CHAPTER 6 CONCLUSION AND RECOMMENDATIONS

This final chapter provides the overview and major findings of the research based on the previous chapter, the limitation of this study, and ends with the recommendation for future research.

6.1 OVERVIEW

This paper is an attempt to determine the factors that affect bank profits and interest margins of banks operating in ten countries in the East Asia and Latin America regions during the period 2003 to 2008. The countries are Malaysia, Thailand, Indonesia, Korea, Argentina, Brazil, Colombia, Mexico, Peru and Argentina. Literature of both banking profits and interest margins are reviewed for purpose of this study, which seeks to examine the following research questions:

i) What are the determinants of bank profits and interest margins in East Asia and in Latin America, as a group ?;

ii) What are the determinants of bank profits and interest margins in East Asia and Latin America, as individual regions ?; and

iii) Whether the determinants of bank profits and interest margins in East Asia and Latin America region differs ?

The measures used for bank profits are return on average assets (ROAA) and net interest margins (NIM). For ROAA, profit before taxes is used instead of after taxes, undistorted by taxation differences across countries. Based on literature, five bank characteristics are selected as measures for internal determinants and another three variables for external determinants. The five internal variables are the ratio of equity to total assets (EQAS), cost-to-income ratio (COST), the ratio of bank's loans to customer and short-term funding (LNDEP), the ratio of loan loss reserves to gross loans (LOSRES) and the bank's total assets (SIZE) which represent capital adequacy, management efficiency or expenses management, liquidity, credit or asset quality and size respectively. The external determinants are annual gross domestic product (GDP) growth, inflation (INF) and concentration ratio (CON3).

A balance panel of 167 banks is used for this study. Of the 167 banks, 78 banks represent East Asia, while the balance 89, Latin America. For purpose of this study, we first examine the determinants of bank profits and net interest margins based on the full sample of 167 banks, and then on two sub-groups, namely, East Asia (78 banks) and Latin America (89 banks). Robustness checks are based on ownership sub-group and large and small banks sub-group.

The regression function is estimated with panel least square estimation techniques, with fixed effects, and with White cross section standard errors & covariance (no d.f. correction) for a robust coefficient covariance to control for cross-section heteroskedasticity.

6.2 MAJOR FINDINGS

First, bank characteristics, rather than external factors explain a substantial part of within-country variation in bank interest margins and profits. This is consistent with previous findings. Secondly, there are determinants of bank profits and interest rate margins in East Asia and Latin America which are common to both regions, and determinants which are unique to a particular region only. Thirdly, external determinants are not statistically significant to the interest margins of banks operating in East Asia and Latin America (full sample and sub-groups). The major findings are summarized below.

In the full sample, EQAS, COST, SIZE and LOSRES effect both the ROAA and NIM equations, while LNDEP and INF influence NIM and ROAA respectively. For ROAA on East Asia and Latin America sub-groups, EQAS, COST, LOSRES & INF are the common variables which effect both the ROAA in East Asia and Latin America, though the strength of the coefficients and significant level for these variables may vary. There are also explanatory variables which effect only a particular region (SIZE in Latin America, GDP in East Asia), and variables (CON3) which impact ROAA in both regions but in different signs. For NIM on East Asia and Latin America sub-groups, EQAS, COST, LNDEP and SIZE are the common explanatory variables for banks in East Asia and Latin America, while LOSRES impact only the NIM of banks in Latin America. External factors do not influence the NIM equations in the full and sub-group samples. We now proceed to elaborate further on the various explanatory variables.

Capital adequacy is an important determinant of bank profits and interest margin in East Asia and Latin America, as a group, and as individual regions. Well capitalized banks (banks with higher equity to assets ratio) can charge more for loans and/or pay less on deposits as they faced lower risk of going bankrupt and the need for external funding is lower (Demirguc-Kunt et al., 2004). The higher interest margins on assets "translates" to better profitability ratios. (Abreau and Mendes, 2001). The impact of EQAS is higher for banks in East Asia, as the estimated coefficient is 0.1407, compared with 0.0480 in Latin America. This implies that for every 1 percentage point increase in capital, banks in East Asia is able to enjoy higher banks performance than their counter-part in Latin America. It should be noted that in this study, capital, although an important determinant, has no impact on the return on assets of foreign-owned banks and small banks.

