first two year of foreign bank's ROE, we see a wild gap in entry mode choice between CB M&A and GI. Looking closer at differential effects on both mode over 12 year, foreign banks enter host country via GI mode significantly achieve the growth of return on equity while the banks entry via M&A mode only have gradual increasing in its performance.

At the first year of foreign bank entry by GI, the bank's ROE and ROA meet a slightly drop down, but using the NIM data draw out the different result. In this case our graphs show that the change of ROE and ROA over years can be explained well by the entry effect. Average cost efficiency scores with post entry of different mode choice by foreign banks show in Figure 7. At the entry year, Acquisition banks reach better scores at 0.454 than Greenfield bank at 0.325. In the following year CB M&As banks were continuously improve their efficiency, while GI banks almost maintain its level. Figure 8 shows accumulated average cost efficiency scores with interval period of post entry classified with different mode choices and indicates that CB M&A banks outperform within each interval period post entry in host country compared with GI banks.

Figure 9 reveals average profit efficiency scores post entry for different mode choices by foreign banks. In comparison to two modes, CB M&A banks also perform better in terms of profit efficiency more the GI banks. However, the efficiency scores of CB M&A banks have a sharp declining in comparison to GI banks after 11 years later since entering host country. Turn to Figure 10 showing the accumulated profit within the periods post entering, the profit efficiency of GI banks demonstrate the significant change while CB M&A banks gradually improve their efficiency.

We find an interesting phenomenon on banks choosing M&A mode, as shown in Figure 9, foreign banks post entry after 10<sup>th</sup> year would lose their competitive advantage in earning net interest margin and subsequently these banks' profit efficiency decrease toward the equilibrium level of foreign banks. Compared with foreign banks choosing GI mode, foreign banks choosing M&A strategy could not persist in profitability. Especially, 10 years since entry is an important turning point for these foreign banks.

#### *4.2 Identifying Cross-country Determinants of Entry Mode Choice by Foreign Bank*

Table 4 indicates that better screen efficiency, meaning lower loan loss provision of parent bank have the higher ability of screen out the bad borrowers, could increase likelihood of foreign bank entry and the best efficiency bank might choose entry via GI mode. It is interesting that either CB M&As or GI are significantly negative to low parent bank's screening ability. This result is similar to the theoretical prediction of Lehner (2009) showing a better screen efficiency bank would choose entry via GI mode while the best screen efficiency bank choose entry via M&A mode.

Moreover, whether the host country in developing affect foreign bank entry is significantly and positively related to foreign bank entry via M&A mode. This finding is consistent with Lehner (2009). The estimated coefficient of Greenfield and Acquisition group are 1.044 and 1.397, respectively. This implies more foreign bank choose entry by acquiring a domestic bank than by launching a new office in developing country as host country. The market scale of host country is also significantly and positively associated with foreign bank entry. Foreign bank prefer to entry host country with the higher market scale via GI. However, we do not find evidence to support CB M&As with respect to market scale. According to Lehner (2009), the larger a host banking market, the wider the ranges of foreign banks that tend to favor expand via the acquisition of a domestic bank.

The higher value of transparency indicates that the competition pressure is high in banking industry. It would discourage foreign bank entry especially for bank choosing GI mode. As for the banking competition, PRH index shows negative effect on M&A mode bank. This means that when the banking market structure is close to

perfectly competitive market it is difficult for foreign banks to acquire local banks in host country.

In addition, foreign bank would like to entry host country when their parent banks are relatively larger. The positive relation between bank size and entry mode of GI is more significant than entry mode of M&A. The growth of GDP shows the negative impact on both entry modes. The economic condition of the host country also reveals an important indicator of entry decision. Foreign banks would like to enter the host country with higher GDP growth rate.

Summarize the description above foreign banks with better screening technology from parent banks are more likely to choose GI as entry mode. GI banks enter a host country with comparatively larger market scale or where the cultural distance is wild. Foreign banks favor to choose the CB M&A mode when entry in a developing country or in a high degree of foreign entry. Foreign bank with a comparative better performance on ROE of parent bank or comparative larger size would choose CB M&A mode to entry the host country.

#### *4.3 Post-Entry Performance for Foreign Banks: Profitability Measures*

##### *4.3.1 Net Interest Margins (NIMs)*

Table 5 shows foreign banks via CB M&As would significantly enhance their post-entering profitability measured by NIMs. Foreign bank's profitability is significantly persistent as lag one year for NIMs. We find foreign banks via CB M&As keep better profitability over the period of 12 years after entry. The interaction effect on cross border M&A are remain positive form entry year to the eighth year and insignificant though. Since the 9th year after entry via M&A mode the effect on NIMs growth has been curtailed, especially in the interval period of year 0 to 11 and 0 to 12 the negative impact forward to know the significance. However, the inverse impact doesn't exist in the case of foreign entry via GI mode, in the long-term periods the foreign bank earned higher NIMs by comparing to other modes or GI mode during the interval period before the 8th year after entry.

Regarding control variable of bank characteristics, the empirical results from base-line model in Table 5 shows that bank's capital condition is positively related to

the foreign bank's NIMs. We estimate equity to total assets and capital funds to total asset both obtained 0.038 times increase the post NIMs of foreign banks. When if the capital funds source is finance from debts that would decrease 0.015 times of foreign banks' profitability. Enlarge the bank size after foreign entry does weaken its profitability but the weaken effects are decreased gradually by the years.

The variable of total loan to total assets figured a positive impact on NIMs indicates foreign bank improved its profitability by expanding its loan operation in host country. The liquidity of foreign banks also show the positive effect on its post NIMs, the ratio of liquid asset to total deposit and the ratio of net loan to total deposit are shown as 0.007 and 0.005. When the foreign banks present in the host country where may take a higher Economic Risk, more benefits that banks are able to earn on NIMs. From the 5th year till the 12th year of post entry bank's profitability have 6 times growth due to the high risk taking. GDP growth in the host country is not benefit for bank's net interest margin while GDP growth in the home country led foreign bank increase its NIMs progressively.

Parent banks' screen ability shows a strong effect on increasing NIMs while their bank size and ROE reports no significant positive relationship. Foreign bank may heritage the screening technology from their parent banks in order to screen out a better borrower or monitoring their borrower and reduce the default risk of the loan portfolios further enhances their profitability. This effect becomes greater when the post-entering period is longer, sees in table 5 during the first period is report as 0.102 when the figure of the longest period that coverage 12 years after entry is 0.121.

#### *4.3.2 Return on Average Assets (ROA)*

Table 6 shows that there is a significantly negative relationship between post-entering ROA and the probability of CB M&A while GI reports a positive effect on bank's ROA and this effect remains 5 year after entry. To identify the year effects on post-entering ROA, we use the year dummy interacted with two entry modes, both the results show the negative relation between accumulated ROA and year periods since foreign bank entry. Foreign banks that entry via M&A mode relatively outperform than the one which choose via GI in term of ROA.

Regarding the capital characteristics of foreign bank, the impact on its post

performance is similar to the results of NIMs. Bank size is positive associated with the post ROA, implying larger bank after foreign entry does not weaken its profitability in term of ROA. The performance relates a negative effect with loan loss provision to equity and relates a positive impact with the variable of total loan to total assets that indicates foreign banks with sufficient available funds that create the opportunity of improvement on its profitability. The liquidity of foreign banks also shows the different effect on its post ROA.

When the foreign banks present in the host country where may take a higher economic risk, the banks may loss ROA but no statistically significance shown in the interval period of accumulated ROA. GDP growth both in the host and home country are beneficial to bank's performance on ROA, while real interest rate in the host country led foreign bank increase its ROA in the long term period since the 9th year after entry.

#### *4.3.3 Return on Average Equity (ROE)*

Table 7 demonstrates that probability of cross border M&A present reports a insignificantly negative relationship with post-entering ROE while other modes report a positive effect but only the GI mode show the statistically significant. In the next stage of identify the year dummy interaction of two entry mode choice, the table figures out that the bank entry via greenfield investment had negative relation on accumulated ROE at each interval period.

The parameters of equity to total assets report a positive effect on ROE while the parameters of capital funds to total asset oppose to the growth of banks' return on equity. The performance relates a negative effect with Loan Loss Provision to Equity and relates a positive impact with the variable of Total Loan to Total Assets which were unanimous in the result that support by ROA measurement. The liquidity of foreign banks shows the positive effect on its post ROE as the ratio of liquid asset to total deposit in the value of 0.048.

Foreign banks may loss the return on equity when present in the host country where force to take a higher Economic Risk. GDP growth both in the host and home country are benefit for bank's ROE, while Inflation Rate in the host and home country led foreign bank downwards its performance on ROE in the middle and long term

period after entry.

#### *4.4 Post-Entry Performance for Foreign Banks: Efficiency Measures*

The cost and profit efficiency scores are estimated by Stochastic Frontier Analysis which generates the value between 0 and 1. Whether the bank is efficient attribute to its cost or profit advantage that compare to the other banks. Its score should more likely to be 1. Our sample reports the highest efficiency score is approximate 0.721 which happened on the banks entry via cross-border M&A after 10 years of the entry.

##### *4.4.1 Cost Efficiency*

Table 8 used Total cost (TC, include interest expenses and non-interest expenses) as Efficiency measurement. The probability of cross border M&A present reports a significantly positive relationship with post-entering cost efficiency and lasts every interval period we set. However, foreign banks choose entry via GI mode and JV mode remark no cost advantage than other banks, the parameters are figured as -0.013 and -0.007. The interaction effect both on cross border M&A and Greenfield are negative, the effect last almost the whole period after entry on acquisition banks while greenfield banks seize the negative influence at the 3rd year.

On the evidence of bank specific control variables, the bank size of parent and subsidiary banks grow that induce the improvement of cost efficiency, while the efficiency improvement refers to the advance screen technology that offer by parent banks and the effect last a decade. The decline of real interest rate and GDP growth rate in home country amplified the value of cross country investment, hence improved the cost efficiency of foreign banks.

##### *4.4.2 Profit Efficiency*

Table 9 used Profit before tax (PBT) as Efficiency measurement. The probability of cross border M&A and Greenfield Investment present reports an identical effect with cost measurement and both last the effect till the 12th interval



period of we set. The parameters are figured as 0.010 and -0.019 respectively. The interaction effect both on cross border M&A and Greenfield are negative, the effect last almost the whole period after entry not only on Acquisition banks but also on Greenfield banks.

The capital funds are innate and offer by the bank owner can improve the profit efficiency to total asset oppose to the growth of banks' return on equity. The bank size of parent and subsidiary banks grow that induce the improvement of profit efficiency, while the efficiency improvement refers to the advance screen technology and outstanding return on equity that shared from the parent banks. The recession of economic condition in home country, foreign investment portfolios provide a hedge opportunity, hence improved the profit efficiency of foreign banks. Notice that taking the economic risk in host country helps nothing for the efficiency.

Parent banks' conditions are statistic significant positive relate to the profit efficiency improvement such as foreign banks are ultimate own by a bigger banks with greater assets that enhance their profit efficiency after entry.

## **5. Conclusions**

Past researches has demonstrated mixed finding about whether acquiring banks are outperforming more than GI banks, but little evidence has focused on the international comparison by explaining the impacts of cross-country difference in both macroeconomic environment and bank specific between the host and home country on foreign bank's efficiency and profitability. Using comprehensive panel data on 1,035 multinational banks with different entry mode choice, including 301 CB M&A banks and 724 GI banks from 54 countries for the period 1996 to 2009, this paper empirically investigates the key factors differentiating the entry mode choice by foreign bank.

Foreign banks with better screening technology form parent banks are more likely to choose GI as entry mode. GI banks enter a host country with comparatively larger market scale. Foreign banks prefer to entry by acquiring a domestic bank in developing country. When a country reach a higher level of foreign entry, foreign banks are more likely to acquire local banks as an entry into host country. The competition of host country would decrease the foreign investment by entry via M&A

and GI mode. Moreover, the post-entering performance for foreign banks particularly shows the comparison with efficiency and profitability analysis for CB M&As versus GI banks, and further identifies key determinants of foreign bank performance associated with bank characteristics and cross-country differences in macroeconomic condition between home country and host country.

Foreign banks via CB M&A all show a positive relationship with bank's profit with respect to NIMs, ROA, and ROE. Although CB M&A mode presents positive effects on poster-entering NIMs but inverse effect since 10<sup>th</sup> years after entry while GI and JV persist negative related to bank's ROE and ROA. Foreign banks with better performance are positively related to equity to total assets, cap funds to total assets, parent and subsidiary bank's total assets, total loans to total assets, liquid assets to total deposit & borrow, but negative associated with cap funds to liabilities, loan loss provision to equity, real GDP growth, real interest rate and inflation in home country and host country for all banks.

Regarding efficiency analysis based on Meta-Frontier DEA to evaluate comparative performance of Acquisition versus Greenfield banks, our empirical findings indicate that foreign banks via CB M&As show better efficiency than those via GI according to efficiency scores from cost and profit measures. The improvement on cost efficiency is positively associated with parent bank and the economic condition in the home country while profit efficiency is significantly positively related to the financial characteristics of foreign banks.

Finally, the post-entering performance of foreign banks that choose entry via M&A mode are generally better than those choose GI. For foreign investment strategy should further considerate its long-term development and practical transition on the target institutions. In this paper, the observations didn't involve the characteristics of domestic banks, we suggest using local banks' data to replace the joint venture banks as the model base in the future study.

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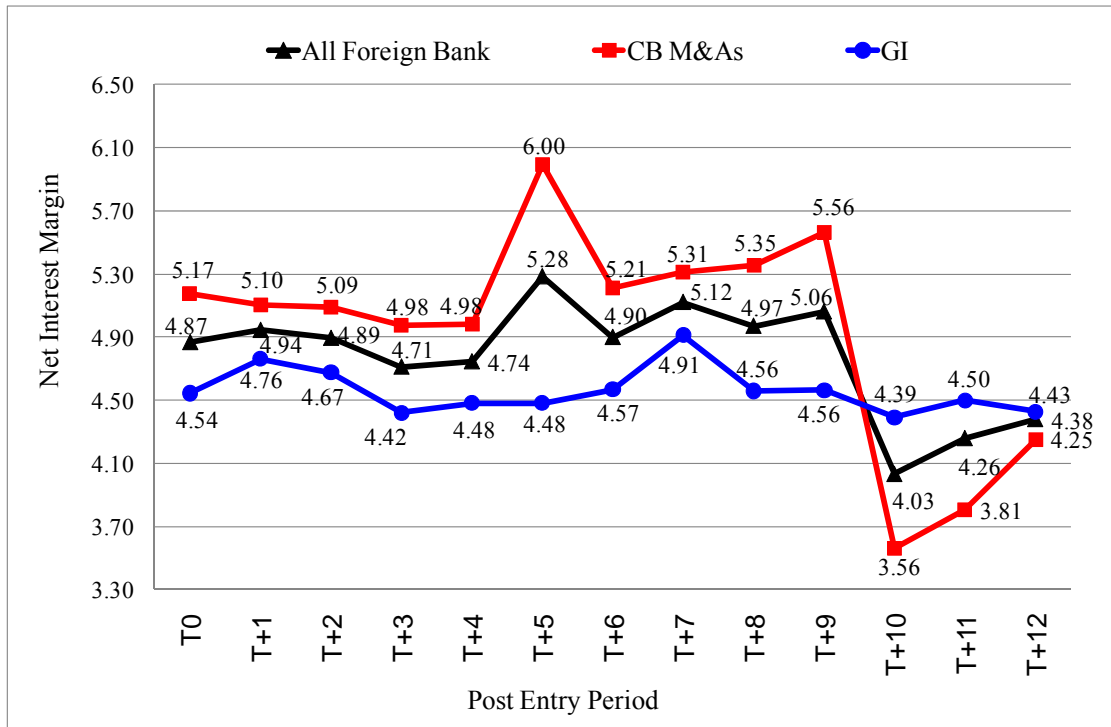


Figure 1 Average net interest margin with post entry of different mode choice by foreign banks

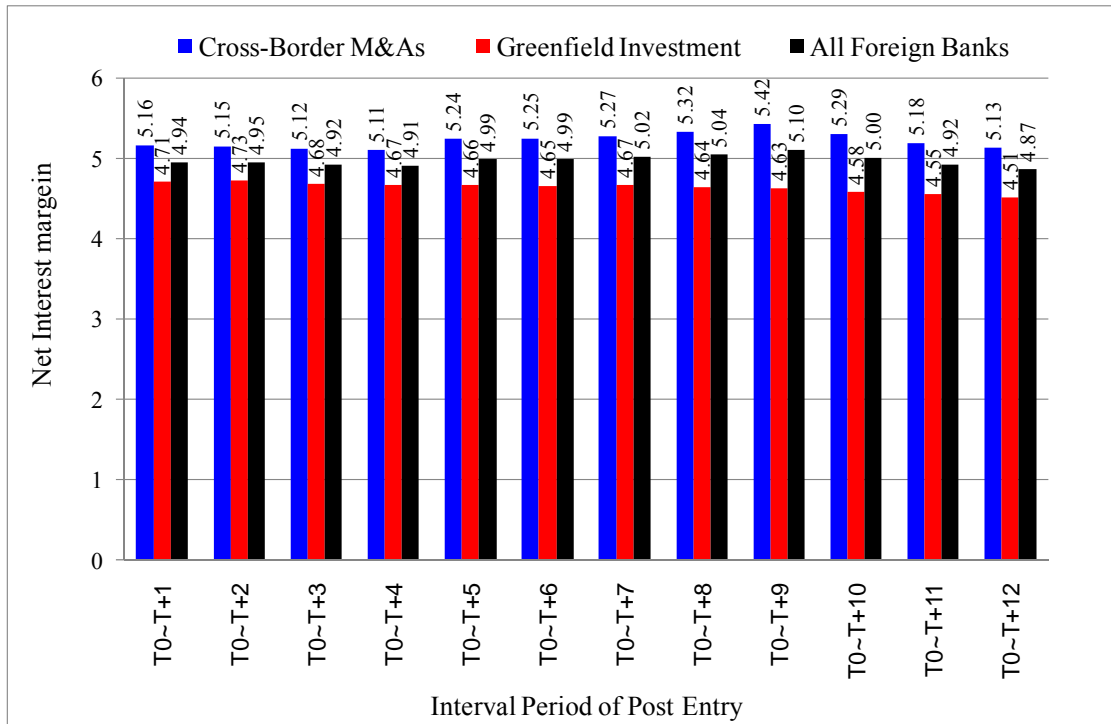


Figure 2 Average net interest margin with interval period of post entry by different mode choice for foreign banks

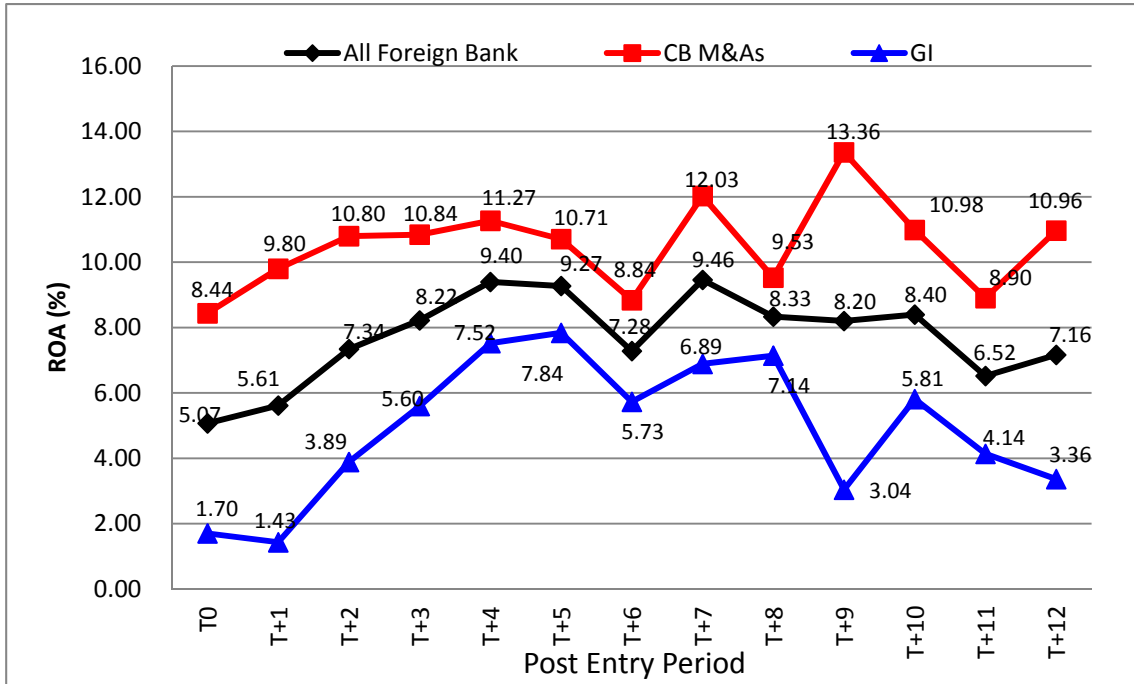


Figure 3 Average ROA with post entry of different mode choice by foreign banks

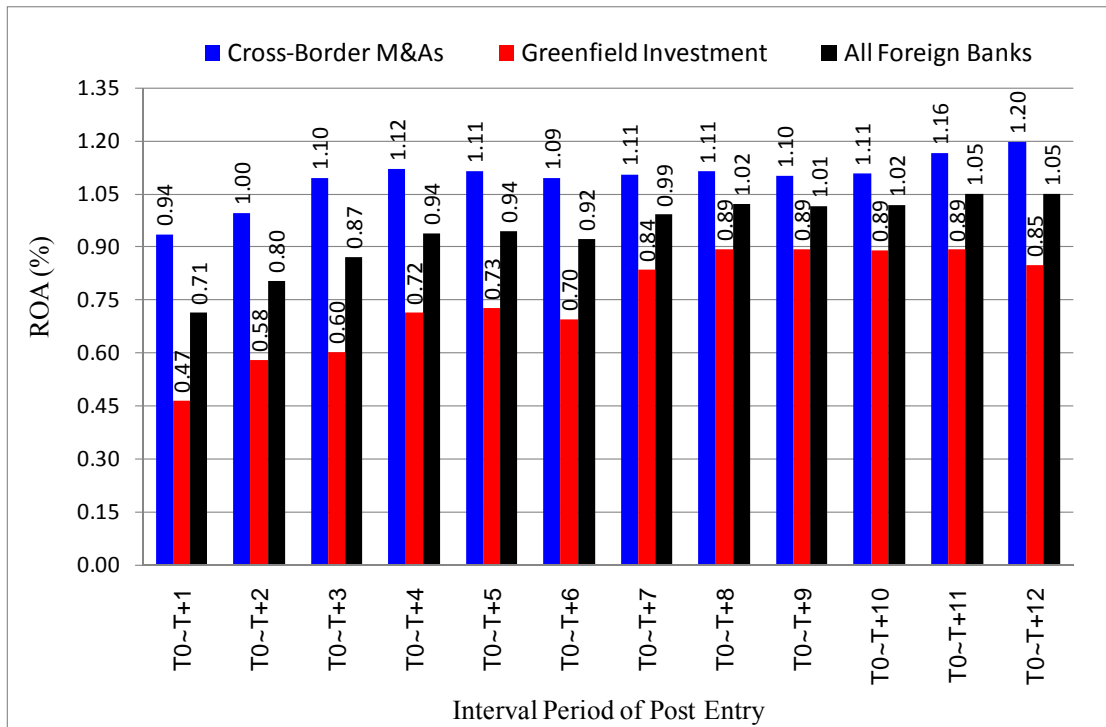


Figure 4 Average ROA with interval period of post entry by different mode choice for foreign banks

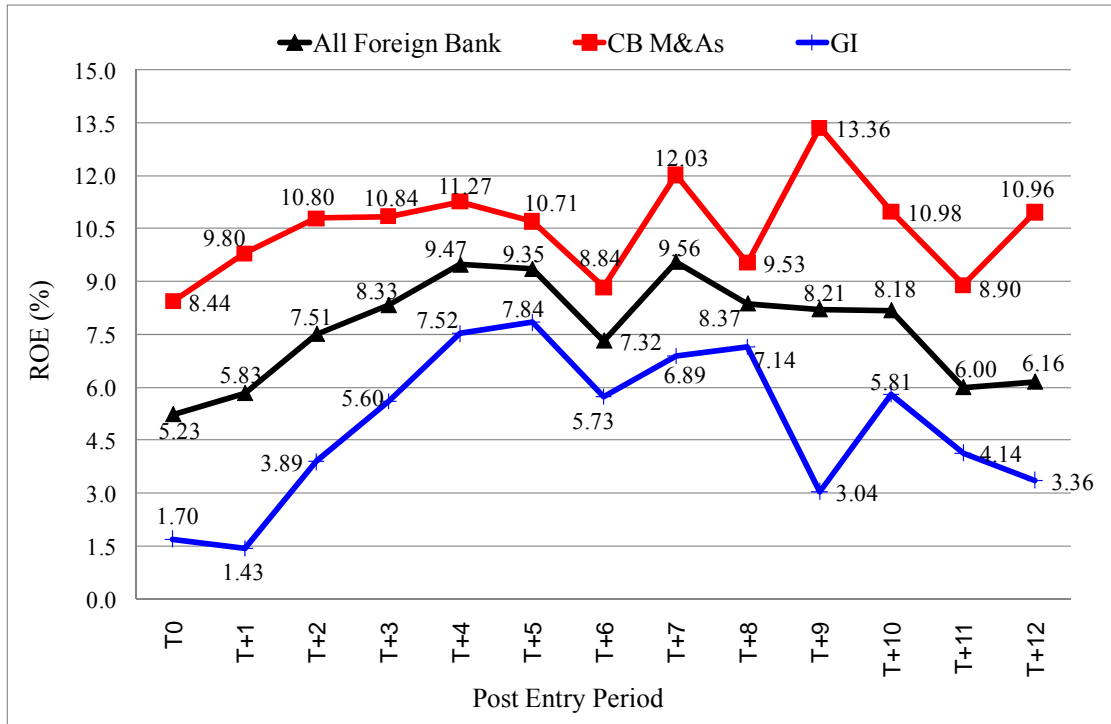


Figure 5 Average ROE with post entry of different mode choice by foreign banks

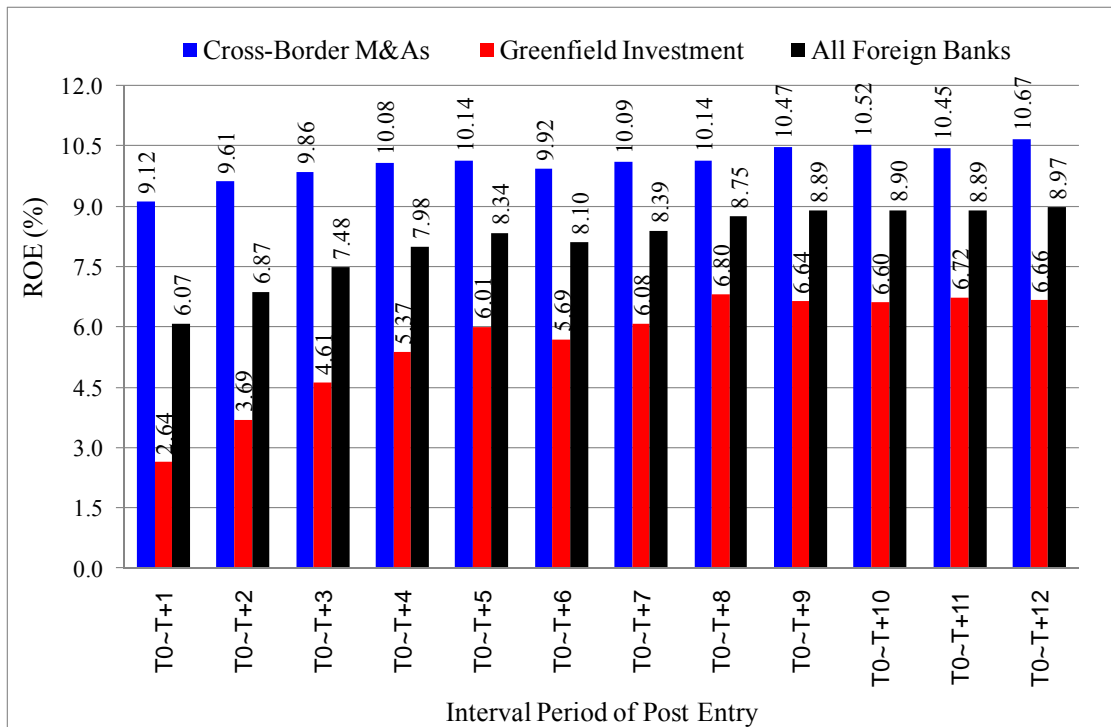


Figure 6 Average ROE with interval period of post entry by different mode choice for foreign banks



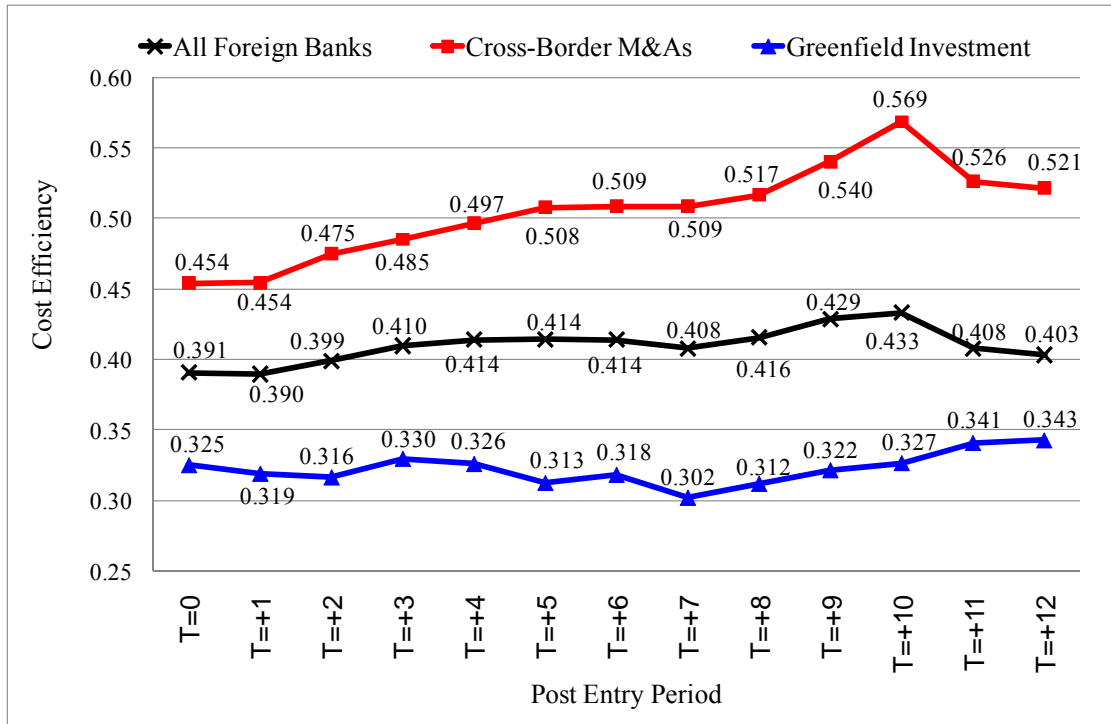


Figure 7 Average cost efficiency scores with post entry of different mode choice by foreign banks

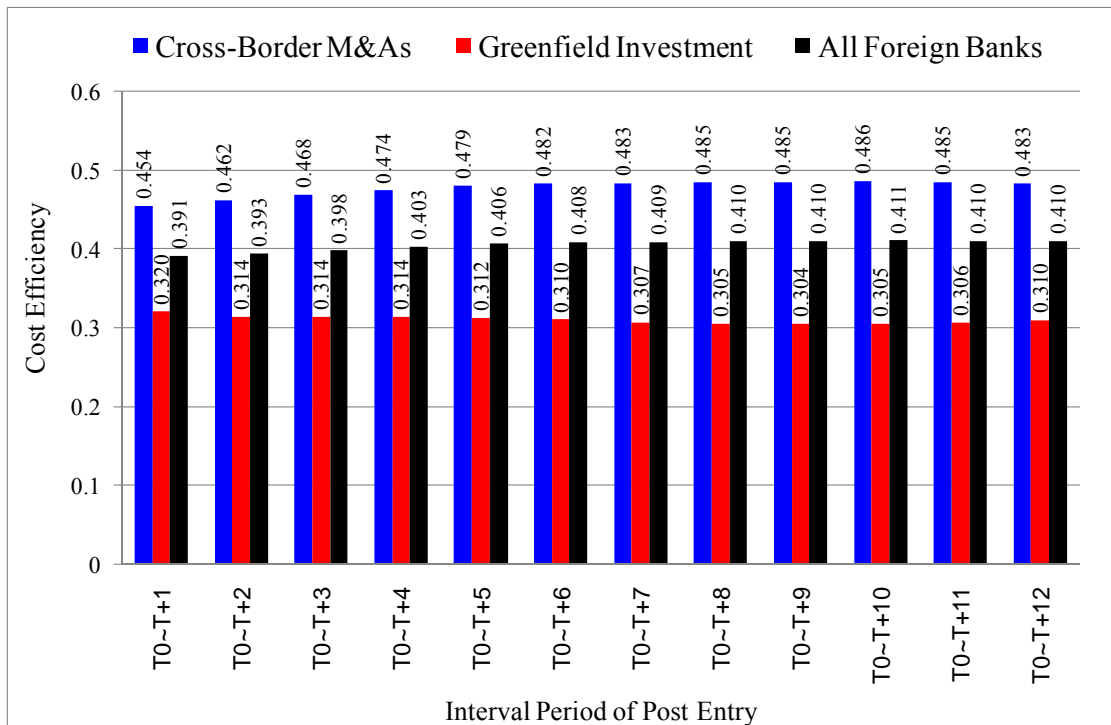


Figure 8 Average cost efficiency scores with interval period of post entry by different mode choice for foreign banks

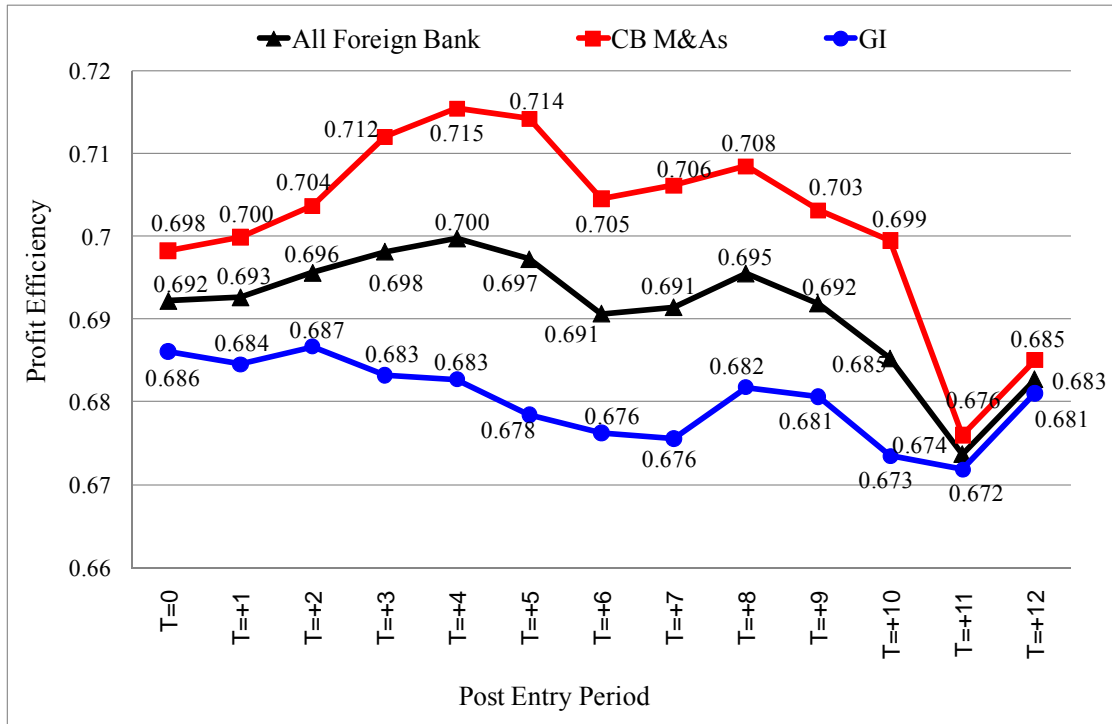


Figure 9 Average profit efficiency scores with post entry of different mode choice by foreign banks

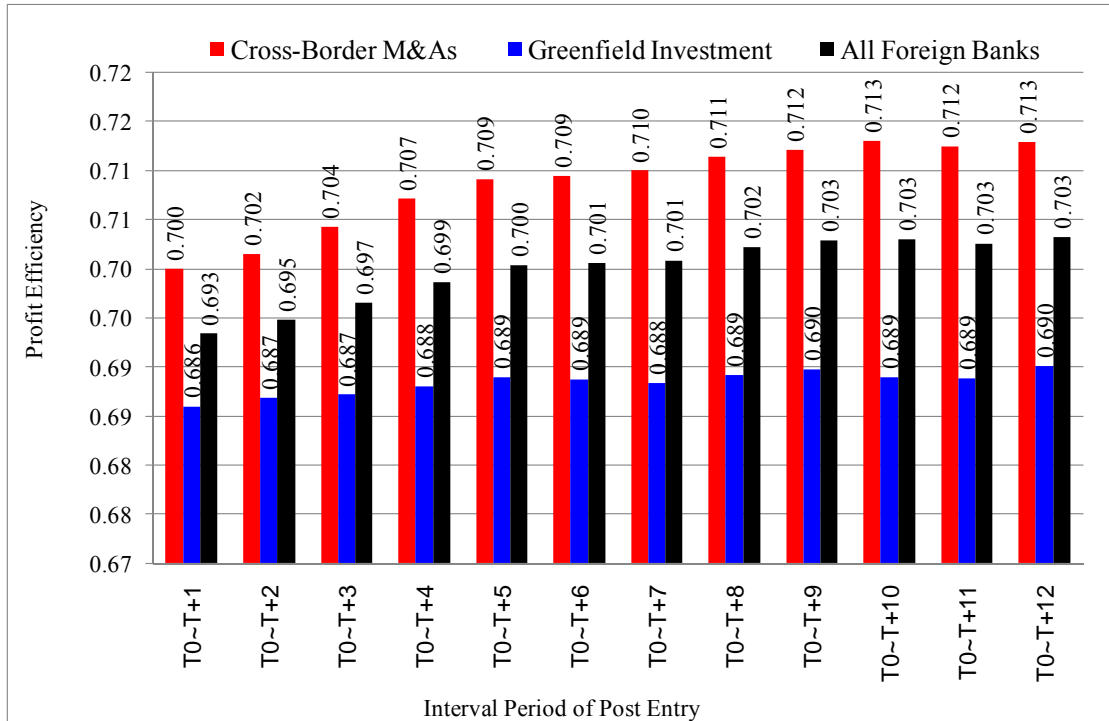


Figure 10 Average profit efficiency scores with interval period of post entry by different mode choice for foreign banks

**Table 1 Definitions of different combinations with various inputs/outputs variables for efficiency estimation**

Inputs/Outputs Combinations	Code	Variable definition
<b><i>Dependent variable of cost and profit frontier model</i></b>		
Total cost	TC	calculated as the summation of interest expenses and non-interest expenses.
Profit before taxes	PBT	
<b><i>Input</i></b>		
Price of borrowed funds	P1	calculated as the ratio of interest expenses to total deposits
Price of physical capital	P2	calculated by dividing the expenditures on plant and equipment by the book value of fixed assets
Price of labour	P3	calculated by dividing the personnel expenses by total assets
<b><i>Output</i></b>		
Loans	Q1	Total loan of the bank
Other earning assets	Q2	Bank's other earning assets
Total deposits	Q3	include customer and interbank deposit

**Table 2 Variables description, data source and expected sign**

Variables	Description	Data Source	Expected Sign on Bank Efficiency	Expected Sign on Bank Profitability
<i>Bank-Specific Characteristics</i>				
Cross-Border M&A	Dummy variable equal to one when foreign bank acquired a domestic bank after year t, and 0 when before the bank entry.	SDC	+	-
Greenfield Investment	Dummy variable equal to one when foreign bank launch a new subsidiaries in the host market after year t, and 0 when before the bank entry.	BankScope & Website	-	+
Joint Venture	Dummy variable equal to one when foreign bank are the joint partner or strategic alliance of a domestic bank after year t.	BankScope & Website	-	+
E/TA	Equity to total assets	BankScope	+	+
CF/TA	Cap funds to total assets	BankScope	+	+
CF/LI	Cap funds to liabilities	BankScope	-	-
Log (TA)	Logarithm of total assets	BankScope	+	-
LLP/E	Loan loss provision to equity	BankScope	-	-
TL/TA	Total loans to total assets	BankScope	+	+
LA/TDB	Liquid assets to total deposit & borrow	BankScope	+	+
OBS/TA	Off-balance sheet items to total assets	BankScope	+/-	+/-
NL/TDB	Net loans to total deposit & borrow	BankScope	-	+
NL/DSTF	Net loans to deposit funding	BankScope	-	+
ROE	Net profits before taxes to equity	BankScope	+/-	+/-
<i>Macroeconomic Conditions</i>				
GDP	annual growth of GDP per capita	WDI	+/-	
Inflation	Annual rate of consumer prices	WDI		
Real interest rate	Annual rate of Real interest	WDI		

**Table 3 Descriptive statistics**

Variable	Observations	Number of bank	Mean	Std. Dev.	Min	Max
<b>Panel A. Cross-country determinant of entry mode choice by foreign bank</b>						
Parent bank's Log (Total assets)	18,962	998	4.995	1.124	0.888	6.486
Parent bank's ROE	19,361	1,019	12.007	15.270	-192.236	462.574
Parent bank's screening	18,992	1,003	5.797	2.659	-6.426	10.565
Developing country	18,978	1,026	0.364	0.481	0.000	1.000
Market scale	19,646	1,034	91.459	62.944	0.000	320.531
Degree of foreign bank entry	19,646	1,034	1.169	1.516	-0.981	5.147
Transparency	19,646	1,034	5.361	1.899	1.000	10.000
Cultural distance (Power Distance Index)	19,646	1,034	42.862	30.537	6.000	91.000
Regulatory quality	19,646	1,034	0.715	0.694	-2.841	2.026
Degree of foreign bank competition	19,646	1,034	7.515	1.330	2.067	10.000
Banking competition (Panzer-Ross H)	19,646	1,034	1.354	42.640	-1.906	1993.000
Economic risk	19,646	1,034	1.958	0.452	1.000	4.000
Credit market regulations	19,646	1,034	7.710	1.935	0.000	10.005
Foreign bank's log (Total assets)	19,418	1,022	2.914	0.782	-0.928	6.057
Foreign bank's ROE	19,494	1,026	10.295	32.897	-666.667	937.500
Foreign bank's screening	19,646	1,034	58.963	379.309	0.000	36457.000
Growth rate of GDP in host country	19,646	1,034	1.926	4.880	-46.892	90.470
Inflation rate in host country	19,646	1,034	29.916	398.142	-100.000	24411.030
Real interest rate in host country	19,646	1,034	4.869	14.391	-96.870	578.232
<b>Panel B. Post-entering performance for foreign banks</b>						
Net interest Margins (NIMs)	18,734	986	4.898	28.462	-866.667	800.000
ROA	19,513	1,027	1.386	3.782	-182.331	71.197
ROE	19,494	1,026	10.295	32.897	-666.667	937.500
TGR (Cost Efficiency)	19,646	1,034	0.372	0.404	0.001	1.000
TGR (Profit Efficiency)	19,646	1,034	0.721	0.185	0.500	1.000
Equity/Total Assets	19,095	1,005	17.300	21.299	-46.032	920.000
Capfunds/Total Assets	12,597	663	15.424	15.621	-38.849	521.053
Capfunds/Liabilities	11,894	626	22.754	43.120	-27.979	922.143
Log(Total Assets)	18,297	963	2.881	0.987	-0.928	6.057
Loan Loss Provision /Equity	15,808	832	21.170	48.478	-838.462	891.259
Total Loans/Total Assets	17,252	908	0.448	0.248	-0.054	1.000
Liquid Assets/Total Deposits	15,409	811	54.037	79.308	0.000	961.012
Off-Balance/Total Assets	14,440	760	0.405	2.353	-0.453	91.446
Net Loans/Total deposits	15,029	791	61.621	45.544	-18.262	922.034
Net Loans/Deposit Funding	17,708	932	74.961	87.288	-170.043	969.697
Banking Competition(PR-H) in host country	19,646	1,034	1.354	42.640	-1.906	1993.000
Economic Risk in host country	19,646	1,034	1.958	0.452	1.000	4.000
GDP growth in host country	19,646	1,034	1.926	4.880	-46.892	90.470
Inflation Rate in host country	19,646	1,034	29.916	398.142	-100.000	24411.030
Real Interest Rate in host country	19,646	1,034	4.869	14.391	-96.870	578.232
Parent bank's Log (Total assets)	18,962	998	4.995	1.124	0.888	6.486
Parent bank's ROE	19,361	1,019	12.007	15.270	-192.236	462.574
Parent bank's screening	18,992	1,003	5.797	2.659	-6.426	10.565
GDP growth in home country	19,513	1,027	1.631	2.908	-30.986	16.236
Inflation Rate in home country	19,323	1,017	10.890	106.186	-9.798	4734.915
Real Interest Rate in home country	19,019	1,001	6.132	7.839	-91.724	81.016

**Table 4 Cross-country determinants of entry mode choice by foreign bank: Panel Multinomial Logit Model**

Independent variables	Model [1]				Model [2]			
	Greenfield Investment		Cross-border M&As		Greenfield Investment		Cross-border M&As	
	Coefficient	(Robust z-statistics)	Coefficient	(Robust z-statistics)	Coefficient	(Robust z-statistics)	Coefficient	(Robust z-statistics)
<b>Bank characteristics</b>								
Parent bank's Log (Total assets)	1.696***	(6.782)	1.291***	(5.120)	1.724***	(6.728)	1.350***	(5.235)
Parent bank's ROE	0.004	(0.720)	0.008	(1.279)	0.005	(0.788)	0.008	(1.411)
Parent bank's screening	-0.873***	(-7.511)	-0.747***	(-6.390)	-0.877***	(-7.560)	-0.754***	(-6.477)
<b>Host country characteristics</b>								
Developing country	1.044***	(3.677)	1.397***	(4.837)	0.972***	(3.148)	1.412***	(4.510)
Market scale	0.005**	(2.389)	0.003	(1.353)	0.008***	(3.100)	0.005**	(2.001)
Degree of foreign bank entry	0.578***	(2.972)	0.640***	(3.274)	0.511***	(2.690)	0.585***	(3.065)
Difference(Transparency)	-0.184**	(-2.443)	-0.111	(-1.452)	-0.191***	(-2.716)	-0.122*	(-1.717)
Difference(Cultural distance in Power Distance Index)	0.019***	(4.469)	0.014***	(3.266)	0.016***	(3.947)	0.012***	(2.895)
Regulatory quality					-0.072	(-0.331)	-0.245	(-1.121)
Degree of foreign bank competition					-0.124	(-1.505)	-0.002	(-0.025)
Banking competition (Panzer-Ross <i>H</i> statistics)					-0.000	(-0.838)	-0.002***	(-5.096)
Economic risk					-0.113	(-0.418)	-0.161	(-0.585)
Credit market regulations					-0.421***	(-3.820)	-0.271**	(-2.423)
<b>Control variables</b>								
Foreign bank's log (Total assets)	-0.331***	(-2.708)	0.637***	(5.045)	-0.260**	(-2.264)	0.696***	(5.844)
Foreign bank's ROE	0.000	(0.069)	-0.002	(-0.667)	0.000	(0.101)	-0.002	(-0.749)
Foreign bank's screening	0.001**	(2.078)	0.001**	(2.389)	0.001**	(2.055)	0.001**	(2.320)
Growth rate of GDP in host country	-0.084***	(-5.047)	-0.081***	(-4.725)	-0.081***	(-4.878)	-0.085***	(-4.990)
Inflation rate in host country	0.001	(0.567)	0.001	(0.614)	-0.000	(-0.057)	0.000	(0.004)
Real interest rate in host country	0.011	(0.800)	0.009	(0.680)	0.002	(0.122)	0.002	(0.156)
Constant	0.957	(1.478)	-1.844***	(-2.796)	5.244***	(5.185)	0.415	(0.399)
Observations	10,087			10,087				
Number of bank	945			945				
Pseudo $R^2$	0.099			0.111				
Log-likelihood function	-5,495			-5,422				
$\chi^2$	1,069***			1,237***				

Note: Based category of entry model choice is joint venture. \*, \*\*, \*\*\* indicated statistically significant at 10%, 5%, and 1%, respectively.

$$\text{Empirical specification: } EntryMode_{i,j,t} = \alpha_0 + \beta_0 Screen_{i,j,t}^{Home} + \beta_1 DC_{j,t}^{Host} + \beta_2 MarketScale_{j,t}^{Host} + \beta_3 Entry_{j,t}^{Host} + \sum_h \gamma_h X_{i,j,t}^h + \varepsilon_{i,j,t}$$