Management efficiency/expenses management (COST) effects negatively the determinants of bank profits in East Asia and Latin America (in all groups), as expected. Poor management of operational cost can result in poor profitability. COST has a greater impact on the ROAA of Latin America (high estimated coefficient of -1.074 compared with -0.0427 for East Asia). By improving on efficiency, thereby reducing COST, banks in both regions, especially Latin America should be able to achieve higher profit. Contrary to previous studies, this study does not find any evidence of the positive relationship between COST and net interest margins. The negative relationship between COST and NIM for all groups implies that banks may not be able to entirely transfer their cost to their customers, perhaps due to administrative rules imposed by their regulators, market competition or simply, the bank's strategy of allowing their good customers more favourable rates. The banks could pass the cost into implicit interest rates, fees, or non interest bearing assets.

In this study, a higher LNDEP (the ratio of net loans to customers and short-term funding) reflect lower liquidity. LNDEP effect positively the net interest margin of banks in East Asia and Latin America. This suggest that banks are able to impose higher lending rates to borrowers in times of illiquid market conditions. In our study, there is no relationship between liquidity and bank profits. This results hold for the full sample and sub-groups of East Asia and Latin America. For ownership sub-group, LNDEP has positive impact on net interest margin of foreign owned banks only. As for the large and small banks group, there is a negative relationship between LNDEP and return on assets of large banks, positive relationship with net interest margin of large banks, and no impact on the profit and spread of small banks.

Credit or asset quality is an important determinant which effect banks performance in Latin America. Overall, for the full sample, credit risk is negatively related to ROAA, while there is a positive relation with NIM. For the sub-groups, except for the net interest margins equation for East Asia (no significant relationship), this relationship still holds. The estimated coefficient of LOSRES (loan loss reserves to gross loans) in the ROAA (-0.1466) and NIM equation (0.1521) for Latin America is much higher than the estimated -0.0362 in the ROAA equation for East Asia (NIM, -0.0250, not significant). This implies that banks in Latin America has higher level of loan provisions, which suggest poorer credit quality of loan portfolio, which lead to poorer profits. An increase in credit risk (or reduction in asset quality) requires higher net interest margins to compensate for the higher risk of default.

SIZE impact negatively bank profits and net interest margins of East Asia and Latin America, as a group, and Latin America (sub-group). SIZE does not have any impact on bank profits of East Asia (sub-group). It implies diseconomies of scale for the larger institutions operating in Latin America.

Economic activity (GDP) does not seem to have any impact on bank profits and net interest margins of East Asia and Latin America (full sample), Latin America (sub-sample), ownership sub-group and large and small sub-group, with the exception of positive relationship with profit of banks operating in East Asia and locally owned banks.

Inflation has positive impact on bank profits of East Asia and Latin America (full sample), and the sub-groups of East Asia and Latin America. There is no relationship with net interest margin. The significant impact on ROAA suggests that during the period of our study, the region bank's management were able to anticipate the level of inflation, and adjust their rates accordingly to have higher profits. However, surprisingly, inflation has no impact on net interest margins. This may mean that the banks may have gain higher profits from implicit interest rates, fees, for example, or other non interest bearing assets, rather than adjustment through interest bearing assets. Of interest is the positive relationship between inflation and the net interest margins and profits of foreign owned banks (no impact on locally owned banks). This suggest that foreign owned banks may be ahead in anticipating inflation relative to locally owned banks, perhaps due to better analyse of information, supported by their parent bank's international network.

Concentration effect positively bank profits in East Asia, and negatively the net interest margin of Latin America. The positive relationship may mean that there is lack of competition in banks operating in East Asia, which allows these banks to achieve higher profits. Concentration for Latin America does not seem to bring any benefit, which suggests that the banks in Latin America should focus on efficiency. There is no relationship between concentration and NIM for all three groups.

Bank spreads reflect the cost of financial intermediation, and in the absence of regulations on bank activities, the spreads may be high, and adversely affect domestic savings and investments. As such, the above findings may be beneficial to stakeholders such as policy makers, regulators, central banks, government, bankers association and bank's management who wishes to understand the underlying factors that affect banks performance due to the important role that banks play as financial intermediaries, The results are also useful to stakeholders who may want this as a guide to improve on bank performance, and also for understanding of factors that affect banks performance in two different environment (geographical, political, legal and regulatory and economic environment).