**Table 5 Post-entering performance for foreign banks: Profitability measures=Net Interest Margins (NIMs)**

Independent Variables	Baseline Model	Post-Entry Period (T0=entry year)											
		(T0~T+1)	(T0~T+2)	(T0~T+3)	(T0~T+4)	(T0~T+5)	(T0~T+6)	(T0~T+7)	(T0~T+8)	(T0~T+9)	(T0~T+10)	(T0~T+11)	(T0~T+12)
NIMs <sub>t-1</sub>	0.942*** (259.901)	0.942*** (258.475)	0.938*** (243.091)	0.933*** (226.219)	0.928*** (210.307)	0.913*** (194.627)	0.906*** (177.025)	0.905*** (171.114)	0.901*** (161.273)	0.897*** (149.503)	0.904*** (141.471)	0.895*** (137.579)	0.909*** (147.857)
Probability (Cross-Border M&A)	0.001 (0.133)	0.003 (0.297)	0.003 (0.276)	0.002 (0.201)	0.005 (0.383)	0.005 (0.378)	0.003 (0.177)	0.014 (0.876)	0.007 (0.384)	0.014 (0.713)	0.032 (1.610)	0.021 (0.928)	0.009 (0.376)
Probability (Greenfield Investment)	-0.006 (-0.300)	-0.006 (-0.288)	-0.007 (-0.320)	-0.009 (-0.429)	-0.010 (-0.445)	-0.019 (-0.785)	-0.016 (-0.613)	-0.012 (-0.455)	-0.022 (-0.774)	-0.019 (-0.635)	-0.046 (-1.380)	-0.037 (-1.061)	-0.007 (-0.197)
Probability (Joint Venture)	0.132 (1.050)	0.131 (1.050)	0.146 (1.076)	0.161 (1.153)	0.179 (1.229)	0.213 (1.406)	0.247 (1.557)	0.238 (1.471)	0.243 (1.443)	0.251 (1.414)	0.234 (1.349)	0.249 (1.293)	0.288* (1.647)
Cross-Border M&A		-0.015 (-0.712)	-0.011 (-0.565)	-0.010 (-0.534)	-0.017 (-0.890)	-0.010 (-0.550)	-0.009 (-0.460)	-0.030 (-1.470)	-0.017 (-0.750)	-0.036 (-1.479)	-0.043* (-1.656)	-0.045 (-1.544)	-0.049 (-1.538)
Greenfield Investment		0.003 (0.074)	0.005 (0.136)	-0.014 (-0.461)	-0.010 (-0.348)	-0.032 (-1.098)	-0.007 (-0.253)	0.015 (0.557)	-0.005 (-0.195)	0.001 (0.050)	-0.049 (-1.613)	-0.009 (-0.343)	-0.061** (-2.385)
<b>Host country characteristics</b>													
Equity/Total Assets	0.012*** (5.788)	0.012*** (5.814)	0.013*** (5.906)	0.013*** (5.897)	0.014*** (5.935)	0.015*** (5.996)	0.014*** (5.450)	0.014*** (5.224)	0.015*** (5.296)	0.014*** (5.010)	0.015*** (4.900)	0.013*** (4.480)	0.012*** (4.054)
Capfunds/Total Assets	-0.002 (-0.836)	-0.002 (-0.882)	-0.002 (-0.872)	-0.002 (-0.867)	-0.002 (-0.839)	-0.002 (-0.508)	-0.002 (-0.584)	-0.002 (-0.613)	0.000 (0.022)	-0.001 (-0.273)	0.005 (1.189)	-0.006* (-1.645)	-0.001 (-0.398)
Capfunds/Liabilities	-0.002** (-2.508)	-0.002** (-2.477)	-0.002** (-2.524)	-0.002** (-2.511)	-0.002** (-2.511)	-0.002** (-2.362)	-0.002** (-2.094)	-0.002** (-2.180)	-0.003*** (-2.952)	-0.003*** (-2.167)	-0.004** (-2.502)	-0.000 (-0.362)	-0.003** (-2.462)
Log(Total Assets)	-0.029*** (-4.811)	-0.030*** (-4.760)	-0.032*** (-4.896)	-0.034*** (-4.883)	-0.037*** (-5.033)	-0.043*** (-5.643)	-0.052*** (-6.264)	-0.049*** (-5.678)	-0.052*** (-5.474)	-0.048*** (-4.775)	-0.044*** (-4.105)	-0.052*** (-4.543)	-0.058*** (-5.539)
Loan Loss Provision /Equity	-0.000*** (-3.219)	-0.000*** (-3.176)	-0.000*** (-3.032)	-0.000*** (-2.813)	-0.000*** (-2.761)	-0.000** (-2.550)	-0.000*** (-2.797)	-0.001*** (-3.172)	-0.000** (-2.236)	-0.000 (-1.480)	-0.000 (-1.327)	-0.000 (-1.425)	-0.000 (-0.510)
Total Loans/Total Assets	0.109 (1.446)	0.110 (1.462)	0.128 (1.617)	0.135 (1.621)	0.153* (1.741)	0.253*** (2.871)	0.265*** (2.897)	0.297*** (3.072)	0.342*** (3.385)	0.306*** (2.952)	0.277** (2.255)	0.440*** (4.016)	0.518*** (4.901)
Liquid Assets/Total Deposits	-0.000 (-0.833)	-0.000 (-0.903)	-0.000 (-0.594)	-0.000 (-0.569)	-0.000 (-0.500)	-0.000 (-0.389)	-0.000 (-0.467)	-0.000 (-0.020)	0.000 (0.494)	-0.000 (-0.686)	0.000 (0.277)	0.001 (1.501)	0.002*** (4.896)
Off-Balance/Total Assets	-0.009** (-2.083)	-0.009** (-2.070)	-0.009* (-1.951)	-0.010* (-1.912)	-0.011* (-1.860)	-0.012* (-1.823)	-0.015** (-2.044)	-0.016** (-2.308)	-0.007 (-0.941)	-0.003 (-0.355)	0.006 (0.667)	0.003 (0.736)	0.003 (0.869)
Net Loans/Total deposits	0.001 (1.243)	0.001 (1.203)	0.001 (1.179)	0.001 (1.228)	0.001 (1.199)	0.000 (0.450)	0.001 (0.663)	0.001 (0.755)	0.000 (0.452)	0.001 (0.593)	-0.000 (-0.133)	0.000 (0.409)	-0.001 (-1.021)
Net Loans/Deposit Funding	-0.000 (-0.350)	-0.000 (-0.312)	-0.000 (-0.401)	-0.000 (-0.520)	-0.000 (-0.576)	-0.000 (-0.633)	-0.000 (-0.601)	-0.000 (-0.650)	-0.000 (-0.363)	-0.000 (-0.526)	0.000 (0.515)	-0.000 (-0.717)	0.000 (0.570)
Banking Competition(PR-H)	0.000 (0.093)	0.000 (0.100)	0.015 (1.361)	0.018 (1.521)	0.022* (1.771)	0.024* (1.877)	0.032** (2.299)	0.026* (1.888)	0.029** (2.004)	0.038** (2.420)	0.040** (2.362)	0.032** (2.119)	0.032** (2.049)
Economic Risk	0.050*** (4.344)	0.051*** (4.367)	0.056*** (4.604)	0.065*** (5.034)	0.074*** (5.475)	0.091*** (6.296)	0.109*** (7.069)	0.098*** (6.108)	0.119*** (6.839)	0.131*** (7.073)	0.158*** (7.616)	0.162*** (7.570)	0.203*** (8.760)
GDP growth	-0.001 (-0.502)	-0.001 (-0.466)	-0.001 (-0.609)	-0.001 (-0.538)	-0.001 (-0.698)	-0.003 (-1.406)	-0.003 (-1.402)	-0.001 (-0.667)	-0.002 (-0.771)	-0.001 (-0.434)	-0.003 (-1.178)	-0.002 (-0.943)	-0.002 (-1.058)
Inflation Rate	0.000 (1.328)	0.000 (1.357)	0.000 (1.501)	0.000 (1.389)	0.000 (1.354)	0.000 (1.457)	0.001 (1.511)	0.001 (1.349)	0.001 (1.227)	0.001 (1.118)	0.000 (0.837)	0.000 (0.628)	0.000 (0.599)
Real Interest Rate	0.000 (0.415)	0.000 (0.482)	0.000 (0.541)	0.001 (0.818)	0.001 (0.982)	0.001 (1.138)	0.002 (1.415)	0.002 (1.424)	0.002 (1.353)	0.002 (1.378)	0.003 (1.443)	0.000 (0.075)	0.002 (1.365)
<b>Home country characteristics</b>													
Parent bank's Log (Total assets)	-0.025*** (-2.801)	-0.025*** (-2.717)	-0.025*** (-2.681)	-0.023** (-2.290)	-0.022** (-2.110)	-0.027** (-2.360)	-0.029** (-2.424)	-0.034*** (-2.736)	-0.026** (-1.970)	-0.037*** (-2.696)	-0.017 (-1.118)	-0.028* (-1.866)	-0.010 (-0.675)
Parent bank's ROE	0.000 (1.513)	0.000 (1.584)	0.000 (1.492)	0.000 (1.290)	0.000 (1.259)	0.001 (1.555)	0.001 (1.562)	0.001 (1.567)	0.000 (1.129)	0.000 (1.279)	0.000 (0.560)	0.000 (1.206)	0.000 (0.995)
Parent bank's screening	0.019*** (5.790)	0.019*** (5.701)	0.020*** (5.615)	0.020*** (5.337)	0.020*** (5.260)	0.024*** (5.826)	0.027*** (6.247)	0.029*** (6.313)	0.027*** (5.692)	0.030*** (6.117)	0.023*** (4.681)	0.027*** (5.347)	0.023*** (4.493)
GDP growth	0.008*** (4.529)	0.009*** (4.578)	0.009*** (4.525)	0.010*** (4.521)	0.011*** (4.615)	0.012*** (4.862)	0.014*** (5.318)	0.013*** (5.058)	0.015*** (5.451)	0.016*** (5.427)	0.017*** (5.351)	0.017*** (5.304)	0.016*** (5.077)
Inflation Rate	-0.000 (-0.130)	-0.000 (-0.126)	0.000 (0.017)	0.001** (1.992)	0.002** (2.186)	0.001** (2.148)	0.002** (2.037)	0.002* (1.879)	0.002** (2.105)	0.002** (2.240)	0.002** (1.971)	0.001 (1.180)	0.001 (1.464)
Real Interest Rate	-0.001 (-1.084)	-0.001 (-1.032)	-0.001 (-1.002)	-0.001 (-1.142)	-0.001 (-1.130)	-0.001 (-1.353)	-0.001 (-1.321)	-0.002 (-1.354)	-0.003** (-1.997)	-0.003** (-2.387)	-0.001 (-0.856)	-0.002 (-0.921)	-0.002 (-0.930)
Constant	0.037 (0.774)	0.034 (0.717)	0.023 (0.459)	0.002 (0.037)	-0.012 (-0.221)	-0.014 (-0.240)	-0.012 (-0.185)	0.002 (0.036)	-0.082 (-1.191)	-0.038 (-0.523)	-0.230*** (-2.844)	-0.127* (-1.749)	-0.318*** (-3.989)
Observations	8,461	8,461	8,021	7,556	7,089	6,617	6,145	5,673	5,202	4,730	4,258	3,786	3,316
Number of bank	485	485	485	485	484	484	484	484	484	484	484	484	484

Note: \*, \*\*, \*\*\* indicated statistically significant at 10%, 5%, and 1%, respectively. Empirical specification:

$$Profit_{i,j,t} = \alpha_1 \Phi(EntryMode_{i,j,t}^{M\&A}) + \alpha_2 \Phi(EntryMode_{i,j,t}^{GF}) + \alpha_3 \Phi(EntryMode_{i,j,t}^{JV}) + \sum_{h=1}^{12} \beta_h \times T_{t0-t+h} \times [\Phi(EntryMode_{i,j,t}^{M\&A}) + \Phi(EntryMode_{i,j,t}^{GF})] + \sum_k \delta_k HostContrls_{i,j,t} + \sum_p \phi_p HomeContrls_{i,j,t} + \lambda_t + \pi_j + \mu_{i,j,t}$$

**Table 6 Post-entering performance for foreign banks: Profitability measures=Return on Average Assets (ROA)**

Independent Variables	Baseline Model	Post-Entry Period (T0=entry year)											
		(T0-T+1)	(T0-T+2)	(T0-T+3)	(T0-T+4)	(T0-T+5)	(T0-T+6)	(T0-T+7)	(T0-T+8)	(T0-T+9)	(T0-T+10)	(T0-T+11)	(T0-T+12)
ROA <sub>t-1</sub>	0.586*** (65.106)	0.586*** (64.951)	0.574*** (61.628)	0.558*** (57.974)	0.540*** (54.090)	0.522*** (51.679)	0.468*** (45.525)	0.472*** (43.468)	0.439*** (39.520)	0.375*** (33.739)	0.418*** (35.918)	0.370*** (32.782)	0.361*** (28.900)
Probability (Cross-Border M&A)	-0.009 (-0.524)	0.006 (0.349)	0.019 (0.950)	0.022 (1.047)	0.027 (1.158)	0.046* (1.878)	0.077*** (2.920)	0.056** (2.014)	0.072** (2.448)	0.091*** (2.686)	0.108*** (3.268)	0.144*** (4.001)	0.156*** (4.157)
Probability (Greenfield Investment)	0.108*** (3.031)	0.110*** (2.977)	0.087** (2.228)	0.082** (1.973)	0.061 (1.412)	0.013 (0.298)	-0.039 (-0.800)	-0.046 (-0.948)	-0.036 (-0.708)	-0.077 (-1.362)	-0.114** (-2.117)	-0.099* (-1.679)	-0.101 (-1.632)
Probability (Joint Venture)	0.332* (1.887)	0.330* (1.851)	0.327* (1.772)	0.326* (1.758)	0.318* (1.657)	0.342* (1.669)	0.353 (1.509)	0.340 (1.394)	0.398 (1.548)	0.426 (1.584)	0.515** (1.996)	0.603** (2.251)	0.671** (2.432)
Cross-Border M&A	-0.091** (-2.009)	-0.082** (-2.057)	-0.076** (-2.026)	-0.068* (-1.877)	-0.093*** (-2.606)	-0.133*** (-3.659)	-0.078** (-2.087)	-0.125*** (-3.319)	-0.131*** (-3.081)	-0.155*** (-3.821)	-0.204*** (-4.701)	-0.202*** (-4.641)	
Greenfield Investment	-0.144** (-2.424)	-0.131** (-2.536)	-0.129*** (-2.784)	-0.111** (-2.524)	-0.179*** (-4.212)	-0.229*** (-5.187)	-0.138*** (-3.548)	-0.127*** (-3.271)	-0.133*** (-3.351)	-0.162*** (-4.404)	-0.168*** (-4.490)	-0.145*** (-3.775)	
<b>Host country characteristics</b>													
Equity/Total Assets	0.034*** (9.868)	0.032*** (9.453)	0.034*** (9.542)	0.036*** (9.659)	0.039*** (9.934)	0.040*** (10.027)	0.042*** (10.195)	0.043*** (10.452)	0.045*** (10.615)	0.044*** (10.099)	0.045*** (10.591)	0.041*** (9.874)	0.047*** (10.446)
Capfunds/Total Assets	-0.004 (-1.132)	-0.003 (-0.922)	-0.003 (-0.873)	-0.003 (-0.837)	-0.003 (-0.755)	-0.003 (-0.693)	-0.003 (-0.685)	-0.003 (-0.652)	-0.002 (-0.399)	-0.007 (-1.595)	0.008 (1.513)	-0.003 (-0.573)	-0.004 (-0.663)
Capfunds/Liabilities	-0.005*** (-4.454)	-0.005*** (-4.445)	-0.005*** (-4.514)	-0.005*** (-4.560)	-0.006*** (-4.548)	-0.006*** (-4.362)	-0.006*** (-4.506)	-0.006*** (-4.512)	-0.007*** (-4.679)	-0.005*** (-4.545)	-0.010*** (-4.990)	-0.007*** (-4.436)	-0.008*** (-4.892)
Log(Total Assets)	-0.049*** (-4.251)	-0.052*** (-4.484)	-0.056*** (-4.632)	-0.059*** (-4.633)	-0.056*** (-4.204)	-0.056*** (-4.168)	-0.063*** (-4.318)	-0.054*** (-3.633)	-0.061*** (-3.941)	-0.079*** (-4.665)	-0.037** (-2.199)	-0.065*** (-4.002)	-0.041** (-2.359)
Loan Loss Provision /Equity	-0.006*** (-24.741)	-0.006*** (-24.437)	-0.007*** (-24.237)	-0.007*** (-24.360)	-0.007*** (-24.134)	-0.007*** (-24.916)	-0.008*** (-27.079)	-0.008*** (-26.103)	-0.008*** (-25.077)	-0.007*** (-20.717)	-0.010*** (-27.520)	-0.011*** (-29.330)	-0.011*** (-29.581)
Total Loans/Total Assets	0.191** (1.994)	0.200** (2.033)	0.225** (2.158)	0.254** (2.290)	0.283** (2.430)	0.257** (2.105)	0.297** (2.266)	0.333** (2.509)	0.370*** (2.833)	0.451*** (3.665)	0.341** (2.507)	0.548*** (4.100)	0.583*** (4.039)
Liquid Assets/Total Deposits	0.001*** (2.840)	0.001*** (3.068)	0.002*** (3.334)	0.002*** (3.496)	0.002*** (3.581)	0.002*** (3.462)	0.002*** (3.727)	0.002*** (3.986)	0.002*** (4.058)	0.002*** (3.482)	0.002*** (3.289)	0.003*** (5.143)	0.004*** (6.330)
Off-Balance/Total Assets	-0.017*** (-4.259)	-0.017*** (-4.799)	-0.019*** (-5.329)	-0.021*** (-6.990)	-0.021*** (-5.887)	-0.020*** (-5.877)	-0.022*** (-6.231)	-0.023*** (-5.199)	-0.020*** (-3.471)	-0.018** (-2.518)	-0.027*** (-7.083)	-0.030*** (-5.955)	-0.031*** (-4.955)
Net Loans/Total deposits	-0.000 (-0.530)	-0.000 (-0.579)	-0.000 (-0.589)	-0.001 (-0.721)	-0.001 (-0.855)	-0.001 (-0.700)	-0.001 (-0.768)	-0.001 (-0.727)	-0.001 (-0.929)	-0.001 (-1.079)	-0.000 (-0.154)	0.000 (0.079)	0.000 (0.043)
Net Loans/Deposit Funding	-0.001** (-2.493)	-0.001** (-2.466)	-0.001** (-2.339)	-0.001** (-2.200)	-0.001** (-2.057)	-0.001* (-1.894)	-0.001 (-1.451)	-0.001 (-2.436)	-0.001** (-2.472)	-0.001** (-2.734)	-0.001*** (-2.611)	-0.001*** (-3.796)	-0.001*** (-3.512)
Banking Competition(PR-H)	-0.000 (-0.497)	-0.000 (-0.353)	0.033 (1.384)	0.038 (1.534)	0.033 (1.291)	0.022 (0.859)	0.011 (0.399)	0.022 (0.784)	0.025 (0.884)	0.022 (0.735)	0.045 (1.583)	0.024 (0.787)	0.039 (1.217)
Economic Risk	0.064*** (3.484)	0.065*** (3.518)	0.064*** (3.353)	0.068*** (3.516)	0.072*** (3.574)	0.081*** (3.904)	0.088*** (4.061)	0.107*** (4.666)	0.090*** (3.637)	0.054** (2.064)	0.119*** (4.545)	0.139*** (4.993)	0.191*** (6.257)
GDP growth	0.005** (2.533)	0.005** (2.502)	0.005** (2.420)	0.004** (2.076)	0.005** (2.271)	0.011*** (4.027)	0.017*** (5.508)	0.017*** (5.273)	0.022*** (6.420)	0.024*** (6.372)	0.022*** (6.188)	0.020*** (5.484)	0.022*** (5.807)
Inflation Rate	0.000 (0.386)	0.000 (0.321)	0.000 (0.005)	0.000 (0.003)	0.000 (0.005)	0.000 (0.188)	-0.000 (-0.263)	-0.000 (-0.157)	-0.000 (-0.032)	-0.000 (-0.240)	-0.000 (-0.146)	0.000 (0.115)	0.000 (0.042)
Real Interest Rate	-0.001 (-0.639)	-0.001 (-0.639)	-0.001 (-0.796)	-0.001 (-0.772)	-0.001 (-0.713)	-0.002 (-1.505)	-0.000 (-0.387)	-0.000 (-0.291)	-0.001 (-0.490)	0.003* (1.646)	0.001 (0.540)	-0.001 (-0.463)	0.000 (0.044)
<b>Home country characteristics</b>													
Parent bank's Log (Total assets)	0.098*** (5.700)	0.099*** (5.664)	0.103*** (5.693)	0.106*** (5.511)	0.103*** (5.151)	0.096*** (4.699)	0.097*** (4.446)	0.090*** (4.083)	0.087*** (3.773)	0.089*** (3.554)	0.077*** (3.371)	0.082*** (3.429)	0.065*** (2.615)
Parent bank's ROE	0.007*** (8.631)	0.007*** (8.694)	0.007*** (8.333)	0.007*** (7.929)	0.007*** (7.503)	0.007*** (7.505)	0.006*** (7.042)	0.006*** (6.615)	0.006*** (6.428)	0.007*** (7.018)	0.005*** (5.479)	0.006*** (6.154)	0.006*** (5.884)
Parent bank's screening	-0.002 (-0.331)	-0.002 (-0.362)	-0.003 (-0.405)	-0.002 (-0.282)	-0.001 (-0.113)	0.001 (0.109)	0.003 (0.400)	0.007 (0.770)	0.011 (1.191)	0.015 (1.510)	0.016* (1.822)	0.019** (2.070)	0.022** (2.312)
GDP growth	0.021** (6.724)	0.022*** (6.842)	0.025*** (7.351)	0.028*** (7.771)	0.029*** (7.942)	0.029*** (7.857)	0.032*** (7.946)	0.033*** (7.856)	0.032*** (7.203)	0.034*** (6.783)	0.035*** (7.939)	0.032*** (6.705)	0.031*** (6.284)
Inflation Rate	-0.000 (-0.591)	-0.000 (-0.522)	-0.000 (-0.908)	-0.001 (-0.658)	-0.002 (-1.359)	-0.002 (-1.375)	-0.002 (-1.639)	-0.002 (-1.145)	-0.002 (-1.146)	-0.001 (-1.096)	-0.001 (-0.989)	-0.002 (-1.643)	-0.002 (-1.305)
Real Interest Rate	-0.003** (-2.100)	-0.003** (-2.089)	-0.002 (-1.564)	-0.002 (-1.222)	-0.003 (-1.517)	-0.002 (-1.138)	-0.003 (-1.350)	-0.002 (-0.981)	-0.004* (-1.654)	-0.007*** (-2.839)	-0.005** (-2.080)	-0.008*** (-3.164)	-0.007** (-2.538)
Constant	-0.221** (-2.563)	-0.223** (-2.571)	-0.269*** (-2.934)	-0.295*** (-3.051)	-0.313*** (-3.087)	-0.292*** (-2.759)	-0.282** (-2.469)	-0.378*** (-3.287)	-0.301** (-2.509)	-0.151 (-1.159)	-0.443*** (-3.676)	-0.329*** (-2.587)	-0.519*** (-3.852)
Observations	8,461	8,461	8,021	7,556	7,089	6,617	6,145	5,673	5,202	4,730	4,258	3,786	3,316
Number of bank	485	485	485	485	484	484	484	484	484	484	484	484	484

Note: \*, \*\*, \*\*\* indicated statistically significant at 10%, 5%, and 1%, respectively. Empirical specification:

$$Profit_{i,j,t} = \alpha_1 \Phi(EntryMode_{i,j,t}^{M\&A}) + \alpha_2 \Phi(EntryMode_{i,j,t}^{GF}) + \alpha_3 \Phi(EntryMode_{i,j,t}^{JV}) + \sum_{h=1}^{12} \beta_h \times T_{i0-t+h} \times [\Phi(EntryMode_{i,j,t}^{M\&A}) + \Phi(EntryMode_{i,j,t}^{GF})] + \sum_k \delta_k HostContrls_{i,j,t} + \sum_p \phi_p HomeContrls_{i,j,t} + \lambda_t + \pi_j + \mu_{i,j,t}$$



**Table 7 Post-entering performance for foreign banks: Profitability measures=Return on Average Equity (ROE)**

Independent Variables	Baseline Model	Post-Entry Period (T0=entry year)											
		(T0-T+1)	(T0-T+2)	(T0-T+3)	(T0-T+4)	(T0-T+5)	(T0-T+6)	(T0-T+7)	(T0-T+8)	(T0-T+9)	(T0-T+10)	(T0-T+11)	(T0-T+12)
ROE <sub>t-1</sub>	0.520*** (58.749)	0.519*** (58.677)	0.510*** (55.998)	0.501*** (53.200)	0.489*** (50.289)	0.478*** (48.710)	0.453*** (45.636)	0.457*** (44.293)	0.425*** (40.681)	0.411*** (38.717)	0.456*** (40.056)	0.446*** (37.689)	0.399*** (32.376)
Probability (Cross-Border M&A)	0.353*** (2.651)	0.385*** (2.684)	0.488*** (3.161)	0.544*** (3.257)	0.554*** (3.039)	0.600*** (3.187)	0.613*** (3.182)	0.423** (2.006)	0.671*** (2.912)	0.747*** (3.009)	0.636** (2.479)	0.552** (1.960)	0.442 (1.503)
Probability (Greenfield Investment)	-0.651** (-2.343)	-0.691** (-2.493)	-0.807*** (-2.813)	-0.858*** (-2.823)	-0.890*** (-2.756)	-1.170*** (-3.438)	-1.658*** (-4.645)	-1.676*** (-4.505)	-1.547*** (-3.811)	-2.010*** (-4.726)	-2.023*** (-4.579)	-1.843*** (-3.841)	-2.050*** (-3.888)
Probability (Joint Venture)	2.451** (2.473)	2.442** (2.467)	2.347** (2.296)	2.320** (2.163)	2.356** (2.115)	2.155* (1.945)	2.032* (1.851)	2.233* (1.826)	2.850** (2.160)	2.625** (2.004)	2.602* (1.887)	3.073** (2.106)	3.881** (2.373)
Cross-Border M&A		-0.231 (-0.660)	-0.317 (-1.031)	-0.436 (-1.506)	-0.391 (-1.365)	-0.288 (-1.029)	-0.193 (-0.688)	0.250 (0.854)	-0.212 (-0.687)	-0.253 (-0.793)	0.054 (0.161)	0.261 (0.714)	0.692* (1.804)
Greenfield Investment		-1.492*** (-2.597)	-1.551*** (-3.226)	-1.536*** (-3.502)	-1.462*** (-3.619)	-1.291*** (-3.304)	-1.900*** (-4.877)	-1.314*** (-3.435)	-0.857** (-2.261)	-0.940** (-2.567)	-0.601* (-1.707)	-0.464 (-1.304)	-0.518 (-1.371)
<b>Host country characteristics</b>													
Equity/Total Assets	0.005 (0.267)	0.003 (0.153)	0.005 (0.241)	0.009 (0.399)	0.012 (0.529)	0.029 (1.265)	0.029 (1.252)	0.033 (1.461)	0.031 (1.343)	0.024 (1.117)	0.024 (1.154)	0.022 (0.976)	0.018 (0.776)
Capfunds/Total Assets	-0.074*** (-3.211)	-0.072*** (-3.154)	-0.075*** (-3.161)	-0.082*** (-3.287)	-0.091*** (-3.407)	-0.110*** (-4.063)	-0.099*** (-3.627)	-0.123*** (-4.464)	-0.151*** (-5.207)	-0.111*** (-3.874)	-0.095*** (-3.364)	-0.123*** (-4.155)	-0.137*** (-4.261)
Capfunds/Liabilities	-0.011** (-2.088)	-0.011** (-2.087)	-0.011** (-2.159)	-0.011** (-2.029)	-0.011* (-1.902)	-0.010* (-1.672)	-0.013** (-2.076)	-0.012* (-1.651)	-0.008 (-1.010)	-0.004 (-0.679)	-0.004 (-0.571)	0.009 (1.327)	0.010 (1.334)
Log(Total Assets)	-0.668*** (-7.648)	-0.685*** (-7.838)	-0.705*** (-7.766)	-0.716*** (-7.479)	-0.717*** (-7.056)	-0.666*** (-6.360)	-0.658*** (-5.935)	-0.787*** (-6.780)	-0.827*** (-6.708)	-0.548*** (-4.326)	-0.550*** (-4.356)	-0.616*** (-4.505)	-0.710*** (-4.777)
Loan Loss Provision /Equity	-0.081*** (-32.098)	-0.082*** (-32.070)	-0.084*** (-31.704)	-0.086*** (-31.300)	-0.088*** (-31.159)	-0.088*** (-30.779)	-0.085*** (-29.912)	-0.083*** (-28.085)	-0.084*** (-26.810)	-0.109*** (-29.293)	-0.099*** (-26.799)	-0.106*** (-26.240)	-0.116*** (-26.636)
Total Loans/Total Assets	1.298* (1.954)	1.243* (1.849)	1.208* (1.714)	1.157 (1.563)	1.204 (1.541)	0.918 (1.143)	0.972 (1.152)	1.088 (1.290)	1.253 (1.573)	2.948*** (3.988)	1.910*** (2.674)	1.953** (2.536)	2.319*** (2.884)
Liquidy Assets/Total Deposits	0.012*** (3.646)	0.012*** (3.737)	0.012*** (3.785)	0.013*** (3.721)	0.014*** (3.818)	0.012*** (3.272)	0.014*** (3.476)	0.014*** (3.531)	0.013*** (3.325)	0.008** (2.117)	0.004 (1.176)	0.005 (1.321)	0.009** (2.117)
Off-Balance/Total Assets	-0.014 (-0.625)	-0.016 (-0.758)	-0.020 (-0.932)	-0.021 (-0.944)	-0.020 (-0.834)	-0.016 (-0.670)	-0.024 (-0.940)	-0.011 (-0.406)	0.018 (0.675)	-0.018 (-0.716)	-0.050 (-1.510)	-0.090*** (-3.868)	-0.119*** (-4.590)
Net Loans/Total deposits	0.007 (1.443)	0.007 (1.452)	0.008 (1.473)	0.009 (1.535)	0.009 (1.432)	0.010* (1.694)	0.009 (1.432)	0.013** (2.007)	0.012** (2.091)	0.012** (2.188)	0.011** (2.120)	0.012** (2.184)	0.011** (1.965)
Net Loans/Deposit Funding	-0.003 (-0.947)	-0.003 (-0.884)	-0.003 (-0.887)	-0.003 (-0.882)	-0.003 (-0.743)	-0.003 (-0.941)	-0.003 (-0.827)	-0.004 (-1.170)	-0.005 (-1.298)	-0.009** (-2.028)	-0.008* (-1.761)	-0.008* (-1.860)	-0.007* (-1.828)
Banking Competition(PR-H)	-0.001 (-0.291)	-0.000 (-0.195)	0.100 (0.533)	0.103 (0.530)	0.100 (0.491)	0.004 (0.019)	0.102 (0.470)	0.257 (1.155)	0.253 (1.096)	0.172 (0.704)	0.311 (1.292)	0.483* (1.815)	0.751*** (2.832)
Economic Risk	0.457*** (3.094)	0.464*** (3.129)	0.449*** (2.941)	0.490*** (3.103)	0.562*** (3.422)	0.645*** (3.824)	0.629*** (3.640)	0.975*** (5.226)	0.933*** (4.618)	0.967*** (4.578)	0.825*** (3.670)	0.943*** (3.852)	1.091*** (4.004)
GDP growth	0.086*** (5.237)	0.086*** (5.196)	0.087*** (5.033)	0.098*** (5.191)	0.105*** (5.176)	0.162*** (6.728)	0.186*** (7.118)	0.152*** (5.434)	0.204*** (6.778)	0.228*** (7.635)	0.255*** (8.373)	0.218*** (7.068)	0.252*** (7.492)
Inflation Rate	0.000 (0.808)	0.000 (0.854)	0.000 (0.532)	0.000 (0.304)	0.000 (0.076)	0.001 (0.532)	-0.000 (-0.040)	0.000 (0.007)	0.000 (0.086)	-0.001 (-0.228)	-0.000 (-0.104)	0.000 (0.151)	0.000 (0.148)
Real Interest Rate	-0.013** (-2.199)	-0.013** (-2.157)	-0.013** (-2.032)	-0.012* (-1.769)	-0.011 (-1.474)	-0.015* (-1.942)	-0.010 (-1.099)	-0.013 (-1.262)	-0.019 (-1.620)	-0.005 (-0.443)	-0.006 (-0.420)	-0.012 (-0.849)	-0.008 (-0.543)
<b>Home country characteristics</b>													
Parent bank's Log (Total assets)	0.197 (1.452)	0.193 (1.424)	0.169 (1.212)	0.159 (1.069)	0.122 (0.789)	0.092 (0.558)	0.142 (0.823)	0.158 (0.884)	0.114 (0.606)	-0.211 (-1.109)	-0.189 (-1.002)	-0.209 (-1.040)	-0.261 (-1.224)
Parent bank's ROE	0.088*** (13.243)	0.089*** (13.298)	0.089*** (12.802)	0.087*** (12.030)	0.086*** (11.532)	0.086*** (11.030)	0.078*** (9.609)	0.077*** (9.240)	0.079*** (9.115)	0.073*** (8.240)	0.069*** (7.660)	0.072*** (7.736)	0.082*** (8.151)
Parent bank's screening	0.171*** (3.523)	0.175*** (3.618)	0.193*** (3.885)	0.202*** (3.852)	0.217*** (3.987)	0.198*** (3.374)	0.204*** (3.308)	0.204*** (3.175)	0.235*** (3.500)	0.294*** (4.445)	0.292*** (4.368)	0.310*** (4.376)	0.359*** (4.774)
GDP growth	0.209*** (8.568)	0.214*** (8.729)	0.245*** (9.311)	0.256*** (9.144)	0.262*** (8.995)	0.238*** (7.832)	0.250*** (7.724)	0.282*** (8.153)	0.284*** (7.618)	0.258*** (6.961)	0.241*** (6.494)	0.227*** (5.978)	0.197*** (4.721)
Inflation Rate	-0.001 (-0.808)	-0.001 (-0.716)	-0.001 (-0.750)	-0.005 (-0.817)	-0.012 (-1.445)	-0.014 (-1.563)	-0.015 (-1.590)	-0.014 (-1.472)	-0.015 (-1.415)	-0.014 (-1.229)	-0.014 (-1.121)	-0.012 (-1.291)	-0.011 (-0.843)
Real Interest Rate	-0.035*** (-3.827)	-0.035*** (-3.783)	-0.029*** (-2.835)	-0.026** (-2.459)	-0.027** (-2.272)	-0.025* (-1.879)	-0.028* (-1.914)	-0.028* (-1.720)	-0.031* (-1.686)	-0.043** (-2.144)	-0.032 (-1.574)	-0.033 (-1.443)	-0.036 (-1.428)
Constant	4.209*** (6.178)	4.262*** (6.260)	4.319*** (6.051)	4.434*** (5.864)	4.588*** (5.723)	4.747*** (5.666)	4.412*** (5.038)	4.058*** (4.412)	5.063*** (5.187)	5.200*** (5.307)	5.012*** (5.044)	5.442*** (5.101)	5.758*** (5.106)
Observations	8,461	8,461	8,021	7,556	7,089	6,617	6,145	5,673	5,202	4,730	4,258	3,786	3,316
Number of bank	485	485	485	485	484	484	484	484	484	484	484	484	484

Note: \*, \*\*, \*\*\* indicated statistically significant at 10%, 5%, and 1%, respectively. Empirical specification:

$$Profit_{i,j,t} = \alpha_1 \Phi(EntryMode_{i,j,t}^{M\&A}) + \alpha_2 \Phi(EntryMode_{i,j,t}^{GF}) + \alpha_3 \Phi(EntryMode_{i,j,t}^{JV}) + \sum_{h=1}^{12} \beta_h \times T_{i0-t+h} \times [\Phi(EntryMode_{i,j,t}^{M\&A}) + \Phi(EntryMode_{i,j,t}^{GF})] + \sum_k \delta_k HostContrl_{i,j,t} + \sum_p \varphi_p HomeContrl_{i,j,t} + \lambda_i + \pi_j + \mu_{i,j,t}$$

**Table 8 Post-entering performance for foreign banks: Efficiency measures=TGR (Cost efficiency)**

Independent Variables	Baseline Model	Post-Entry Period (T0=entry year)											
		(T0~T+1)	(T0~T+2)	(T0~T+3)	(T0~T+4)	(T0~T+5)	(T0~T+6)	(T0~T+7)	(T0~T+8)	(T0~T+9)	(T0~T+10)	(T0~T+11)	(T0~T+12)
TGR (Cost efficiency) <sub>t-1</sub>	0.998*** (23.305)	0.998*** (23.305)	0.997*** (23.303)	0.997*** (23.303)	0.997*** (23.303)	0.997*** (23.303)	0.997*** (23.303)	0.997*** (23.303)	0.997*** (23.303)	0.997*** (23.303)	0.997*** (23.303)	0.997*** (23.303)	0.997*** (23.303)
Probability (Cross-Border M&A)	-0.000 (-0.438)	-0.000 (-1.340)	-0.000** (-2.390)	-0.000*** (-3.345)	-0.000*** (-4.520)	-0.000*** (-5.137)	-0.000*** (-5.484)	-0.000*** (-5.280)	-0.000*** (-5.357)	-0.000*** (-5.908)	-0.000*** (-5.562)	-0.000*** (-4.938)	0.000 (0.501)
Probability (Greenfield)	0.000*** (4.314)	0.000*** (4.165)	0.000*** (5.077)	0.000*** (4.425)	0.000*** (4.422)	0.000*** (3.574)	0.000*** (3.146)	0.000*** (3.574)	0.000*** (3.984)	0.000*** (3.218)	0.000*** (2.831)	0.000*** (2.375)	-0.000*** (-3.734)
Probability (Joint Venture)	0.000** (2.354)	0.000** (2.349)	0.000** (2.037)	0.000* (1.734)	0.000 (1.516)	0.000 (1.203)	0.000 (0.870)	0.000 (0.736)	0.000 (0.635)	0.000 (0.579)	0.000 (0.535)	0.000 (0.469)	-0.001 (-1.470)
Cross-Border M&A		0.000** (2.185)	0.000*** (3.363)	0.000*** (3.990)	0.000*** (5.136)	0.000*** (5.523)	0.000*** (5.336)	0.000*** (4.444)	0.000*** (3.877)	0.000*** (4.310)	0.000*** (3.202)	0.000** (2.159)	0.000*** (2.660)
Greenfield Investment		0.000 (0.103)	-0.000 (-0.005)	-0.000 (-0.851)	-0.000 (-1.021)	-0.000 (-1.431)	-0.000* (-1.661)	-0.000* (-1.771)	-0.000*** (-2.012)	-0.000*** (-2.585)	-0.000*** (-2.772)	-0.000*** (-2.836)	-0.000 (-0.550)
<b>Host country characteristics</b>													
Equity/Tassets	0.000*** (14.287)	0.000*** (14.212)	0.000*** (13.271)	0.000*** (12.805)	0.000*** (12.375)	0.000*** (11.563)	0.000*** (11.216)	0.000*** (10.195)	0.000*** (8.840)	0.000*** (8.249)	0.000*** (6.840)	0.000*** (5.382)	0.000 (0.013)
Capfunds/Totassets	-0.000*** (-10.092)	-0.000*** (-10.008)	-0.000*** (-8.655)	-0.000*** (-8.577)	-0.000*** (-8.249)	-0.000*** (-7.314)	-0.000*** (-6.914)	-0.000*** (-6.360)	-0.000*** (-5.552)	-0.000*** (-5.680)	-0.000*** (-5.251)	-0.000*** (-3.858)	0.000 (1.146)
Capfunds/Liabilities	0.000 (1.137)	0.000 (1.073)	0.000 (0.798)	0.000 (0.835)	0.000 (0.791)	0.000 (0.596)	0.000 (0.547)	0.000 (0.995)	0.000 (1.471)	0.000* (1.850)	0.000*** (2.706)	0.000* (1.870)	0.000*** (3.422)
Log(Total Assets)	0.001*** (61.947)	0.001*** (61.734)	0.001*** (65.630)	0.001*** (59.159)	0.001*** (56.054)	0.001*** (51.364)	0.001*** (46.468)	0.001*** (41.232)	0.001*** (35.799)	0.001*** (32.086)	0.001*** (28.479)	0.001*** (24.898)	0.001*** (22.088)
Loan Loss Provision /Equity	-0.000*** (-4.121)	-0.000*** (-4.139)	-0.000*** (-3.605)	-0.000*** (-3.443)	-0.000*** (-3.271)	-0.000*** (-3.335)	-0.000*** (-3.434)	-0.000*** (-3.297)	-0.000*** (-3.438)	-0.000*** (-3.686)	-0.000*** (-3.787)	-0.000*** (-3.374)	0.000 (1.068)
Total Loans/Total Assets	0.000*** (2.912)	0.000*** (2.899)	0.000** (2.114)	0.000** (2.201)	0.000** (2.180)	0.000** (2.289)	0.000** (2.275)	0.000 (1.613)	0.000 (1.047)	0.000 (1.156)	0.000 (1.560)	0.000 (1.366)	0.001*** (3.567)
Liquidity Assets/Total Deposits	-0.000** (-2.557)	-0.000** (-2.545)	-0.000*** (-2.835)	-0.000*** (-2.615)	-0.000** (-2.374)	-0.000* (-1.946)	-0.000* (-1.868)	-0.000** (-2.561)	-0.000*** (-3.146)	-0.000*** (-2.993)	-0.000*** (-2.401)	-0.000** (-1.719)	-0.000*** (-4.486)
Off-Balance/Total Assets	-0.000*** (-3.513)	-0.000*** (-3.427)	-0.000*** (-3.016)	-0.000*** (-2.912)	-0.000*** (-2.975)	-0.000*** (-3.141)	-0.000*** (-3.331)	-0.000*** (-3.319)	-0.000*** (-3.094)	-0.000*** (-2.595)	-0.000*** (-2.494)	-0.000*** (-1.677)	-0.000*** (-3.371)
Net Loans/Total deposits	0.000*** (5.180)	0.000*** (5.118)	0.000*** (4.553)	0.000*** (4.206)	0.000*** (3.938)	0.000*** (3.771)	0.000*** (4.084)	0.000*** (3.819)	0.000*** (3.147)	0.000*** (2.330)	0.000 (1.345)	0.000 (1.281)	-0.000*** (-3.915)
Net Loans/Deposit Funding	-0.000*** (-8.992)	-0.000*** (-8.873)	-0.000*** (-7.720)	-0.000*** (-7.244)	-0.000*** (-6.927)	-0.000*** (-6.879)	-0.000*** (-7.685)	-0.000*** (-7.504)	-0.000*** (-6.310)	-0.000*** (-4.967)	-0.000*** (-3.689)	-0.000*** (-3.019)	-0.000 (-1.003)
Banking Competition(PR-H)	0.000 (0.059)	0.000 (0.058)	-0.000*** (-5.923)	-0.000*** (-5.079)	-0.000*** (-4.484)	-0.000*** (-3.631)	-0.000*** (-2.315)	-0.000 (-0.475)	0.000 (0.249)	-0.000 (-1.584)	-0.000 (-1.492)	-0.000 (-1.255)	0.000 (1.628)
Economic Risk	0.000*** (12.467)	0.000*** (12.566)	0.000*** (12.716)	0.000*** (12.940)	0.000*** (13.755)	0.000*** (15.006)	0.000*** (16.454)	0.000*** (16.204)	0.000*** (15.496)	0.000*** (14.796)	0.000*** (14.515)	0.000*** (13.109)	-0.000 (-1.510)
GDP growth	0.000 (1.194)	0.000 (1.158)	0.000 (0.817)	0.000 (0.986)	0.000 (0.732)	0.000 (0.085)	-0.000 (-0.463)	-0.000 (-1.641)	-0.000 (-2.288)	-0.000 (-2.230)	-0.000 (-2.795)	-0.000 (-3.117)	-0.000 (-1.713)
Inflation Rate	0.000 (1.156)	0.000 (1.134)	0.000 (0.207)	-0.000 (-0.629)	-0.000 (-0.893)	-0.000 (-0.805)	-0.000 (-1.041)	-0.000 (-0.859)	-0.000 (-0.786)	-0.000 (-0.610)	-0.000 (-0.374)	0.000 (0.043)	0.000 (0.129)
Real Interest Rate	0.000*** (4.156)	0.000*** (4.111)	0.000*** (4.900)	0.000*** (4.516)	0.000*** (4.334)	0.000*** (3.548)	0.000*** (3.347)	0.000*** (2.718)	0.000*** (2.387)	0.000* (1.786)	0.000 (1.212)	0.000 (0.361)	-0.000** (-2.294)
<b>Home country characteristics</b>													
Parent bank's Log (Total assets)	-0.000 (-1.363)	-0.000 (-1.530)	-0.000** (-2.034)	-0.000** (-2.298)	-0.000** (-2.167)	-0.000 (-1.636)	-0.000 (-1.022)	-0.000 (-0.620)	-0.000 (-0.373)	-0.000* (-1.734)	-0.000 (-1.125)	-0.000 (-0.169)	-0.000 (-1.239)
Parent bank's ROE	-0.000*** (-12.054)	-0.000*** (-12.022)	-0.000*** (-10.476)	-0.000*** (-9.997)	-0.000*** (-9.427)	-0.000*** (-8.926)	-0.000*** (-8.458)	-0.000*** (-8.197)	-0.000*** (-7.397)	-0.000*** (-6.228)	-0.000*** (-5.852)	-0.000*** (-5.731)	0.000** (2.276)
Parent bank's screening	0.000*** (6.287)	0.000*** (6.278)	0.000*** (6.534)	0.000*** (6.087)	0.000*** (5.424)	0.000*** (4.265)	0.000*** (2.994)	0.000** (2.073)	0.000 (1.214)	0.000 (1.384)	0.000 (0.562)	-0.000 (-0.291)	0.000*** (2.946)
GDP growth	0.000** (2.116)	0.000** (2.103)	0.000** (2.404)	0.000** (2.389)	0.000** (2.510)	0.000*** (2.603)	0.000*** (2.342)	0.000*** (2.616)	0.000*** (2.576)	0.000*** (2.011)	0.000*** (2.470)	0.000*** (3.378)	0.000*** (2.976)
Inflation Rate	0.000 (0.301)	0.000 (0.297)	0.000 (0.214)	-0.000 (-1.187)	-0.000 (-1.616)	-0.000 (-1.604)	-0.000 (-1.629)	-0.000 (-1.601)	-0.000 (-1.513)	-0.000 (-1.314)	-0.000 (-1.019)	-0.000 (-0.795)	-0.000 (-0.480)
Real Interest Rate	-0.000 (-0.073)	0.000 (0.023)	-0.000 (-0.169)	-0.000 (-0.163)	-0.000 (-0.227)	0.000 (0.466)	0.000 (0.580)	0.000 (0.716)	0.000 (0.590)	0.000 (0.080)	-0.000 (-0.739)	-0.000 (-0.546)	-0.000*** (-4.901)
Constant	-0.002*** (-27.987)	-0.002*** (-27.823)	-0.002*** (-27.497)	-0.002*** (-24.898)	-0.002*** (-23.973)	-0.003*** (-23.386)	-0.003*** (-22.565)	-0.003*** (-20.508)	-0.003*** (-18.092)	-0.003*** (-15.466)	-0.003*** (-14.447)	-0.003*** (-13.544)	-0.002*** (-10.911)
Observations	8,461	8,461	8,021	7,556	7,089	6,617	6,145	5,673	5,202	4,730	4,258	3,786	3,316
Number of bank	485	485	485	485	484	484	484	484	484	484	484	484	484

Note: \*, \*\*, \*\*\* indicated statistically significant at 10%, 5%, and 1%, respectively. Empirical specification:

$$Efficiency_{i,j,t}^{Cost} = \alpha_1 \Phi(EntryMode_{i,j,t}^{M\&A}) + \alpha_2 \Phi(EntryMode_{i,j,t}^{GF}) + \alpha_3 \Phi(EntryMode_{i,j,t}^{JV}) + \sum_{k=1}^{12} \beta_k \times T_{0-t+k} \times [\Phi(EntryMode_{i,j,t}^{M\&A}) + \Phi(EntryMode_{i,j,t}^{GF})] + \sum_k \delta_k HostContrl_{i,j,t} + \sum_p \phi_p HomeContrl_{i,j,t} + \lambda_i + \pi_j + \mu_{i,j,t}$$