6.3 LIMITATION OF THE STUDY

We rely on the financial statements obtained from Bankscope for the bank-specific variables of banks operating in East Asia and Latin America countries, during the period 2003-2008. From a large sample of 533 banks, after correcting our sample for errors and outliers, the final sample used for this study constitute only about 31% of the original sample. We do not verify the comprehensiveness of these data, as Bankscope is often mentioned in literature as one of the source for financial banking statistics (Demirguc-Kunt and Huizinga, 1999 & 2000).

The accounting data used are comparable internationally. However, they are not able to flag pending economic crisis as they tend to reflect economic realities with long lag (Demirguc-Kunt and Huizinga, 1999).

One of the measures, namely, the three firm concentration ratios, is calculated from the sample. The formula for concentration measure as given in literature is assets of *N* largest banks divided by the assets of all banks operating in the market, which requires information of all banks.

6.4 SUGGESTIONS FOR FUTURE RESEARCH

Despite the global financial crisis, GDP growth in the ten countries was still positive in 2007 – 2008, albeit slower in 2008. The global financial crisis is still "on-going", the latest being the debt crisis of Greek, and future researchers could consider its impact on banks performance of banks operating in East Asia and Latin America for the period before, during and after the global financial crisis.

Our results showed that GDP effect only the bank profits of East Asia, with no impact on interest margins or the banks performance in Latin America. One proposal is to extend the period of study. A longer time dimension period would enable the researcher to study the correlation between business cycle (proxy by GDP) and banks performance in East Asia and Latin America.

Finally, this study indicates negative relationship between net interest margin and cost, while previous findings show positive relationship. This may be due to the period used in this study (2003 – 2008), whereby the banks had undergone episodes of crisis, liberalization and restructuring/recapitalization, compared with previous studies conducted in the 1980s and 1990s (Barajas et al, 1999 and Brock and Suarez, 2000) when these episodes were in progress. Future research could examine whether this negative relationship still holds.

6.5 CHAPTER SUMMARY

Research on banks is a fascinating subject, more so, as banks play an important intermediary role in the economy of a country, in particular, and the world, in general, and as some researchers found, there is strong link between financial system and economic growth. This study attempts to analyse the determinants of bank profits and interest rate margins of countries in two regions, namely, East Asia and Latin America, on the premise that they are emerging economies and prior to 2000, undergone periods of crisis, liberalization, restructuring/recapitalization and privatization.

There are determinants of bank profits in East Asia and Latin America which are common to both regions, and determinants which are unique to a particular region only. Similarly, for the determinants of net interest margins in East Asia and Latin America, some independent variables are common to both regions, while there are also explanatory variables unique to a particular region. Bank characteristics or internal factors, rather than external factors explain a substantial part of the within-country variation in bank interest margins and factors. Amongst the variables, capital adequacy, an internal determinant, influences banks operating in both East Asia and Latin America, which suggest that capital adequacy is an important factor. Indeed, a well-capitalised bank is more able to withstand "external shocks", and faced lower risk of going bankrupt. In banking literature, especially Latin America, cost is said to be one of the main contributing factor to banks high spreads. The empirical results of this study could not find evidence of the positive relationship, whether in the full sample, sub-samples or during robustness checks. Concentration is a subject of much research interest in banking literature, relating to the structure-conduct performance (or market power) and efficiency market hypothesis. The results are mixed in our study, in the sense, that there are significant and non-significant relationships. For example, there is a positive relationship between concentration and bank profits for East Asia and negative for Latin America (sub-groups). The positive concentration relationship suggest market power is important in East Asia, while on the other hand, concentration is not beneficial in terms of banks profitability in Latin America, implying perhaps that banks in Latin America should concentrate on improving banks efficiency. As for net interest margins, there is no significant correlation with concentration. The impact of economic growth (GDP) results on our study is mixed. GDP does not influence net interest margins in all our samples, but has a positive impact on bank profits in East Asia. In conclusion, research on determinants of banks performance is wide, and it is hope that our attempt with eight internal and external variables to explain the bank profits and interest margins of banks operating in East Asia and Latin America has in some way contributed to existing literature.