**Table 9 Post-entering performance for foreign banks: Efficiency measures=TGR (Profit efficiency)**

Independent Variables	Baseline Model	Post-Entry Period (T0=entry year)											
		(T0~T+1)	(T0~T+2)	(T0~T+3)	(T0~T+4)	(T0~T+5)	(T0~T+6)	(T0~T+7)	(T0~T+8)	(T0~T+9)	(T0~T+10)	(T0~T+11)	(T0~T+12)
TGR (Profit efficiency) <sub>i,t-1</sub>	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)	1.002*** (62.851)
Probability (Cross-Border M&A)	0.000*** (5.747)	0.000*** (7.049)	0.000*** (7.423)	0.000*** (7.905)	0.000*** (9.138)	0.000*** (10.620)	0.000*** (11.610)	0.000*** (12.002)	0.000*** (12.180)	0.000*** (12.960)	0.000*** (14.374)	0.000*** (15.827)	0.000*** (16.519)
Probability (Greenfield Investment)	-0.000*** (-21.181)	-0.000*** (-21.403)	-0.000*** (-20.942)	-0.000*** (-20.365)	-0.000*** (-20.535)	-0.000*** (-20.437)	-0.000*** (-19.446)	-0.000*** (-18.038)	-0.000*** (-17.084)	-0.000*** (-16.622)	-0.000*** (-15.897)	-0.000*** (-15.930)	-0.000*** (-16.195)
Probability (Joint Venture)	-0.000*** (-3.588)	-0.000*** (-3.701)	-0.000*** (-3.524)	-0.000*** (-3.215)	-0.000*** (-3.341)	-0.000*** (-3.232)	-0.000*** (-2.882)	-0.000*** (-2.167)	-0.000*** (-1.592)	-0.000*** (-1.313)	-0.000*** (-0.548)	-0.000*** (-0.112)	0.000 (1.222)
Cross-Border M&A		-0.000** (-2.575)	-0.000*** (-2.964)	-0.000*** (-3.623)	-0.000*** (-4.236)	-0.000*** (-5.328)	-0.000*** (-6.488)	-0.000*** (-7.700)	-0.000*** (-8.134)	-0.000*** (-8.890)	-0.000*** (-10.567)	-0.000*** (-12.001)	-0.000*** (-12.191)
Greenfield Investment		-0.000** (-2.408)	-0.000*** (-2.879)	-0.000*** (-3.747)	-0.000*** (-4.140)	-0.000*** (-4.751)	-0.000*** (-5.035)	-0.000*** (-5.386)	-0.000*** (-5.766)	-0.000*** (-6.527)	-0.000*** (-7.755)	-0.000*** (-10.054)	-0.000*** (-10.181)
<b>Host country characteristics</b>													
Equity/Tassets	0.000** (2.500)	0.000*** (3.019)	0.000*** (2.642)	0.000* (1.872)	0.000* (1.747)	0.000 (0.984)	0.000 (0.713)	0.000 (0.486)	0.000 (0.127)	-0.000 (-0.190)	-0.000 (-0.636)	-0.000 (-0.586)	-0.000 (-0.289)
Capfunds/Totassets	-0.000 (-0.233)	-0.000 (-0.569)	-0.000 (-0.399)	0.000 (0.435)	0.000 (0.270)	0.000 (0.741)	0.000 (0.910)	0.000** (2.217)	0.000** (2.096)	0.000*** (2.937)	0.000** (2.370)	0.000** (2.121)	0.000*** (3.641)
Capfunds/Liabilities	-0.000*** (-3.355)	-0.000*** (-3.277)	-0.000*** (-3.142)	-0.000*** (-3.330)	-0.000*** (-2.934)	-0.000*** (-2.388)	-0.000*** (-2.079)	-0.000*** (-3.540)	-0.000*** (-2.863)	-0.000*** (-3.057)	-0.000*** (-1.922)	-0.000*** (-1.416)	-0.000*** (-2.800)
Log(Total Assets)	-0.000*** (-8.712)	-0.000*** (-8.733)	-0.000*** (-9.403)	-0.000*** (-10.247)	-0.000*** (-11.132)	-0.000*** (-11.890)	-0.000*** (-11.678)	-0.000*** (-10.748)	-0.000*** (-10.212)	-0.000*** (-9.495)	-0.000*** (-9.225)	-0.000*** (-8.950)	-0.000*** (-8.646)
Loan Loss Provision /Equity	-0.000*** (-7.996)	-0.000*** (-8.009)	-0.000*** (-7.452)	-0.000*** (-7.502)	-0.000*** (-6.844)	-0.000*** (-7.231)	-0.000*** (-7.262)	-0.000*** (-6.341)	-0.000*** (-5.624)	-0.000*** (-6.860)	-0.000*** (-6.437)	-0.000*** (-5.794)	-0.000*** (-5.195)
Total Loans/Total Assets	-0.000 (-0.222)	-0.000 (-0.235)	-0.000 (-0.323)	-0.000 (-0.374)	-0.000 (-0.139)	0.000 (0.839)	0.000 (0.883)	0.000 (0.244)	0.000 (0.154)	0.000 (0.302)	0.000 (1.095)	0.000* (1.808)	0.000* (1.661)
Liquidy Assets/Total Deposits	0.000*** (7.680)	0.000*** (7.826)	0.000*** (7.565)	0.000*** (7.078)	0.000*** (6.714)	0.000*** (6.146)	0.000*** (5.813)	0.000*** (6.399)	0.000*** (5.803)	0.000*** (5.113)	0.000*** (5.353)	0.000*** (5.898)	0.000*** (5.675)
Off-Balance/Total Assets	0.000*** (4.906)	0.000*** (4.891)	0.000*** (4.524)	0.000*** (4.379)	0.000*** (4.176)	0.000*** (3.858)	0.000*** (3.469)	0.000*** (5.593)	0.000*** (5.341)	0.000*** (4.950)	0.000*** (5.243)	0.000*** (5.488)	0.000*** (5.708)
Net Loans/Total deposits	-0.000 (-0.967)	-0.000 (-0.818)	-0.000 (-0.676)	-0.000 (-0.621)	-0.000 (-0.711)	-0.000* (-1.867)	-0.000** (-2.427)	-0.000* (-1.843)	-0.000* (-1.861)	-0.000** (-2.515)	-0.000*** (-2.826)	-0.000*** (-3.274)	-0.000*** (-3.523)
Net Loans/Deposit	-0.000 (-0.987)	-0.000 (-0.895)	-0.000 (-0.907)	-0.000 (-0.987)	-0.000 (-1.003)	-0.000 (-0.815)	-0.000 (-0.519)	-0.000 (-0.352)	-0.000 (-0.653)	-0.000 (-0.852)	-0.000 (-0.970)	-0.000 (-1.200)	-0.000 (-1.391)
Funding Banking	-0.000 (-0.065)	0.000 (0.097)	0.000** (2.355)	0.000** (2.273)	0.000 (1.334)	0.000 (0.846)	0.000 (0.493)	0.000 (1.216)	0.000** (2.275)	0.000*** (3.201)	0.000** (2.533)	0.000* (1.882)	0.000*** (4.356)
Competition(PR-H)	-0.000*** (-17.929)	-0.000*** (-18.171)	-0.000*** (-18.427)	-0.000*** (-18.541)	-0.000*** (-19.329)	-0.000*** (-20.053)	-0.000*** (-20.707)	-0.000*** (-19.771)	-0.000*** (-20.216)	-0.000*** (-19.775)	-0.000*** (-19.526)	-0.000*** (-18.415)	-0.000*** (-17.727)
Economic Risk	-0.000*** (-3.261)	-0.000*** (-2.972)	-0.000*** (-3.563)	-0.000*** (-4.744)	-0.000*** (-4.941)	-0.000*** (-6.353)	-0.000*** (-5.915)	-0.000*** (-5.164)	-0.000*** (-4.675)	-0.000*** (-4.664)	-0.000*** (-4.789)	-0.000*** (-5.773)	-0.000*** (-5.457)
GDP growth	-0.000*** (-3.514)	-0.000*** (-3.237)	-0.000*** (-1.762)	-0.000 (-0.101)	0.000 (0.555)	0.000 (0.630)	0.000 (0.400)	0.000 (0.265)	-0.000 (-0.327)	-0.000 (-1.159)	-0.000 (-1.665)	-0.000** (-2.299)	-0.000** (-1.950)
Inflation Rate	0.000* (1.802)	0.000** (1.979)	0.000* (1.710)	0.000 (0.913)	0.000 (0.308)	0.000 (0.914)	0.000** (2.008)	0.000** (2.117)	0.000*** (3.281)	0.000*** (4.882)	0.000*** (5.399)	0.000*** (6.063)	0.000*** (5.107)
Real Interest Rate													
<b>Home country characteristics</b>													
Parent bank's Log (Total assets)	0.000*** (23.336)	0.000*** (22.567)	0.000*** (22.250)	0.000*** (20.386)	0.000*** (20.249)	0.000*** (20.671)	0.000*** (19.147)	0.000*** (18.110)	0.000*** (17.074)	0.000*** (16.162)	0.000*** (15.332)	0.000*** (13.796)	0.000*** (12.797)
Parent bank's ROE	0.000*** (13.075)	0.000*** (12.538)	0.000*** (11.950)	0.000*** (11.033)	0.000*** (10.614)	0.000*** (10.160)	0.000*** (9.736)	0.000*** (9.178)	0.000*** (8.589)	0.000*** (7.188)	0.000*** (6.285)	0.000*** (5.022)	0.000*** (4.253)
Parent bank's screening	-0.000*** (-15.071)	-0.000*** (-14.900)	-0.000*** (-14.488)	-0.000*** (-13.590)	-0.000*** (-13.284)	-0.000*** (-13.461)	-0.000*** (-12.494)	-0.000*** (-11.603)	-0.000*** (-10.864)	-0.000*** (-10.677)	-0.000*** (-10.306)	-0.000*** (-9.475)	-0.000*** (-8.925)
GDP growth	-0.000** (-2.135)	-0.000* (-1.688)	-0.000** (-2.244)	-0.000*** (-2.808)	-0.000* (-1.788)	-0.000 (-0.482)	-0.000 (-0.485)	-0.000 (-0.706)	-0.000 (-1.043)	-0.000 (-1.260)	-0.000 (-0.802)	0.000 (0.152)	0.000 (0.386)
Inflation Rate	0.000 (0.629)	0.000 (0.847)	0.000 (0.765)	-0.000*** (-4.874)	-0.000** (-2.996)	-0.000** (-2.453)	-0.000*** (-2.728)	-0.000** (-1.987)	-0.000* (-1.940)	-0.000 (-1.227)	-0.000 (-0.996)	-0.000 (-1.179)	-0.000 (-1.251)
Real Interest Rate	0.000*** (8.474)	0.000*** (8.730)	0.000*** (8.327)	0.000*** (6.624)	0.000*** (6.882)	0.000*** (14.511)	0.000*** (13.918)	0.000*** (14.800)	0.000*** (13.903)	0.000*** (12.415)	0.000*** (11.607)	0.000*** (9.967)	0.000*** (8.657)
Constant	0.001*** (37.733)	0.001*** (36.890)	0.001*** (35.491)	0.001*** (36.034)	0.001*** (35.026)	0.001*** (34.025)	0.001*** (34.195)	0.001*** (32.852)	0.001*** (32.472)	0.001*** (31.520)	0.001*** (31.101)	0.001*** (29.736)	0.001*** (27.966)
Observations	8,358	8,358	7,919	7,455	6,990	6,525	6,060	5,594	5,127	4,662	4,199	3,734	3,273
Number of bank	483	483	483	483	482	482	482	482	482	482	482	482	482

Note: \*, \*\*, \*\*\* indicated statistically significant at 10%, 5%, and 1%, respectively. Empirical specification:

$$Efficiency_{i,j,t}^{Profit} = \alpha_1 \Phi(EntryMode_{i,j,t}^{M\&A}) + \alpha_2 \Phi(EntryMode_{i,j,t}^{GF}) + \alpha_3 \Phi(EntryMode_{i,j,t}^{JV}) + \sum_{h=1}^{12} \beta_h \times T_{i,t+h} \times [\Phi(EntryMode_{i,j,t}^{M\&A}) + \Phi(EntryMode_{i,j,t}^{GF})] + \sum_k \delta_k HostContrl_{i,j,t} + \sum_p \phi_p HomeContrl_{i,j,t} + \lambda_i + \pi_j + \mu_{i,j,t}$$

# 行政院國家科學委員會補助國內專家學者出席國際學術會議報告

日期：2011 年 10 月 25 日

報告人姓名	陳昇鴻 Sheng-Hung Chen	服務機構 及職稱	南華大學財務金融學系 助理教授
時間 會議 地點	2011 年 6 月 8 日~2011 年 6 月 10 日 葡萄牙 Porto 市 (Porto Palácio Hotel)	本會核定 補助文號	NSC-99-2410-H-343-010
會議 名稱	(中文) 2011 年美國財務管理學會(FMA)歐洲學術論文研討會 (英文) 2011 Financial Management Association International European Conference		
發表 論文 題目	(中文) 何種類型的跨國購併會對主併銀行創造價值？主併與目標銀行在管制套 利、治理及制度的差異性之角色 (英文) Which Cross-Border Mergers and Acquisitions Create Value to Listed Acquirer's Bank? The Role of Differences in Regulatory Arbitrage, Governance and Institution between Acquirers and Targets		

報告內容應包括下列各項：

## 一、參加會議經過

本人經由香港轉機首先到達德國法蘭克福，然後再轉機到葡萄牙 Porto 市，參加由美國財務管理學會(FMA)在歐洲所舉辦 2011 年的學術年會。2011 年歐洲區年會由 Porto 市中四所財務金融相關領域的大學包括 *Universidade do Porto*、*EGP-UPBS*、*University of Porto Business School*、*Faculdade de Economia da Universidade do Porto (FEP)*、以及 *CEF.UP* 等系所共同主辦這場高學術水準盛會。此次研討會的會期是從 2011 年 6 月 8 日至 10 日共計 3 天，共有 80 個共同場次將近 240 篇論文進行口頭發表，與會學者多來自歐洲、美洲、亞洲及大洋洲等區域，而今年台灣共有 6 篇論文被接受進行口頭發表。在各財務與金融場次安排上，金融機構有 3 場次，公司治理 3 場次，公司理財有 3 場次，資產定價有 3 場次，資本市場有 4 場次。由大會安排場次的多寡可見，公司理財、金融機構及公司治理似乎是美國財務管理學會的較為關注的領域項目。

大會將本人安排於 2011 年 6 月 9 日下午 15：30~17：00 間，在以 **Bank Governance** 為主題的場次 39 進行論文報告，發表的論文題目為“*Which Cross-Border Mergers and Acquisitions Create Value to Listed Acquirer's Bank? The Role of Differences in Regulatory Arbitrage, Governance and Institution between Acquirers and Targets*”。本論文主要使用 2004 至 2008 年間全球 64 家上市銀行的購併資料，以全球銀行的實證分析藉以認定影響銀行進行跨國購併的重要決定因素為何，同時也探討是否主併銀行進行跨國購併將有利或有害於其市場價值與超額價值。實證結果顯示當主併與目標銀行間其國家整體自由度差異較大時，主併銀行較可能進行跨國購併的活動。

雖然主併銀行在合併三年後才展現其購併綜效，但是主併銀行進行跨國併購將實質提升其市場價值(以 Tobin's Q 衡量)與超額價值(調整銀行資產與所得活動)。此外，當主併與目標銀行間國家整體機構與治理差異較大時，跨國併購會實質增加主併銀行的市場價值，但是對超額價值增量的貢獻卻相對較少。同時，當主併與目標銀行間國家整體在證券、保險、不動產強制外部審計活動開放程度差異較大時，跨國併購確實會顯著地提升主併銀行的超額價值。本論文也獲得任教於英國 Exeter 大學財務與會計系 Shaukat 教授(E-mail: A.Shaukat@exeter.ac.uk)的寶貴評論與建議，有利於本論文後續修改的工作。

## 二、與會心得

本此大會僅安排一場專題講座，由目前任教於美國俄亥俄州州立大學(Ohio State University)費雪商學院(Fisher College of Business)財金系 René Stulz 教授以“*Globalization, Governance, and the Returns to Cross-Border Acquisitions*”為題進行演說，主要針對全球化與國家治理對主併企業進行跨國購併的股票報酬及購併溢酬的影響。

以下是主要的研究發現摘要：使用來自 1990 到 2007 年間 61 個國家跨國購併資料，來自較佳國家治理的主併公司獲利自從事跨國購併，而此獲利高於併購來自國家治理較差的目標公司。然而，主併公司的國家特性變數對合併效益的影響並不具一致性，例如依據是否以現金或權益來購併上市公司而定，主併銀行的「反自我交易指數」(Anti-self-dealing index)(作為衡量一個國家保護投資人程度的標準)與併購報酬呈現反向的關係。嚴格來說，全球效應對購併報酬至少被視為主併公司國家效果的重要變數；首先，主併公司其產業及購併年代可解釋主併公司其較多的股價反應；其次，併購私人公司或分公司，當購併報酬對主併公司是充分地高時，主併公司才會從購併中獲利。作者提出強而有力的證據支持當內部人及少數股東的利益趨於較高的一致性時，將提高主併公司的購併報酬。

整體而言，本人參與此次研討會深感獲益匪淺，不僅也擔任評述與討論美國 Northeastern 大學財金系 Faleye 教授的論文(論文題目：Risky Lending: Does Bank Corporate Governance Matter?)，而且也特別是與幾位研究財務金融與銀行相當出色的學者，例如：Stefanie Kleimeier (荷蘭 Maastricht University)、Claudia Champagne (加拿大 Université de Sherbrooke)、Isabel Feito-Ruiz (西班牙 University of Oviedo)、Markus Schmid (德國 University of Mannheim)、Francisco González (西班牙 University of Oviedo)、Jens Hagedorff (英國 University of Edinburgh)、Marc Ueber (德國 Frankfurt School of Finance & Management)、Miguel Ferreira (葡萄牙 Universidade Nova de Lisboa)、Abu Jalal (美國 Suffolk University)、Sotiris Staikouras (英國 Cass Business School)、Maureen O'Hara (美國 Cornell University)、Vinod Changanath (美國 University of Cincinnati)、Delroy Hunter (美國 University of South Florida)、Zuzana Fungáčová (芬蘭 Bank of Finland)、Panagiotis Dontis-Charitos (英國 University of Westminster)、Bjoern Hagedorff (英國 University of Leeds)等人，有相當充分的學術請益與研究心得交流。

### 三、考察參觀活動(無是項活動者省略)

本次研討會大會並無安排任何考察參觀活動，僅舉辦 1 場學術演講、迎賓招待(Círculo Universitário do Porto)與晚宴(Yeatman Hotel)等活動。

### 四、建議

本次研討會在金融機構場次的與會學者其研究水準相當不錯，對於論文問題詢問與建議相當務實與中肯，特別是評論人都非常認真對論文提出很好的建議，對於公司理財與金融機構研究有興趣的學者，可藉由此研討會獲得相當重要的寶貴意見。

### 五、攜回資料名稱及內容

本人帶回此次會議手冊一份，大會所有發表的論文全文檔案，皆可以在美國財務管理學會 2011 年歐洲年會的網站下載(<http://www.fma.org/Porto/PortoProgram.htm>)。



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June 10, 2011

Sheng-Hung Chen  
Nanhua University  
Dept of Finance

Dear Dr. Chen:

Please accept this letter as certification of participation in the 2011 FMA European Conference held on 8 – 10 June 2011 in Porto, Portugal. Your conference participation details are:

**Session 39  
Bank Governance**  
*Thursday, June 9, 15:30 (3:30) pm - 17:00 (5:00) pm*

Which Cross-Border Mergers and Acquisitions Create Value to Listed Acquirer's Bank? The Role of Differences in Regulatory Arbitrage, Governance and Institution between Acquirers and Targets  
Sheng-Hung Chen, Nanhua University

Presenter: Sheng-Hung Chen

Risky Lending: Does Bank Corporate Governance Matter?  
Olubunmi Faleye, Northeastern University  
Karthik Krishnan, Northeastern University

Discussant: Sheng-Hung Chen

If you need additional verification of your program participation, please feel free to contact us.

Best regards,

Special Events Coordinator  
Financial Management Association International

# 2011 FMA European Conference



8 - 10 June 2011  
Porto, Portugal



**Which Cross-Border Mergers and Acquisitions Create Value to Listed Acquirer's Bank? The Role of Differences in Regulatory Arbitrage, Governance and Institution between Acquirers and Targets**

**Abstract**

Using global M&As data on 64 listed banks including 25 cross-border and 39 domestic deals from 2004 to 2008, this paper empirically identifies cross-country determinants of bank cross-border M&As and investigates whether bank cross-border M&As are beneficial or harmful to creating market value into acquiring banks in context of international evidence. Empirical results indicate that banks would like to engage in cross-border M&As where differences in overall freedom between acquirer and target banks are substantially larger. Though positive takeover synergy from cross-border M&As is then generated post M&As after third years, however, bank involving cross-border deals would enhance their Tobin's Q and excess value adjusted by asset and income, namely. Furthermore, cross-border M&As with larger differences in institutions and governance between bidder and target bank would significantly increase bank's Tobin's Q but eventually limit the incremental excess value for bidder banks. Regarding the regulatory arbitrage, cross-border M&As with larger differences in degree of openness for activities of securities, insurance, real estates, and compulsory external audit between bidder and target bank would economically enhance bidder bank's excess value.

**JEL Classifications:** G21, G34, F23, F30

**Keywords:** Cross-Border M&As, Tobin's Q, Excess Value, Regulatory Arbitrage, Governance, Institutions

## 1. Introduction

During last decades, international banking markets have experienced significant changes in reshaping competition structure and increasing risk exposures. The major drivers to these developments contribute to the globalization of financial markets across country. This evolution has been fostered by means of financial consolidation from Cross-Border Mergers and Acquisitions (CB M&As, hereafter). Notably, EU and USA banking industry has witnessed remarkable financial consolidation through a large number of M&As (Berger et al., 2000). Based on previous studies on bank cross-border M&As, few papers however concentrate on the association between firm value and cross-border M&As activity for listed acquiring banks in context of global banking industry, but most of these pay more attention on the cases of United States and Europe. Therefore, this paper further explores the issue on whether the effects of cross-border M&As on bank market value is significantly different than domestic M&As in comparison to all listed banks around the world. Different from previous research, we specifically disentangle cross-country differences in regulation, institution, and governance between bidder and target banks in explaining the value creation or destruction for bidder banks with CB M&As.

What motivates banks to engage CB M&As? The reasons for answering this question could be explained and heightened in Table 1. *Economies of scale* are the main argument behind CB M&As. This implies that banks proceed with CB M&As to reduce operating cost by cutting down branch networks and staff overheads while integrating information technology and risk management systems. Additionally, *size* may act as a defensive mechanism for banks to withstand external pressures from larger banks expanding their business lines through acquisitions. Beitel et al. (2003) examine whether the size of a target has an impact on the M&A success and they analyze the *relative asset size* of a target in relation to a bidder. Hannan and Pilloff (2007) find that larger banks are more likely to be acquired. Lanine and Vander Vennet (2007) as well as Pasiouras et al. (2007) also indicate a significantly positive relationship between total assets and increasing the probability of M&As activity.

[Table 1 is approximately inserted here]

*Economies of scope* are another rationale for bank CB M&A deals. Banks would like to expand in cross-border activities in order to gain accesses into a *larger client base* and also to *diversify* their sources of income. And it may create *cost* and *revenue efficiencies* by exploiting the know-how transfer from the acquiring to the target bank with small size and organization. Moreover, *Operating risk* may exist in that it is not easy to integrate technical systems, personnel culture and remuneration practices. Hadlock et al. (1999) find that banks with higher levels of management ownership are less likely to be acquired, especially in acquisitions where target managers depart from the banking organization following the acquisition. Cross-border deals with exchange rate risk and political risk would encounter more risk than domestic ones, as in this case *cultural differences* are intensified while differences in general practices. Finally, other significant risk factors are the *reputation risk* that is caused when a potential failure of the acquired institution would cause the reputation of the acquirer to deteriorate and the *strategic risk* that is related to misjudgment on the part of the management of the acquirer regarding the scope of the deal or the quality of the target.

Do CB M&As create or destroy market value for bidder banks? Most previous studies focusing on M&As activities in the banking industry do not reach the consensus due to using different methodology. Based on the perspective from bidder bank, Vander Venet (1996) indicates that domestic mergers among equal-sized partners significantly increase the performance of the merged banks and improvement of cost efficiency. And the result is also found in cross-border acquisitions. Similarly, Focarelli and Pozzolo (2001) indicate banks in countries where banking sector is larger and more profitable are more likely to engage in CB M&As. Additionally, Moeller and Schlingemann (2005) find that bidder returns are positively related to takeover activity in target country and to a legal system offering better shareholder rights. Exception for the UK, the target country's degree of economic restrictiveness is negatively related to bidder returns. Recently, Isabel and Susana (2009) suggest the shareholders of bidder firms place greater value on cross-border M&A than domestic ones. Authors also find accumulated abnormal returns of cross-border M&As is economically positive if the

target firm belongs to the country less developed than that of the bidder.

In terms of target banks, Kiymaz (2004) indicates that while US targets experience significantly positive wealth gains while US bidders encounter insignificant wealth gains only during the merger announcements. In addition, Conn et al. (2005) point out that both domestic and cross-border private acquisitions gain positive returns at announcement, but cross-border acquisitions led to lower long run returns than domestic acquisitions. They also indicate that those involving high-tech firms performed relatively well, as did those with low national cultural differences. However, Manasakis (2006) suggests that the targets' shareholders earn significant abnormal returns upon the announcement of both horizontal and diversifying deals. Fraser and Zhang (2009) find that these cross-border acquisitions generate improved performance for target bank, cash flow from target's profitability increases, labor utilization improves, but loan losses did not deteriorate too much.

Based on studies from combining both bidder and target banks, Cornett and De (1991) find significant positive excess returns during announcement period for both bidder and target banks. Eun et al. (1996) also indicate that (i) shareholders of paired sample of US targets and foreign acquirers experience significantly positive combined wealth gains, implying that cross-border takeovers are generally synergy-creating activities; (ii) shareholders of the US targets realize significant wealth gains, regardless of the nationality of acquirers. Moreover, Becher (1999) finds that in 1990s over the 36-day window target gains significantly, bidder returns are positive and statistically, and combined firm returns are significantly positive. Rad and Beek (1999) also find that shareholders in target bank experience significant positive abnormal returns while those to shareholders in bidder bank are not significant. Furthermore, those results suggest that returns to shareholders in bidder bank are more positive when the bidder is larger and more efficient than target banks.

However, Aintablian and Roberts (2000) confirm that the average abnormal return for both the acquiring and target firms in Canadian are positive and statistically significant. Beitel and Schiereck (2001) find, consistent with prior research, that the shareholders in target banks receive a considerable and significantly positive revaluation on their shares. Effects for bidder banks are mostly insignificant.

But, on an aggregate basis, mergers and acquisitions of European banks do not create value. Additionally, Houston et al. (2001) indicate that returns on both bidder and target bank are strongly and positively related to managers' estimated cost savings at merger announcement. They also find that bank mergers in the 1990s are more likely to be accompanied by detailed projections of cost savings, and to be generated higher abnormal returns than mergers prior to 1990. Scholtens and Wit (2004) indicate that mergers resulted in small positive abnormal returns and target banks realize significantly higher returns than bidders. Similarly, Valkanov and Kleimeier (2007) suggest that more value is created for targets with high excess capital and in M&As involving targets with considerably higher excess-capital ratios than their acquirers. Recently, Beccalli and Frantz (2009) investigate whether M&A operations are associated with improved performance using both standard accounting ratios and cost and alternative profit X-efficiency measures. Despite the extensive and ongoing consolidation process in the banking industry, they find that M&A operations are associated with a slight deterioration in return on equity, cash flow change and profit efficiency and with a remarkable improvement in cost efficiency.

Some studies show that bank engaging CB M&As would destroy or not change their market value based on the perspective from both bidder and target banks. In terms of bidder banks, Waheed and Mathur (1995) find that abnormal returns are significantly negative when banks announce their expansion into developed countries. Similarly, Toyne (1998) as well as Gleason and Mathur (1998) show empirical evidences that there is a significantly negative valuation as the combined synergies by bidder and target at the merger announcement. Cornett et al. (2000) indicate that diversifying bank acquisitions earn significantly negative announcement period abnormal returns for bidder banks whereas focusing acquisitions earn zero abnormal returns. In addition, Beitel and Schiereck (2001) detect a shift over time. European acquiring banks in large deals had experienced significantly negative cumulated abnormal returns in 1998. Moreover, authors also find that in particular cross-border transactions of European banks seem to destroy their firm value. Similarly, Manasakis (2006) finds that bidders' shareholders have significant losses in cases of horizontal and zero effects in

diversifying deals. However, Isabel and Susana (2010) find that stronger legal and institutional environment in target country increase the transaction cost for cross-border deals, while the decision to acquire a firm in these countries is negatively valued by shareholders in acquiring firm.

Sawyer and Shrieves (1994) find that stockholders of target firms with attributes that fitted the free cash flow hypothesis of merger motivation suffer wealth losses relative to firms that had characteristics consistent with achievement of scale or scope economies or financial synergies. Thompson and Mullineaux (1995) suggest that abnormal returns to the shareholders of the acquiring and target firm are either significantly negative or zero and are stock exchange. Hudgins and Seifert (1996) indicate that there is no significant difference in the size of the announcement gains or losses for either stockholders of the target or bidding firms based on whether the acquisition is foreign or domestic. Loughran and Vjih (1997) find in the top quantile of target to acquirer size ratio, target shareholders earn negative excess returns in stock mergers. Frame and Lastrapes (1998) also find negative average abnormal returns to bank holding company acquirers. Alberto and Maurizio (2000) find that M&A with securities firms and concluded with foreign institutions do not gain a positive market's expectation. DeLong (2001) reveals that abnormal returns upon merger announcement increase in relative size of target to bidder, but decrease in the pre-merger performance of targets. Additionally, Amihud et al. (2002) find that abnormal returns to acquirers are negative and significant, but are somewhat higher when risk increases relative to banks in the acquirer's home country. Black et al. (2007) indicate the relationship between the qualities of the foreign target's accounting disclosures and the acquisition's long-term success. And authors also found that US acquirers in cross-border mergers experienced significantly negative long-term abnormal returns post-merger.

This paper has two objectives as follows: First, we identify cross-country determinants of bank CB M&As in comparison to that of domestic over period 2004 to 2008. Second, we empirically investigate the impact of the predicted probability of bank CB M&As on bidder bank's market value proxied with Tobin's Q and excess value based on assets and incomes, respectively. Third, we explore the influences of cross-country differences in regulatory arbitrage, governance, and institutions

between acquirer and bidder banks on bank's market value.

Specifically, we are the first to disentangle the degree of differences in regulatory arbitrage, governance and institutions between bidders and targets bank affect bank's market through CB M&As. Unlike Correa (2008) and Beitel et al. (2003) who use bank's financial information as ROA, ROE and cost to income ratio only, we use not only financial information but also market information to investigate whether banks engaging in cross-border M&As are beneficial or harmful to their market value compared with domestic M&As. Using market information helps banks assess dynamic market reaction as well as incremental shareholder's values after cross-border M&As in comparison to financial information. Previous empirical studies on CB M&As in context of listed firms in banking industry around the world is limited, we focus on acquiring banks and their national institutional systems, governance quality and financial supervision difference in a decision to engage CB M&As activity.

## **2. Related Literature**

### *2.1 Determinants of Cross-Border M&As*

Most of M&A's literature on deal characteristics focuses on US banking sectors. Recent papers also examine the determinants of takeovers in Europe. The section is organized around the various factors typically found to be the most likely impacts of bank cross-border merger and acquisitions, including banking level and country level. To sort out the variables and describe in sequence in cross-border M&As deals.

#### *2.1.1 Macroeconomic Environment*

Financial market development mitigates capital market imperfections through effective information flows and further stimulates corporate investments via better access to external financing (Demirgüç-Kunt and Maksimovic, 1998). And the macroeconomic variables, including economic

conditions, level of economic development of bidder and target country, exchange rate volatility along with the effectiveness of both government, relative size of participants, and control of target largely explain the wealth gains to bidders and targets. Kiymaz (2003) investigates above factors and finds that US targets experience significantly positive wealth gains and US bidders encounter insignificant wealth gains during the merger announcements.

#### *2.1.2 Institutional Difference between Acquirer and Target Bank*

The legal structure of the deal, acquisition versus merger, may shed further light on the motivation of the deal (Gilson, 1986). Rossi and Volpin (2004) find that most cross-border deals happen between countries sharing the same language and geographic area, and the frequency of mergers is higher in common-law countries than in civil-law countries. They suggest that countries with higher shareholder protection have more M&A activity and that, in cross-border M&As, target firms are in countries that afford less shareholder protection than those of the bidders. Being acquired by a firm with greater shareholder protection may improve the efficiency of target firms having poor legal and institutional environments but the benefits are not so clear for bidder firms. The characteristics of the legal and institutional environments in the bidder and target countries might explain the different effects on bidder shareholder valuation in cross-border M&As.

#### *2.1.3 Governance Difference between Acquirer and Target*

Recent studies show that in cross-border deals, targets are typically from countries with poorer shareholder rights and accounting standards than their acquirers' countries (Rossi and Volpin, 2004), which implies that cross-border transactions play a governance role by improving the degree of investor protection within target firms.

#### *2.1.4 Regulatory Arbitrage*

Kryzanowski and Ursel (1993) investigate the Canadian banks' takeover of domestic investment



dealers after a change in regulation. They find, in contrast to the results for the US, negative returns for the bidders and positive returns for the targets and conclude that the prices that the banks paid for their targets reflect the benefits of these mergers. Amihud et al. (2002) find that there is no evidence that cross-border merging banks add to the risk exposure of either domestic or host country regulators, whether looking at the total risk of the acquirer or its systematic risk relative to various banking industry indexes of home, host, and world. These results are consistent to cross-border mergers in general and for various sub-samples of interregional cross-border mergers. However, Campa and Hernando (2004) confirm that mergers in industries that had previously been under government control or that are still heavily regulated generate lower value than M&A announcements in unregulated industries. This low value creation in regulated industries becomes significantly negative when the merger involves two firms from different countries and is primarily due to the lower positive return that shareholders of the target firm obtain upon the announcement of the merger. Buch and Delong (2004) find that a tough supervisory system in the target country increases the number of bank mergers, while greater toughness of the acquiring country's authorities discourages mergers (Dale, 1992; Steinherr and Huveneers, 1994). More recently, investigating the changes in post-merger total risk, Buch and Delong (2008) suggest that an acquirer entering a country with strong supervision appears to shift risk back to its home country, and bank supervisors can reduce total banking risk in their countries. Moreover, to compare the fair premium for safety net and leverage of banks involving in a cross-border deal and other commercial banks in EU countries. Kane (2000) find that on average across countries, cross-border banks are more leveraged and extract larger safety-net subsidies than other EU banks.

## *2.2 The Impacts of Cross-Border M&As on Bank's Market Value*

Empirical applications show that distance influences international capital flows and investment decisions of banks in a similar way as it influences international trade. For a given asset size, the purchase price premium of the acquisition is generally lower for higher-capitalized bank. Akhigbe et

al. (2004) find a positive relationship between capital and the likelihood of being acquired in their sample of publicly traded banks in the US, which is similar to Hannan and Pilloff (2007) for their results from entire sample. Lanine and Vander Venet (2007) suggest that using sample from Central and Eastern European countries, banks with higher capital-asset ratios are less likely to be acquired. The coefficient on the capital to asset ratio is insignificant in study of Pasiouras et al. (2007) using a sample from the EU-15.

Specifically, Schmutzer (2006) indicate that significant average bidder losses are compatible with CB M&As to conclude as follows: (i) destroying shareholder wealth, (ii) being wealth neutral redistributing activities if target returns compensate bidder losses or (iii) creating shareholder wealth through synergistic effects, if target returns more than compensate for bidder losses. Cummins (2004) suggest that the stock price effect of M&As is measured by looking at cumulative abnormal returns on the transaction event day and surrounding days. The analysis reveals that M&As created small negative cumulative average abnormal returns for acquirers. Targets, however, realized substantial positive cumulative average abnormal returns in the range of 12% to 15%. For acquirers, there is no clear difference in performance between cross-border and within-border (domestic) transactions.

Early studies by Lang, Stulz, and Walkling (1989) and Servaes (1991) present empirical evidences consistent with an affirmative answer—that the synergy of an acquisition is increasing in the bidder's Tobin's Q and decreasing in the target's Tobin's Q—with the premise that Q can be interpreted as a measure of how well a firm is run. However, results from recent academic endeavors suggest otherwise. For example, Bhagat et al. (2005) find that the bidder's Q has a negative effect while the target's Q has no impact on acquisition synergy, and Moeller, Delong et al. (2002) and Schlingemann, and Stulz (2004) find that the bidder's Q and its proxy such as the market-to-book ratio have negative effects on bidder returns. In our paper, we follow Laeven and Levine (2007) using adjusted Tobin's Q and excess value for banking sectors to examine the bidders' market value.

Furthermore, we take excess value to test the variables which would influence the bidders' market value or not. Santos et al (2008) use the excess value measure as defined in Bodnar et al. (1999)

and Denis et al. (2002), which represents a variation of the industry-matched multiplier approach originally developed by Berger and Ofek (1995). The excess value compares a firm's market value—the market value of common equity plus the book value of total debt plus the liquidating value of preferred stock—to its imputed value. And they find that international diversification does not destroy value while industrial diversification leads to discounts even after controlling for the pre-acquisition value of the target. Schmid and Walter (2009) examine whether diversification increases or decreases corporate value. They used an excess value measure that compares a firm's value to its imputed value if its segments were operated as stand-alone entities (Berger and Ofek, 1995). They main discuss about diversification and they used M&As deals to be a variable, although it is not significant.

### **3. Data and Empirical Specification**

#### *3.1 Data*

We compile a sample of banks involved in cross-border deals between 2004 and 2008 by searching all cross-border deals included in the *Securities Data Company* (SDC Platinum) database from Thomson Financial Securities Data. The financial statements of the acquirer banks are mainly collected from the *BankScope* and *Osiris* database by Bureau van Dijk. Final dataset contains annual statements for listed banks in 55 countries from 2004 to 2008. Country level data on macroeconomic variables and governance are collected from *World Development Indicators* (WDI) and *Worldwide Governance Indicators* (WGI), respectively. Banking regulatory and supervision across country are collected from *World Bank*.

#### *3.2 Selection Criteria on Bank's Domestic and Cross-Border M&As Deals*

In this section we describe the criteria used to select the sample of banks included in the empirical estimations. The end result is a sample of bidder in cross-border and domestic deals. And

our samples follow criteria: (i) All M&As deals with listed banks, which have been completed; (ii) Both domestic and cross-border transactions are considered.

The starting point to select the sample of banks used in the empirical tests involves extracting information for all financial institutions classified as commercial banks and savings bank in *BankScope* between 2004 and 2008. From this sample, we exclude banks with financial information that is considered to be extreme. After applying these criteria, the complete sample includes 900 banks in 55 countries.

Table 2 shows that the M&As by country between bidders and targets. As for bidder bank, large deals be occurred in USA and the second and third is UK and Italy. Regarding target bank, the most deals be occurred also in USA, the second and third is Australia and Italy.

[Table 2 is approximately inserted here]

Table 3 shows cross-border and domestic M&As deals by year, world regions and country. A large fraction of the sample is represented by financial institutions from panel A: 17.949% in 2007, 17.949% in 2006, and 11.538% in 2005 for cross-border M&As; 11.963% in 2005, 11.350% in 2007, 11.043% in 2006 for domestic ones. A large fraction of the sample is represented by financial institutions from panel B as Europe (64.103%), North America (21.794%) for cross-border M&As and North America (76.380%), Europe (14.417%) for domestic ones. A large fraction of the sample is represented by country from are United Kingdom (19.231%) (UK, hereafter), United States (11.538%) (USA, hereafter) for cross-border M&As, USA (75.767%) and AUSTRALIA (2.761%) for domestic ones.

[Table 3 is approximately inserted here]

### *3.3 Empirical Specification*

#### *3.3.1 Identifying the Probability of Engaging in Cross-Border M&As in Banking Industry*

We utilize Panel Multinomial Logit model to estimate probability of bidder bank involving CB

M&As in comparison to domestic M&As and regular banks without engaging any M&As. The empirical model to estimate is set up as follows:

$$\begin{aligned}
&\text{Cross-Border M\&A}_{i,j,t} \\
&= \alpha_0 + \alpha_1 \text{Log(TA)}_{i,j,t} + \alpha_2 \text{ROE}_{i,j,t} + \alpha_3 \text{Log(Market Capitalization)}_{i,j,t} \\
&+ \alpha_4 \text{DIF (Shareholder Protection)}_{j,t} + \alpha_5 \text{DIF (Corruption)}_{j,t} \\
&+ \alpha_6 \text{Inflation}_{j,t} + \alpha_7 \text{Log(GDP)}_{j,t} + \sum_{k=1}^8 \beta_k \text{DIF(Freedom)}_{j,t} + \varepsilon_{i,j,t}
\end{aligned} \tag{1}$$

The dependent variable, Cross-border M&A<sub>*i,j,t*</sub>, is a binary choice variable and equals to one if a bank *i* in country *j* at year *t* does not engage M&As. Cross-border M&A<sub>*i,j,t*</sub> = 2 if a bidder bank *i* in country *j* at year *t* engages domestic M&As and Cross-border M&A<sub>*i,j,t*</sub> = 3 if a bidder bank *i* in country *j* at year *t* engages CB M&As.

#### *Bank-level variables of financial characteristics*

*Log (TA)* is the natural logarithm of the bank's total assets. As for the acquiring firm, Hawawini and Swary (1990) find that smaller bidders tend to be more successful than larger bidders. Seidel (1995) shows that banks, which obtain an optimal size after the transaction in terms of assets, are more successful in M&As. Zollo and Leshchinskii (2000) find that the size of the acquirer had a significantly negative impact on the acquirer's success of M&As. The greater the separation between ownership and control, which tended to be the case in large firms, the greater the managerial interest in M&As is likely to be, even if the price is excessive, resulting in a worse valuation on the part of the acquiring-firm's shareholders (Schewert, 2000; Beitel and Arbour, 2004; Moeller, 2004). However, when Hannan and Pilloff (2007) focus on acquisitions by smaller acquirers and they find that larger banks are less likely to be acquired, consistent with the hypothesis that post-merger integration is more difficult for relatively larger targets. As for target firm, Asquith et al. (1983) indicate that the larger the

target firm, the more information there would be on it, as well as fewer adverse selection problems in its valuation. However, Agrawal et al. (1992) suggest that this would generate higher integration costs between the two firms, which acquiring-firm shareholders would value negatively. *ROE*, the ratio of return on equity; it can indicate the degree of profitability. *Log (Market Capitalization)* is the natural logarithm of the bank's market capitalization. On the one hand, there are some hypotheses that predict a positive relationship between banks' capitalization and the likelihood of being a target. First, if acquirers face regulatory pressure to increase capitalization they may seek highly capitalized targets. Second, if high capitalization indicates the inability of a bank to diversify assets, more capitalized banks would be more attractive for better diversified acquirers. Third, the managers of banks with high capital ratios may be operating further below their profit potential because of reduced pressure to obtain high earnings.

On the other hand, some predict a negative relationship. First, if capitalization is seen as an index of managerial ability or efficiency, then better capitalized banks would be less attractive to potential buyers, since the potential gains from a better management are smaller. Second, if a bank's capitalization is very low and the bank is near default, an acquisition by a well capitalized and efficient acquirer might be even fostered by the supervisor. Finally, another argument for a negative link suggested by Hannan and Pilloff (2007) is that buyers prefer high leveraged (poor capitalized) targets because it enables them to maximize the magnitude of post-merger performance gains relative to the cost of achieving those gains. For a fixed asset size, the purchase price premium of the acquisition is generally lower, the higher capitalized is the bank.

#### *Country-level variables of macroeconomic environment, institutions, and governance*

We use the country-level freedom variables to measure differences between bidders and targets, including overall freedom, shareholder protection, business freedom, trade freedom, fiscal freedom, monetary freedom, investment freedom, financial freedom, corruption, and labour freedom. The score is based on 10 factors, all weighted equally, using data from the *World Bank's Doing Business* study.

We defined those variables in detail as follows:

*Business freedom* is a quantitative measure of the ability to start, operate, and close a business that represents the overall burden of regulation as well as the efficiency of government in the regulatory process. The business freedom score for each country is a number between 0 and 100, with 100 equaling the freest business environment.

*Trade freedom* is a composite measure of the absence of tariff and non-tariff barriers that affect imports and exports of goods and services. The trade freedom score is based on two inputs: The trade-weighted average tariff rate and Non-tariff barriers (NTBs).

*Fiscal freedom* is a measure of the tax burden imposed by government. It includes both the direct tax burden in terms of the top tax rates on individual and corporate incomes and the overall amount of tax revenue as a percentage of GDP. Thus, the fiscal freedom component is composed of three quantitative factors: The top tax rate on individual income, the top tax rate on corporate income, and total tax revenue as a percentage of GDP. In scoring the fiscal freedom component, each of these numerical variables is weighted equally as one-third of the factor.

*Government Freedom* considers the level of government expenditures as a percentage of GDP. Government expenditures, including consumption and transfers, account for the entire score.

*Monetary freedom* combines a measure of price stability with an assessment of price controls. Both inflation and price controls distort market activity. Price stability without microeconomic intervention is the ideal state for the free market. The score for the monetary freedom factor is based on two factors: The weighted average inflation rate for the most recent three years and price controls. The weighted average inflation rate for the most recent three years serves as the primary input into an equation that generates the base score for *Monetary Freedom*.

In an economically free country, there would be no constraints on the flow of investment capital. Individuals and firms would be allowed to move their resources into and out of specific activities both

internally and across the country's borders without restriction. Such an ideal country would receive a score of 100 on the investment freedom component of the *Index of Economic Freedom*. The *Index* evaluates a variety of restrictions typically imposed on investment. Points, as indicated below, are deducted from the ideal score of 100 for each of the restrictions found in a country's investment regime. It is not necessary for a government to impose all of the listed restrictions at the maximum level to effectively eliminate investment freedom. Those few governments that impose so many restrictions that they total more than 100 points in deductions have had their scores set at zero.

*Financial freedom* is a measure of banking security as well as a measure of independence from government control. State ownership of banks and other financial institutions such as insurers and capital markets reduces competition and generally lowers the level of available services. The *Index* scores this component by determining the extent of government regulation of financial services; the extent of state intervention in banks and other financial services; the difficulty of opening and operating financial services firms (for both domestic and foreign individuals); and government influence on the allocation of credit.

The *property rights* component is an assessment of the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state. It measures the degree to which a country's laws protect private property rights and the degree to which its government enforces those laws. It also assesses the likelihood that private property will be expropriated and analyzes the independence of the judiciary, the existence of corruption within the judiciary, and the ability of individuals and businesses to enforce contracts. It is more certain the legal protection of property, the higher a country's score; similarly, the greater the chances of government expropriation of property, the lower a country's score.

*Corruption* erodes economic freedom by introducing insecurity and uncertainty into economic relationships. The score for this component is derived primarily from *Transparency International's Corruption Perceptions Index* (CPI) for 2008, which measures the level of corruption in 180 countries.



The CPI is based on a 10-point scale in which a score of 10 indicates very little corruption and a score of 0 indicates a very corrupt government. In scoring freedom from corruption, the *Index* converts the raw CPI data to a scale of 0 to 100 by multiplying the CPI score by 10. For example, if a country's raw CPI data score is 5.5, its overall freedom from corruption score is 55. For countries that are not covered in the CPI, the freedom from corruption score is determined by using the qualitative information from internationally recognized and reliable sources. It is higher the level of corruption, the lower the level of overall economic freedom and the lower a country's score. The *Labor Freedom* component is a quantitative measure that looks into various aspects of the legal and regulatory framework of a country's labor market. It provides cross-country data on regulations concerning minimum wages; laws inhibiting layoffs; severance requirements; and measurable regulatory burdens on hiring, hours, and so on.

Finally, this model control the current annual inflation rate (Inflation), because it may affect bank performance across countries, and Log (GDP) is the natural logarithm of the GDP. And Rossi and Volpin (2004) find that the volume of M&A activity is significantly larger in countries with better accounting standards and stronger shareholder protection. And targets are typically from countries with poorer investor protection than their acquirers' countries. That is way we also to consider about the variable (shareholder protection).

### 3.3.2 Investigating the Impacts of Probability of Cross-Border M&As on Bank Market Value

Following Laeven and Levine (2007), our empirical model to investigate the impacts of probability of cross-border M&As on bank's market value is specified as follows:

$$Q_{i,j,t}/EV_{i,j,t} = \beta_0 + \beta_1 \Phi(\widehat{M\&A}_{i,j,t}^{CB}) + \sum_{k=1}^8 \gamma_k BC_{i,j,t} + \theta_1 Lg(GDP)_{j,t} + \nu_{i,j,t} \quad (2)$$

The dependent variable is the measure of market value of bank listed around the world. Tobin's Q and excess value namely varying over banks  $I$  in countries  $j$  at year  $t$ , are used in our empirical model.

### *Tobin's Q*

First, based on Laeven and Levine (2007) we use Tobin's Q to measure the market value of banks. Tobin's Q is counted as the sum of the market value of common equity plus the book value of preferred shares plus the book value of total debt divided by the book value of total assets. As noted by Baele et al (2007), the advantage of using Tobin's Q is that it allows comparability across banks of all sizes. However, Laeven and Levine (2007) indicate that different banking activities maybe value differently, there is a clear need to control for the degree to which banks undertake in different activities when comparing their valuations.

### *Adjusted Tobin's Q*

As defined by Laeven and Levine (2007), Adjusted Tobin's Q is applied to estimate the Q that would exist if financial conglomerates were separated into activity-specific financial institutions and then calculated the Q's associated with each of those specific activities. It is calculated as

$$\text{Adjusted Tobin's } Q_j = \sum_{i=1}^n \chi_{ji} Q^i \quad (3)$$

Where  $Q^i$  is the Tobin's Q of financial institutions that specialize in activity  $i$ .  $\chi_{ji}$  is the share of the  $i$  activity in the total activity of bank  $j$ . They only consider two types of activities: lending (commercial banks) or non lending operations (investment banks) and calculate adjusted Tobin's Q based on both the asset and income measures of the share of bank activity. From the asset side,  $\chi_{ji}$  is the ratio of net loans to earning assets for bank  $j$ , as well as the ratio of net interest income to total operating income in the income side.

### *Excess value*

Excess value= Tobin's Q - Adjusted Tobin's Q (4)

We calculate two measures of excess value: one is settled by the asset composition of the bank, the other is determined by the income composition of the bank. A positive excess value represents premium as well as a negative excess value represents discount. Excess value measure avoid the problem that different banking activities maybe value differently, thus we primarily focus on excess value measures. We use excess value measure based on assets when consider the asset diversity measures as well as excess value measure based on income when consider the income diversity measures.

#### *Bank-level variables of market and financial characteristics*

We explain the BC variables in Equation (2) as follows: *Log(Market Capitalization)* which is stock market capitalization, it is defined as the market capitalization of the bidder country as a percentage of its gross domestic product one year prior to the acquisition, obtained from the *World Development Indicator* (World Bank, WDI). *DL* is the ratio between deposits and liabilities. A higher *DL* may reflect a higher market valuation. *EA* is the ratio of book value of equity to total assets and to deposits. We use this variable to measure the degree of financial leverage and capital. *ED* is the ratio of book value of equity to deposits. We use this variable to proxy for the bank managers' risk aversion. Growth rate of total assets (*AG*) and growth rate of income (*AI*) is the growth rate of the bank's assets and income, respectively. These variables are our proxies for growth opportunities of the banks. *Log (Operating Income)* calculated as the natural logarithm of the bank's total operating income, is used as an alternative proxy for the bank's size.

#### *Country-level characteristics*

We use the annual real growth in real gross domestic product per capita (GDP) to control for country-level difference in economic conditions.

### 3.3.3 Interactive Effects of Institutions, Governance, and Cross-Border M&As on Bank's Market

#### Values

The following specification is then used to estimate the interaction effects among institutions, governance, and cross-border M&As on bank's market values.

$$Q_{i,j,t} \text{ or } EV_{i,j,t} = \beta_0 + \beta_1 \Phi(\widehat{M\&A}_{i,j,t}^{CB}) + \sum_{p=1}^6 \delta_p \Phi(\widehat{M\&A}_{i,j,t}^{CB}) \times \text{DIF}(\text{Governance})_{i,j,t} + \sum_{k=1}^8 \gamma_k \text{BC}_{i,j,t} + \theta_1 \text{Lg}(\text{GDP})_{j,t} + \eta_{i,j,t} \quad (5)$$

The dependent variable is the measure of market value for listed banks, Tobin's Q and Excess Value (EV) namely varying over banks  $i$  in countries  $j$  at year  $t$ , are used in our empirical model. We use interactive term by multiplying probability (CB M&A) with difference in institution and governance between acquirer and target bank to measure institutional characteristics on CB M&As. The governance variables include overall governance summed with the following variables: rule of law, regulatory quality, government effectiveness, political instability, and accountability and voice. We define those variables in detail as follows: *Rule of Law*, the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence. Higher value indicates better government outcomes. *Government Effectiveness*, the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Higher value indicates better government outcomes. *Political Instability*, Perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including political violence and terrorism. Higher value indicates worse government outcomes. *Accountability and Voice*, the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and free media. Higher value indicates better government outcomes.

### 3.3.4 Interactive Effect among Regulatory Arbitrage and Cross-Border M&As on Bank's Market

Values

Similar to equation (5), we then use interactive term by multiplying probability (CB M&A) with difference in regulation between acquirer and target bank to quantify institutional characteristics on CB M&As.

$$Q_{i,j,t} \text{ or } EV_{i,j,t} = \omega_0 + \omega_1 \widehat{\Phi(M\&A_{i,j,t})}^{CB} + \sum_{p=1}^6 \psi_p \widehat{\Phi(M\&A_{i,j,t})}^{CB} \times \text{DIF(Regulations)}_{i,j,t} + \sum_{k=1}^8 v_k BC_{i,j,t} + \theta_1 \text{Lg (GDP)}_{j,t} + \eta_{i,j,t} \quad (6)$$

The regulation variables used in equation (6) include *Foreign Applications for Banking Licenses*, *Minimum Capital-Asset ratio Requirement*, *Activities of Securities*, *Activities of Insurance*, *Activities of Real Estate*, and *Compulsory External Audit*. *Foreign Applications for Banking Licenses*, the index capturing the denied applications for commercial banking licenses as the percentage of all applications received from both domestic and foreign entities in the past five years. Higher values indicate greater stringency. *Minimum Capital-Asset Ratio Requirement*: higher values indicate greater stringency. *Activities of securities*, *Activities of insurance*, and *Activities of real estate*, the index capturing the extent to which banks may engage in securities, insurance, real estate activities and whether banks can own voting shares in nonfinancial firms. Higher values indicate greater stringency. *Compulsory External Audit*: higher value indicates better market discipline and private supervision.

## 4. Empirical Results

### 4.1 Descriptive Statistics

Table 4 shows descriptive statistics of variables by different M&As deals (cross-border M&As

versus domestic M&As), including financial characteristics of bidder bank and M&As deal, macroeconomic condition, and difference in institutions and governance between acquirer and target banks. First, the mean of Tobin's Q is 0.971 while mean of excess value adjusted by assets and income are -0.088 and -0.092, namely. All of those independent variables show no statistical significance in mean between cross-border M&As and domestic M&As. Bank characteristics of D/L, E/A, log(OI) and log(TA) are positive and significant in mean between cross-border and domestic deals.

[Table 4 is approximately inserted here]

Regarding institutional variables, the freedom difference between bidder and target bank, including business, monetary, investment, financial, labour and corruption are all positive and significant. Expect the freedom of fiscal, it is negative and significant. Governance difference between acquirer and target banks, including the indexes as control of corruption, rule of law, regulatory quality, government effectiveness, and accountability and voice are significantly positive in mean between cross-border and domestic M&As deals.

#### *4.2 Identifying Cross-Country Determinants of Cross-Border M&As in Banking Industry*

Table 5 reveals the results of the estimation from Panel Multinomial Logit model used using equation (1). Given the many freedom's variables colinearity in Eq. (1), columns (1) through (10) are tested individually one by one degree of variable of freedom. The coefficients for Log (Total Assets) and ROE have significantly negative sign. This suggests that small bidder banks are more likely to engage in cross-border M&As and shows higher probability to takeover poor performing banks.

[Table 5 is approximately inserted here]

Except for trade freedom and shareholder protection, other institutional freedom variables have positive and significant coefficients but fiscal freedom has significantly negative coefficient. This suggests that the larger difference between bidders and targets bank would largely enhance the probability of CB M&As. Otherwise, when the fiscal difference between bidder and target banks is smaller, the probability of cross-border is higher than domestic M&As. Empirical results indicate that

shareholder protection has no significant effect on the probability of bank CB M&A. This finding is different from Rossi and Volpin (2004) who find that countries with higher shareholder protection have increased M&A activity and CB M&As where target firms are operating in countries with less shareholder protection than those of the bidders. Being acquired by a firm with greater shareholder protection may improve the efficiency of target firms having poor legal and institutional environments but the benefits are not so clear for bidder firms.

#### *4.3 Sequential Market Performance after Bank M&As: Cross-Border versus Domestic Deals*

Table 6 demonstrates the results for the regression used in equation (2). We test Tobin's Q and excess value measured namely by asset and income in cross-border M&As and domestic ones. Two sets of variables are included as regressors: event dummies for the year of the deal ( $M\&A_t$ ), 1 year after M&As ( $M\&A_{t+1}$ ), 2 years after M&As ( $M\&A_{t+2}$ ), and 3 years after M&As ( $M\&A_{t+3}$ ). The coefficients on the time indicator variables for M&A event are significantly negative in the deal year and next two year in cross-border M&As. The coefficients of cross-border M&As is significantly positive at year 3 after cross-border M&As. These results confirm the findings that there is a positive effect on the post-M&As' performance in the long run enlarged by a CB M&As. This finding is similar to Vander Venet (2002) for a sample of European M&As. The author finds that there is no positive performance effect in the short term after a cross-border acquisition. The cross-border acquisitions are valuable for the acquirer in the long run, so that any short run analysis lead to underestimate their benefits (Berger et al., 2000; Amel et al., 2004; Correa, 2009). At the same time, the coefficients on the event time indicator variables are positive in almost all cases of domestic M&As but shows insignificant.

[Table 6 is approximately inserted here]

Regarding control variables for bank-level characteristics, the coefficients on market capitalization are significantly negative for Tobin'Q but economically positive for excess value on cross-border M&As. And the coefficients on market capitalization are positive for excess value on domestic M&As. These generally mean that the higher market capitalization of acquirer lead to better

performance post domestic M&As. Focusing on results of CB M&As, we find that the higher market capitalization of bidder bank would lead to higher ROA. Bidder banks with higher DL reflect a better market valuation and coefficients of DL in all case (Tobin's Q and excess value) are also significantly positive. This is similar to the finding from Laeven and Levine (2000). ED means the bank managers' risk aversion and it influence deeply about the value of both M&As activities. A well-capitalized bank might have fewer incentives to engage in excessive risk-taking.

Growth rates of income are significantly positive, meaning that the growth opportunities of bank are getting better, the more acquirer bank gain through M&As including cross-border and domestic deals. The coefficient of natural logarithm of the bank's total operating income is significantly positive. This variable is used as the proxy of bank's size. Log (GDP) is used to control for country-level difference in economic conditions, meaning that the cross-border M&As deals would gain more in a country with higher GDP.

#### *4.4 The Impacts of Cross-Border M&As on Bank's Tobin's Q and Excess Values*

Table 7 exhibits the empirical results of the probity estimated by equation (5). For avoiding the potential of colinearity problems in estimation, we take the variables of governance individually for estimation. Besides government effectiveness, the coefficients of interaction terms of probability of cross-border M&As with other governance are significantly positive for Tobin's Q. This suggests that bank engaging cross-border M&As with larger difference in governance between bidder and target bank gain higher Tobin's Q but lower excess value except for political instability and accountability and voice. This finding is different from Laeven and Levine (2007) who indicated no significant effect of M&As on bank's market value.

[Table 7 is approximately inserted here]

Regarding the control variables for bank characteristics, the coefficients of market capitalization, DL, ED and growth rate of asset and income are all significantly positive related to Tobin's Q and excess value. This result implies that banks with higher market capitalization and better growth



opportunities for cross-board M&As would gain much higher market valuation. This empirical evidence is similar to Laeven and Levine (2007). Additionally, coefficient of EA for excess value in income is significantly negative implicating that bank with higher market valuation are positively related to the degree of financial leverage and the higher capital ratio.

#### *4.5 The Impacts of Regulatory Arbitrage through Cross-Border M&As on Bank's Tobin's Q and Excess Values*

We use the following banking supervision as regulatory arbitrage including foreign applications for banking licenses, minimum capital-asset ratio requirement, and allowance for activities of securities, insurance, real estate, and compulsory external audit. As shown in Table 8, CB M&As with larger difference in allowance for activities of securities, insurance, real estate, and compulsory external audit between bidder and target bank would economically enhance bank's excess value adjusted by asset and income.

[Table 8 is approximately inserted here]

The coefficient estimate of differences in foreign applications for banking licenses that greater foreign application for CB M&As is associated with a higher market valuation in Tobin's Q but limited excess value.

## **5. Conclusion**

Using an international data on cross-border M&As of 64 listed banks (25 cross-border deals and 39 domestic deals) around the world from 2004 to 2008, this paper aims to identify the determinants of international takeovers and their impact on the market performance of bidder banks. The results show that banks are more likely to acquire in a cross-border deal if their total asset are large and ROE are poor. Nevertheless, post-acquisitions performance does not improve in the first year but significantly

enhanced at third years after a CB M&As.

However, empirical results indicates that bank involving cross-border deals would enhance their market value measured by Tobin's Q and excess value adjusted by asset and income, namely.

Furthermore, cross-border M&As with larger difference in institutions and governance between bidder and target bank would significantly increase bank's Tobin's Q but the case would otherwise decrease bank's excess value adjusted by asset and income, respectively. Regarding the regulatory arbitrage, cross-border M&As with larger differences in allowance for activities of securities, insurance, real estate, and compulsory external audit between bidder and target bank would economically enhance bank's excess value adjusted by asset and income.

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**Table 1**  
**Motives and risks of domestic and cross-border M&As**

	Domestic M&As	Cross-border M&As
Motives and rationalization	<ol style="list-style-type: none"> <li>1. Economies of scale</li> <li>2. Economies of scope</li> <li>3. Size</li> </ol>	<ol style="list-style-type: none"> <li>1. Diversification</li> <li>2. Revenue efficiency</li> <li>3. Economies of scale and scope</li> <li>4. Size</li> </ol>
Risks	<ol style="list-style-type: none"> <li>1. Operating</li> <li>2. Cultural</li> <li>3. Reputation</li> <li>4. Strategic</li> </ol>	<ol style="list-style-type: none"> <li>1. Operating</li> <li>2. Accounting, reporting, regulation issues</li> <li>3. Foreign exchange risk</li> <li>4. Reputation</li> <li>5. Strategic</li> </ol>

Note: This table is adopted from Asimakopoulos and Athanasoglou (2009).



**Table 2**  
**Deals by country.**

<b>Bidder bank</b>		COUNTRY	AUS	BEL	DEU	GRC	HKG	IND	ISR	ITA	JPN	NLD	NOR	PHL	POL	PRT	SGP	ESP	SWE	CHE	TWN	GBR	USA	TOTAL			
<b>Target bank</b>	AUS	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5			
	BGR	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
	CHN	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	FRA	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	DEU	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	
	GRC	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
	HKG	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
	IND	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	6	
	IDN	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	
	IRL	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	JPN	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	KOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
	NLD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
	NOR	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	PHL	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	
	POL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	
	PRT	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3	
	ESP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
	SWE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
	CHE	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	TWN	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	4	
	TUR	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	GBR	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	4	
	USA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	15	16	
	VIR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
	<b>TOTAL</b>		<b>4</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>7</b>	<b>18</b>	<b>64</b>		

Note: AUS = AUSTRALIA, BEL = BELGIUM, BGR = BULGARIA, CHN = CHINA, FRA = FRANCE, DEU = GERMANY, GRC = GREECE, HKG = HONG KONG, IND = INDIA, IDN = INDONESIA, IRL = IRELAND, ISR = ISRAEL, ITA = ITALY, JPN = JAPAN, KOR = KOREA SOUTH, NLD = NETHERLANDS, NOR = NORWAY, PHL = PHILIPPINES, POL = POLAND, PRT = PORTUGAL, SGP = SINGAPORE, ESP = SPAIN, SWE = SWEDEN, CHE = SWITZERLAND, TWN = TAIWAN, TUR = Turkey, GBR = UNITED KINGDOM, USA = UNITED STATES, VIR = VIRGINIA.

**Table 3**  
**Cross-Border and Domestic M&As Deals by Year and World Regions**

**Panel A: M&As Distributions by Year**

Year	Cross-Border M&As		Domestic M&As		Total	
	Deals	%	Deals	%	Deals	%
2004	2	8	8	20.51	10	15.63
2005	5	20	6	15.38	11	17.19
2006	7	28	9	23.07	16	25
2007	8	32	13	33.3	21	32.81
2008	3	12	3	7.74	6	9.37

**Panel B: M&As Distributions by World Regions**

Regions	Cross-Border M&As		Domestic M&As		Total	
	Deals	%	Deals	%	Deals	%
Africa	0	0	0	0	0	0
Europe	15	60	11	28.21	26	40.62
Far East and Central Asia	5	20	10	25.64	15	23.44
Middle East Asia	1	4	0	0	1	1.56
North America	3	12	15	38.46	18	28.13
Oceania	1	4	3	7.69	4	6.25
South and Central America	0	0	0	0	0	0

**Panel B: M&As Distributions by Country**

Country	Cross-Border M&As		Domestic M&As		Total	
	Deals	%	Deals	%	Deals	%
AUSTRALIA	1	4	3	7.69	4	6.25
BELGIUM	1	4	0	0	1	1.56
GERMANY	1	4	2	5.13	3	4.69
GREECE	2	8	1	2.56	3	4.69
HONG KONG	0	0	2	5.13	2	3.13
INDIA	1	4	5	12.82	6	9.38
ISRAEL	1	4	0	0	1	1.56
ITALY	2	8	0	0	2	3.13
JAPAN	2	8	1	2.56	3	4.69
NETHERLANDS	1	4	0	0	1	1.56
NORWAY	0	0	1	2.56	1	1.56
PHILIPPINES	0	0	1	2.56	1	1.56
POLAND	0	0	1	2.56	1	1.56
PORTUGAL	1	4	2	5.13	3	4.69
SINGAPORE	2	8	0	0	2	3.13
SPAIN	1	4	1	2.56	2	3.13
SWEDEN	0	0	1	2.56	1	1.56
SWITZERLAND	1	4	0	0	1	1.56
TAIWAN	1	4	1	2.56	2	3.13
UNITED KINGDOM	5	20	2	5.13	7	10.94
USA	3	12	15	38.46	18	28.13

**Table 4**  
**Descriptive Statistics of Variables by Different M&As Deals**

Variable	All Sample			Cross-Border M&As Deals			Domestic M&As Deals			Difference between Cross-Border and Domestic M&As	
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	F-statistics	P-value
<b>Dependent Variables</b>											
Tobin's Q	63	0.971	0.253	38	0.991	0.074	25	0.941	0.394	0.58	0.449
Excess value adjusted by assets	64	-0.088	0.299	39	-0.054	0.203	25	-0.142	0.405	1.32	0.255
Excess value adjusted by income	64	-0.092	0.267	39	-0.062	0.116	25	-0.139	0.402	1.27	0.264
<b>Independent Variables</b>											
<i>Bank Characteristics</i>											
Deposits/Liabilities	64	0.714	0.208	39	0.761	0.195	25	0.642	0.209	5.35**	0.024
Equity/Total Assets	64	0.072	0.035	39	0.080	0.034	25	0.061	0.034	4.50**	0.038
Equity/Deposits	64	0.114	0.082	39	0.110	0.043	25	0.121	0.122	0.26	0.613
Growth Rate of Total Assets	64	0.153	0.224	39	0.166	0.202	25	0.134	0.258	0.31	0.578
Growth Rate of Income	64	-1.521	12.863	39	0.154	0.777	25	-4.134	20.536	1.71	0.196
Log(Operating Income)	63	5.907	1.365	39	5.542	1.449	24	6.501	0.979	8.18***	0.006
Return on Equity (ROE)	64	13.573	12.618	39	15.227	6.788	25	10.993	18.264	1.74	0.193
Log(Total Assets)	64	0.127	0.018	39	0.131	0.017	25	0.121	0.0175	5.06**	0.028
Log(Market Capitalization)	64	13.448	1.355	39	13.227	1.446	25	13.791	1.143	2.71	0.105
<i>Deal Characteristics</i>											
Friendly M&As	64	0.266	0.445	39	0.205	0.409	25	0.360	0.490	1.87	0.177
<i>Macroeconomic Condition</i>											
Inflation (CPI Index)	64	2.641	1.277	39	2.795	1.218	25	2.400	1.354	1.47	0.230
Log(GDP)	64	9.834	2.612	39	9.731	2.329	25	9.995	3.044	0.15	0.696
<i>Institutional Difference between Acquirer and Target Banks</i>											
DIF (Shareholder Protection)	64	0.192	1.473	39	0.492	2.354	25	0	0	1.72	0.195
DIF (Business Freedom)	64	3.065	10.442	39	7.847	15.720	25	0	0	9.81***	0.003
DIF (Trade Freedom)	64	1.555	9.988	39	3.980	15.869	25	0	0	2.48	0.121
DIF (Fiscal Freedom)	64	-1.408	6.496	39	-3.605	10.125	25	0	0	4.99**	0.029
DIF (Monetary Freedom)	64	1.281	4.072	39	3.279	6.058	25	0	0	11.53***	0.001
DIF (Investment Freedom)	64	4.688	13.912	39	12.000	20.412	25	0	0	13.6***	0.001
DIF (Financial Freedom)	64	3.438	13.711	39	8.800	21.079	25	0	0	6.86**	0.011
DIF (Corruption)	64	7.016	17.821	39	17.960	25.077	25	0	0	20.19***	0.000
DIF (Labour Freedom)	63	3.292	14.698	39	8.641	23.111	24	0	0	5.51**	0.022
<i>Governance Difference between Acquirer and Target Banks</i>											
DIF (Control of Corruption)	64	0.231	0.813	39	0.592	1.230	25	0	0	9.11***	0.004
DIF (Rule of Law)	64	0.180	0.653	39	0.462	0.992	25	0	0	8.53***	0.005
DIF (Regulatory Quality)	64	0.179	0.551	39	0.457	0.815	25	0	0	12.39***	0.001
DIF(Government Effectiveness)	64	0.189	0.697	39	0.485	1.061	25	0	0	8.20***	0.006
DIF (Political Instability)	64	0.072	0.641	39	0.184	1.028	25	0	0	1.26	0.266
DIF (Accountability and Voice)	64	0.124	0.519	39	0.318	0.802	25	0	0	6.19**	0.016

Note: \*, \*\*, \*\*\*, denoted statistically significant at 10%, 5%, 1%, respectively.

**Table 5**  
**Cross-Country Determinants of Cross-Border Bank M&As**

Independent Variables	Institutional Difference between Acquirer and Target Bank									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Constant	9.677 (1.284)	8.191 (1.417)	11.483 (1.565)	7.831 (1.367)	11.412* (1.825)	7.798 (1.191)	8.674 (1.405)	7.523 (1.213)	12.735 (1.434)	5.982 (0.981)
Friendly M&As	-0.786 (-0.921)	-0.277 (-0.392)	-0.986 (-1.162)	-0.206 (-0.304)	-0.133 (-0.186)	-0.230 (-0.318)	-0.489 (-0.651)	-0.294 (-0.408)	-0.573 (-0.637)	-0.050 (-0.070)
Log(Total Assets)	-95.867** (-2.451)	-79.097*** (-2.697)	-99.416*** (-2.681)	-78.083*** (-2.661)	-88.078*** (-2.742)	-88.309*** (-2.660)	-77.380** (-2.495)	-74.820** (-2.406)	-113.355** (-2.484)	-73.071** (-2.328)
ROE	-0.173*** (-3.178)	-0.104*** (-2.625)	-0.167*** (-3.222)	-0.092** (-2.354)	-0.098** (-2.444)	-0.087** (-2.174)	-0.090** (-2.351)	-0.119*** (-2.923)	-0.171*** (-3.228)	-0.121*** (-2.951)
Log(Market Capitalization)	0.373 (1.226)	0.297 (1.124)	0.327 (1.092)	0.271 (1.049)	0.050 (0.190)	0.400 (1.327)	0.202 (0.749)	0.322 (1.160)	0.168 (0.514)	0.436 (1.459)
DIF (Overall Freedom)	0.044** (2.548)									
DIF (Shareholder Protection)		0.404 (1.635)								
DIF (Business Freedom)			0.246** (2.538)							
DIF (Trade Freedom)				0.052 (1.261)						
DIF (Fiscal Freedom)					-0.133** (-2.265)					
DIF (Monetary Freedom)						0.401** (2.215)				
DIF (Investment Freedom)							0.085** (2.356)			
DIF (Financial Freedom)								0.077** (2.318)		
DIF (Corruption)									0.236*** (2.909)	0.070** (2.496)
DIF (Labour Freedom)										
Inflation	0.140 (0.448)	-0.111 (-0.439)	0.023 (0.079)	-0.021 (-0.074)	-0.262 (-1.013)	-0.071 (-0.245)	-0.104 (-0.362)	-0.099 (-0.373)	0.126 (0.352)	-0.007 (-0.026)
Log(GDP)	-0.158 (-1.132)	-0.111 (-0.929)	-0.188 (-1.424)	-0.091 (-0.786)	0.034 (0.263)	-0.158 (-1.200)	-0.086 (-0.689)	-0.124 (-0.990)	0.005 (0.033)	-0.182 (-1.393)
Observations	63	64	64	64	64	64	64	64	64	63
Pseudo R <sup>2</sup>	0.396	0.227	0.357	0.215	0.262	0.325	0.296	0.284	0.474	0.276
$\chi^2$	33.18***	19.47***	30.60***	18.37	22.45***	27.86***	25.32***	24.35***	40.62***	23.12***

Note: \*, \*\*, \*\*\*, denoted statistically significant at 10%, 5%, 1%, respectively; *t*-statistics are presented in brackets.

**Table 6**  
**Bank Sequential Market Performance after M&As: Cross-Border versus Domestic Deals**

Independent Variables	Cross-Border M&As			Domestic M&As		
	TobQ	EXAsset	EXIncome	TobQ	EXAsset	EXIncome
Constant	1.037*** (14.295)	-0.463*** (-7.460)	-0.405*** (-3.614)	0.873*** (8.322)	-0.527*** (-3.775)	-0.740*** (-4.410)
Probability(CB M&A)	0.210*** (6.040)	0.166*** (3.284)	0.441*** (8.477)	0.109** (2.066)	0.096 (1.405)	0.381*** (6.264)
M&A <sub>t</sub>	-0.093*** (-4.696)	-0.080** (-2.254)	-0.294*** (-6.717)	0.009 (0.225)	0.041 (0.875)	0.226*** (4.594)
M&A <sub>t+1</sub>	0.049 (0.604)	0.035 (1.367)	0.021 (0.567)	0.074* (1.767)	0.052 (1.215)	0.034 (0.705)
M&A <sub>t+2</sub>	-0.385*** (-3.845)	-0.226*** (-3.645)	-0.398*** (-3.669)	0.041 (0.855)	0.062 (1.505)	0.079** (2.309)
M&A <sub>t+3</sub>	0.419*** (3.360)	0.238*** (3.747)	0.352*** (3.088)	—	—	—
Log(Market Capitalization)	-0.006** (-2.026)	0.028*** (4.845)	0.010 (1.545)	0.007 (1.089)	0.031*** (3.375)	0.018* (1.735)
Deposits/Liabilities	0.236*** (4.258)	0.265*** (4.381)	0.234*** (3.513)	0.190*** (2.597)	0.150** (2.301)	0.177** (2.185)
Equity/Total Assets	-1.624 (-1.446)	-1.342 (-0.699)	2.430 (1.424)	-0.873 (-0.367)	-2.214 (-0.996)	4.934** (2.027)
Equity/Deposits	1.233*** (6.857)	1.362*** (5.630)	1.466*** (3.704)	0.491 (1.398)	0.545** (2.203)	0.467 (1.348)
Growth Rate of Total Assets	-0.019 (-0.572)	0.237*** (3.053)	0.213*** (5.089)	-0.092*** (-2.590)	0.150** (2.010)	0.153*** (3.004)
Growth Rate of Income	0.001*** (3.127)	0.000 (0.738)	-0.000 (-0.184)	0.001** (2.313)	-0.000 (-0.396)	-0.000 (-0.899)
Log(Operating Income)	-0.034*** (-4.364)	-0.044*** (-4.782)	-0.016 (-1.307)	-0.025*** (-2.708)	-0.030*** (-3.235)	-0.006 (-0.986)
Log(GDP)	0.005* (1.672)	0.000 (0.157)	0.007* (1.894)	0.001 (0.393)	0.000 (0.078)	0.002 (0.486)
Observations	59	59	59	59	59	59
$\chi^2$	2,434***	3,435***	850.7***	102.5***	214.9***	167***

Note: \*, \*\*, \*\*\*, denoted statistically significant at 10%, 5%, 1%, respectively; *t*-statistics are presented in brackets.

**Table 7**  
**Impacts of Governance Difference between Acquirer and Target Bank on Cross-Border M&As Performance**

Independent Variables	Overall Governance			Rule of Law			Regulatory Quality			Government Effectiveness			Political Instability			Accountability and Voice		
	TobQ	EXAsset	EXIncome	TobQ	EXAsset	EXIncome	TobQ	EXAsset	EXIncome	TobQ	EXAsset	EXIncome	TobQ	EXAsset	EXIncome	TobQ	EXAsset	EXIncome
Constant	0.77*** (12.91)	-0.40*** (-4.75)	-0.38*** (-5.35)	0.77*** (12.03)	-0.35*** (-3.75)	-0.38*** (-5.59)	0.78*** (11.76)	-0.36*** (-4.66)	-0.35*** (-5.40)	0.77*** (11.45)	-0.33*** (-3.98)	-0.35*** (-5.46)	0.76*** (13.30)	-0.38*** (-4.99)	-0.39*** (-5.35)	0.79*** (14.46)	-0.37*** (-5.94)	-0.41*** (-5.51)
Probability(CB M&A)	0.08*** (2.91)	0.19*** (2.81)	0.14*** (4.15)	0.09*** (2.71)	0.29*** (4.83)	0.16*** (4.48)	0.08** (2.27)	0.26*** (3.76)	0.14*** (4.26)	0.08** (2.23)	0.41*** (11.70)	0.14*** (4.47)	0.09*** (4.90)	0.13*** (2.89)	0.11*** (4.84)	0.10*** (5.72)	0.08 (1.59)	0.14*** (10.09)
Probability(CB M&A)× DIF(Overall Governance)	0.00** (2.22)	-0.01** (-1.98)	-0.01*** (-2.91)															
Probability(CB M&A)× DIF (Rule of Law)	0.02* (1.76)	-0.10*** (-4.41)	-0.04*** (-3.37)				0.02* (1.78)	-0.10*** (-3.68)	-0.03*** (-3.10)									
Probability(CB M&A)× DIF (Regulatory Quality)																		
Probability(CB M&A)× DIF(Government Effectiveness)																		
Probability(CB M&A)× DIF (Political Instability)																		
Probability(CB M&A)× DIF (Accountability and Voice)																		
Log(Market Capitalization)	0.02*** (3.57)	0.02*** (3.70)	0.03*** (6.35)	0.02*** (3.58)	0.02*** (2.70)	0.03*** (5.56)	0.02*** (3.75)	0.02*** (3.00)	0.03*** (6.46)	0.02*** (3.80)	0.01* (1.70)	0.03*** (5.85)	0.02*** (3.89)	0.01** (2.45)	0.03*** (5.52)	0.01*** (2.85)	0.02*** (3.50)	0.03*** (5.42)
Deposits/Liabilities	0.23*** (4.07)	0.18*** (2.89)	0.25*** (6.26)	0.23*** (3.91)	0.20*** (3.21)	0.27*** (6.22)	0.22*** (3.57)	0.15*** (4.50)	0.24*** (6.49)	0.22*** (3.62)	0.22*** (5.34)	0.25*** (6.60)	0.24*** (4.38)	0.20*** (3.03)	0.27*** (5.97)	0.23*** (4.11)	0.17*** (3.32)	0.24*** (5.90)
Equity/Total Assets	-2.09 (-1.30)	-0.68 (-0.45)	-3.86*** (-3.09)	-1.95 (-1.20)	-1.15 (-0.77)	-3.70*** (-3.53)	-2.23 (-1.33)	-1.21 (-0.88)	-4.09*** (-3.23)	-2.13 (-1.28)	-1.21 (-1.01)	-4.06*** (-3.64)	-1.92 (-1.20)	0.54 (0.32)	-3.64*** (-2.41)	-2.95* (-1.81)	0.20 (0.18)	-3.90*** (-2.72)
Equity/Deposits	0.68*** (2.71)	0.30 (1.49)	0.77*** (6.73)	0.69*** (2.69)	0.30* (1.68)	0.79*** (8.44)	0.67** (2.55)	0.11 (0.50)	0.80*** (6.41)	0.68*** (2.64)	0.05 (0.26)	0.79*** (7.73)	0.65*** (2.64)	0.45* (1.87)	0.86*** (5.88)	0.61** (2.33)	0.38** (2.06)	0.72*** (6.14)
Growth Rate of Total Assets	-0.01 (-0.88)	0.11*** (2.62)	0.25*** (6.42)	-0.02 (-0.90)	0.14*** (3.22)	0.25*** (6.95)	-0.01 (-0.58)	0.09** (2.34)	0.26*** (6.73)	-0.02 (-0.80)	0.13*** (3.68)	0.25*** (6.96)	-0.02 (-0.90)	0.06 (1.29)	0.25*** (6.42)	-0.01 (-0.58)	0.08** (2.17)	0.23*** (5.79)
Growth Rate of Income	0.00*** (3.36)	0.00** (2.54)	0.00*** (7.02)	0.00*** (2.76)	0.00*** (4.22)	0.00*** (6.42)	0.00*** (2.59)	0.00*** (3.58)	0.00*** (7.73)	0.00*** (2.72)	0.00*** (8.06)	0.00*** (7.27)	0.00*** (4.20)	0.00*** (2.93)	0.00*** (9.29)	0.00*** (4.51)	0.00 (1.51)	0.00*** (16.61)
Log(Operating Income)	-0.04*** (-7.75)	-0.03*** (-6.28)	-0.06*** (-15.77)	-0.04*** (-7.88)	-0.04*** (-7.32)	-0.06*** (-17.32)	-0.04*** (-7.87)	-0.03*** (-5.70)	-0.06*** (-18.34)	-0.04*** (-7.92)	-0.04*** (-6.48)	-0.06*** (-15.11)	-0.04*** (-7.58)	-0.03*** (-6.31)	-0.06*** (-15.11)	-0.04*** (-8.97)	-0.02*** (-4.97)	-0.06*** (-14.79)
Log(GDP)	0.00* (1.89)	0.00 (0.67)	0.00 (0.64)	0.00 (1.37)	0.00 (1.33)	0.00 (0.67)	0.00 (1.05)	0.00 (0.46)	0.00** (2.15)	0.00 (0.99)	0.01** (2.33)	0.00* (1.95)	0.01** (2.33)	0.01* (1.83)	0.00 (0.60)	0.01** (2.40)	0.00 (0.05)	0.00 (0.08)
Observations	61	62	62	61	62	62	61	62	62	61	62	62	61	62	62	61	62	62
$\chi^2$	276.0***	1,871***	2,405***	455.1***	2,076***	3,364***	405.2***	1,140***	3,324.1***	335.1***	1,157***	8,588***	204.7***	692.7***	2,118***	255.8***	491.9***	5,963***

Note: \*, \*\*, \*\*\*, denoted statistically significant at 10%, 5%, 1%, respectively; *t*-statistics are presented in brackets.

**Table 8**

**Impacts of Regulatory arbitrage between Acquirer and Target Bank on Cross-Border M&As Performance**

Independent variables	Foreign applications for banking licenses			Minimum capital-asset ratio requirement			Activities of securities		
	TobQ	EXAsset	EXIncome	TobQ	EXAsset	EXIncome	TobQ	EXAsset	EXIncome
Constant	0.30** (2.26)	-0.35*** (-5.16)	-0.33*** (-3.74)	0.77*** (12.77)	-0.37*** (-5.82)	-0.36*** (-4.45)	0.75*** (11.05)	-0.34*** (-4.17)	-0.43*** (-5.41)
Probability (CB M&A)	-0.02 (-0.89)	0.09*** (3.25)	0.11*** (6.72)	0.02 (0.85)	0.10*** (2.76)	0.10*** (5.30)	0.03 (1.28)	0.23*** (7.21)	0.14*** (5.26)
Probability (CB M&A)×Foreign applications for banking licenses	0.00*** (3.67)	-0.00*** (-4.82)	-0.00*** (-6.91)						
Probability (CB M&A)×Minimum capital-asset ratio requirement				-3.28 (-1.34)	-1.65 (-0.50)	-0.22 (-0.25)			
Probability (CB M&A)×Activities of Securities							0.00 (0.70)	0.12*** (4.61)	0.07*** (5.20)
Deposits/Liabilities	0.23*** (2.90)	0.21*** (5.27)	0.24*** (5.27)	0.24*** (5.99)	0.17*** (3.22)	0.23*** (4.87)	0.26*** (6.07)	0.17*** (3.67)	0.24*** (6.37)
Equity/Total Assets	2.52 (0.72)	0.98 (1.13)	-4.41*** (-3.19)	-2.00 (-1.30)	0.67 (0.60)	-4.52*** (-3.04)	-1.84 (-1.17)	-0.88 (-0.69)	-4.31*** (-3.03)
Equity/Deposits	-0.01 (-0.01)	0.58*** (2.93)	0.95*** (6.01)	0.62** (2.42)	0.35 (1.61)	0.77*** (5.43)	0.66** (2.44)	0.45** (2.15)	0.96*** (7.10)
Equity/ Liabilities	-1.92 (-0.65)	-2.27*** (-2.80)	2.32* (1.75)	0.46 (0.35)	-1.57 (-1.37)	2.77* (1.94)	0.27 (0.19)	-0.44 (-0.37)	2.39* (1.67)
Growth Rate of Total Assets	-0.09*** (-2.94)	0.09** (2.38)	0.24*** (6.61)	-0.02 (-1.12)	0.08** (2.29)	0.23*** (6.12)	-0.03 (-1.18)	0.08* (1.91)	0.26*** (5.63)
Growth Rate of Income	-0.00*** (-3.68)	0.00*** (4.14)	0.00*** (5.69)	0.00*** (4.57)	0.00* (1.86)	0.00*** (4.60)	0.00*** (4.66)	0.00*** (5.60)	0.00*** (9.45)
Log(Operating Income)	-0.02** (-2.44)	-0.02*** (-3.84)	-0.06*** (-8.17)	-0.04*** (-9.08)	-0.02*** (-3.35)	-0.06*** (-9.23)	-0.04*** (-12.06)	-0.03*** (-4.64)	-0.06*** (-11.40)
Log(GDP)	-0.00 (-0.30)	0.01** (2.19)	0.00** (2.15)	0.00* (1.68)	0.01 (1.64)	0.00 (1.22)	0.00 (1.46)	0.01*** (3.23)	0.01** (2.29)
Log(Market Capitalization)	0.05*** (5.67)	0.01** (2.43)	0.02*** (4.65)	0.02*** (3.67)	0.01*** (2.61)	0.03*** (5.28)	0.02*** (3.99)	0.01* (1.70)	0.03*** (5.51)
Observations	61	62	62	61	62	62	61	62	62
$\chi^2$	123.4***	8,364***	1,383***	411.5***	2,393***	10,068***	5,738***	675.6***	1,188***

Note: \*, \*\*, \*\*\*, denoted statistically significant at 10%, 5%, 1%, respectively; *t*-statistics are presented in brackets.

**Table 8 (continued)**

Independent Variables	Activities of insurance			Activities of real estate			Compulsory external audit		
	TobQ	EXAsset	EXIncome	TobQ	EXAsset	EXIncome	TobQ	EXAsset	EXIncome
Constant	0.74***	-0.36***	-0.41***	0.75***	-0.44***	-0.44***	0.42***	-0.29***	-0.30***
	(-10.84)	(-5.19)	(-5.24)	(-11.05)	(-4.45)	(-5.34)	(-8.73)	(-2.77)	(-3.72)
Probability(CB M&A)	0.02	0.08**	0.10***	0.02	0.15***	0.14***	0.01	0.09***	0.11***
	(-0.89)	(-2.43)	(-5.53)	(-1.09)	(-3.96)	(-4.63)	(-0.52)	(-3.01)	(-5.76)
Probability(CB M&A)*	0.00	0.01	0.03**						
Activities of Insurance	(-0.45)	(-0.45)	(-2.00)						
Probability(CB M&A)*				0.00	0.05***	0.04***			
Activities of Real estate				(-0.67)	(-2.70)	(-3.98)			
Probability(CB M&A)*							-305.07***	18.62***	19.32***
external audit							(-4.89)	(-5.35)	(-5.84)
Deposits/Liabilities	0.24***	0.15***	0.25***	0.26***	0.13*	0.24***	0.17***	0.18***	0.25***
	(-4.76)	(-2.94)	(-5.31)	(-5.75)	(-1.85)	(-5.38)	(-4.74)	(-3.47)	(-6.07)
Equity/Total Assets	-1.89	0.11	-3.73**	-1.86	-0.07	-4.34***	3.61***	-0.09	-5.02***
	(-1.22)	(-0.10)	(-2.55)	(-1.20)	(-0.04)	(-2.69)	(-4.07)	(-0.06)	(-3.55)
Equity/Deposits	0.66**	0.41*	0.90***	0.66**	0.31	0.68***	0.25*	0.39*	0.82***
	(-2.47)	(-1.88)	(-6.12)	(-2.47)	(-1.29)	(-4.83)	(-1.87)	(-1.74)	(-5.57)
Equity/ Liabilities	0.36	-1.25	1.86	0.29	-0.67	2.75*	-3.00***	-1.16	2.96**
	(-0.26)	(-1.13)	(-1.28)	(-0.21)	(-0.41)	(-1.73)	(-4.28)	(-0.88)	(-2.11)
Growth Rate of Total Assets	-0.03	0.09***	0.24***	-0.03	0.11**	0.22***	-0.12***	0.07*	0.24***
	(-1.31)	(-2.72)	(-7.63)	(-1.16)	(-2.28)	(-4.69)	(-11.06)	(-1.88)	(-7.01)
Growth Rate of Income	0.00***	0.00	0.00***	0.00***	0.00**	0.00***	0.00	0.00**	0.00***
	(-3.50)	(-1.37)	(-5.54)	(-4.66)	(-2.08)	(-9.22)	(-0.90)	(-2.18)	(-5.70)
Log(Operating Income)	-0.04***	-0.02***	-0.06***	-0.04***	-0.02***	-0.06***	0.01	-0.02***	-0.06***
	(-6.97)	(-3.52)	(-9.27)	(-10.19)	(-2.81)	(-12.20)	(-1.50)	(-2.91)	(-9.85)
Log(GDP)	0.001	0.01	0.001	0.001	0.01***	0.001	0.001	0.01*	0.00
	(-1.60)	(-1.30)	(-1.22)	(-1.52)	(-3.07)	(-0.71)	(-1.26)	(-1.79)	(-1.52)
Log(Market Capitalization)	0.02***	0.02***	0.03***	0.02***	0.02**	0.03***	0.03***	0.01**	0.02***
	(-3.86)	(-2.76)	(-5.52)	(-3.94)	(-2.52)	(-5.85)	(-5.44)	(-2.15)	(-4.97)
Observations	61	62	62	61	62	62	61	62	62
$\chi^2$	395***	469.8***	774.9***	517.6***	214.6***	2,007***	6,849***	241.9***	961.9***

Note: \*, \*\*, \*\*\*, denoted statistically significant at 10%, 5%, 1%, respectively; *t*-statistics are presented in brackets.



# 國科會補助計畫衍生研發成果推廣資料表

日期:2012/01/09

國科會補助計畫	計畫名稱：外國銀行進入模式選擇對經營績效與獲利性的影響－全球銀行的實證研究
	計畫主持人：陳昇鴻
	計畫編號：99-2410-H-343-010- 學門領域：企業經濟學
無研發成果推廣資料	

99 年度專題研究計畫研究成果彙整表

計畫主持人：陳昇鴻		計畫編號：99-2410-H-343-010-					
計畫名稱：外國銀行進入模式選擇對經營績效與獲利性的影響－全球銀行的實證研究							
成果項目		量化			單位	備註（質化說明：如數個計畫共同成果、成果列為該期刊之封面故事...等）	
		實際已達成數（被接受或已發表）	預期總達成數（含實際已達成數）	本計畫實際貢獻百分比			
國內	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	2	2	100%		The 19th Conference on the Theories and Practices of Securities and Financial Markets (SFM), Kaohsiung, Taiwan, December 9 - 10, 2011. (National Sun Yat-Sen University) 2012 International Conference on Trade, Industrial and Regional Economics, Taipei, Taiwan, March 15-16, 2012. (Tamkang University)
		專書	0	0	100%		
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（本國籍）	碩士生	3	3	100%	人次	沈玉君、陳芄姁、周隆耀
		博士生	1	1	100%		陳益璋
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		

國外	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	3	3	100%		2012 Southwestern Finance Association (SWFA) Annual Meeting, New Orleans, USA, February 28 - March 3, 2012. (Sheraton Hotel) 2012 Midwest Finance Association (MFA) Annual Meeting, New Orleans, USA, February 22-25, 2012. (Sheraton Hotel) The 18th Annual Conference of the Multinational Finance Society (MFS), Rome, Italy, June 26 - 29, 2011. (Luiss Guido Carli University)
	專書	0	0	100%	章/本		
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力 (外國籍)	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		

<p style="text-align: center;">其他成果</p> <p>(無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。)</p>	無
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	成果項目	量化	名稱或內容性質簡述
科 教 處 計 畫 加 填 項 目	測驗工具(含質性與量性)	0	
	課程/模組	0	
	電腦及網路系統或工具	0	
	教材	0	
	舉辦之活動/競賽	0	
	研討會/工作坊	0	
	電子報、網站	0	
	計畫成果推廣之參與(閱聽)人數	0	

# 國科會補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

達成目標

未達成目標（請說明，以 100 字為限）

實驗失敗

因故實驗中斷

其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文： 已發表  未發表之文稿  撰寫中  無

專利： 已獲得  申請中  無

技轉： 已技轉  洽談中  無

其他：（以 100 字為限）

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）（以 500 字為限）

【研究成果意義】：是否外國銀行的進入模式的選擇差異對其日後經營效率與獲利表現上具有顯著的影響，近年來儼然已受到多國籍企業與國際金融專家的高度關注，但目前多數的進入模式選擇之實證分析多以特定國家或單一區域為研究對象，以全球外國銀行的比較實證分析相當不足，無法提供更充分且完整的觀點與證據。

【研究成果價值】：認定影響外國銀行進入模式的決定因素為何，特別是同時控制銀行特性，以及跨國間國家特性差異等因素，更完整認定跨國重要的影響因素。當地主國金融市場的經營環境愈競爭時，對於外國銀行在篩選放款效率的能力要求標準則愈低，且預期外國銀行的平均放款篩選效率的能力也較低。跨國放款傾向於最嚴格管制的業務，且最有效率的外國銀行傾向於以併購國內銀行而進入地主國。實證研究結果將更瞭解外國銀行選擇進入模式的差異性，有助於各國金融當局在調整其外國銀行進入政策執行方向上，作為重要的參考依據。應用「共同邊際法」(Meta-Frontier Approach)將全球外國銀行區分成新設投資與跨國併購兩類後，再以資料包絡法(DEA)估計全球外國銀行的效率值，藉以探討不同進入模式對外國銀行在經營效率與獲利性的差異性為何，同時也控制「地主國」與「母國」(Home Country)間在總體經濟表現、法規制度結構以及機構治理結構等方面的差異性與相似性等因素。實證研究結果將瞭解採用不同的進入模式對外國銀行在經營效率與獲利性的差異性，有助於外國銀行在擬定進入模式策略選擇上，作為重要的參考依據。

【研究成果影響】：使用 1996 至 2009 年間，來自 54 國總共認定 1,035 家外國銀行中，包括 301 家跨國併購及 724 家新設投資作為進入模式的完整追蹤資料。當外國銀行其母國銀

行擁有較佳的貸款篩選技術時，則較傾向於選擇以新設投資方式進入大市場規模的地主國。當選擇以跨國併購作為進入模式的外國銀行，在進入地主國市場後淨利息收益、資產報酬率、以及權益報酬率方面表現出較佳的績效。但是淨利息收益在進入後 10 年轉為負，而選擇以新設投資方式進入地主國的外國銀行，其獲利表現在進入後皆表現不佳。依據共同邊界資料包絡法所求得 TGR 效率值來看，選擇以跨國併購的外國銀行進入地主國市場時，其效率較選擇以新設投資的銀行為高。同時，本研究發現外國銀行不論在獲利性或效率方面，都展現出顯著的持續性。然而，當外國銀行其母國銀行和母國經濟情況較佳時，可顯著提升地主國外國銀行的經營效率與獲利。

**【進一步發展之可能性】**：考慮外國銀行所有權結構、公司治理品質、銀行風險、以及國家風險等因素，完整分析全球金融危機前、中、後對銀行獲利與績效的影響。