Financial Performance of Malaysia Local Banks: During Periods of Pre-Merger and Post-Merger

Khong Yeen Lai, Tee Peck Ling, Tan Kok Eng, Low Suet Cheng, and Lim Fung Ting

Abstract—**This paper attempts to investigate the level of efficiency and financial performance of Malaysia local banks after the banking sector's merger and acquisition in year 2000. This paper will analyse the impact of merger on banks' profitability, cost reduction, liquidity, leverage and shareholder's wealth. Comparative analysis on financial ratios are used to assess the performance of Malaysia local banks during the pre-merger period (year 1999-2001) and the post-merger period (year 2002-2010). In addition, Data Envelop Analysis (DEA), T-Value Testing and paired-sample t-test will also be adopted as methodology of this study.**

This study would allow IBBM (Institute Bank-Bank Malaysia) to have a better understanding and a clear picture of the effect of "forced merger" among domestic incorporated Malaysia commercial banks. The results of this study shown no significant improvement in the performance and efficiency of the merged banks, IBBM can play a role as an advisor in giving their opinion or advise to the regulatory authorities in determining the future merger and acquisition scheme by knowing whether the acquiring bank can really benefit from acquiring a lesser efficient bank according to theory and vice versa.

Decision-makers hence ought to be more cautious in promoting mergers as a means to enjoying efficiency gains.

Index Terms—**Bank merger, data envelopment analysis (DEA), financial ratio analysis, paired sample t-test, Malaysia.**

I. Introduction

Malaysia was badly hit by the second round of global financial crisis in year 2008 which caused reduction in commodities prices, decline in international trade activities, exodus of foreign funds from share market, rising unemployment rate and economic recession. These economic problems in turn led to public worry and doubt about the ability of Malaysian local banks to sustain the country's industrial activities. After the outbreak of 2008 global financial crisis U.S. and European countries are the first to consider the idea of mergers and acquisitions.

Due to poor financial performance and rising non-performing loans, most Malaysian banks have restricted their lending policy after the 1997-1998 Asian Financial Crises, hence many entrepreneurs and companies were not able to acquire adequate funding from banks to support their business operations. In additional, the ability of smaller local banks to sustain losses due to non-performing loans and reducing operating profits during the crisis was in question. As a result, Bank Negara Malaysia had taken a very strong approach of "forced merger" in year 2000 to consolidate and restructure local banks in Malaysia in order to reduce insolvency risk of smaller local banks, avoid run on banks, and increase capital adequacy and financial strength of local banks.

Problem statement of this research lies on the fact that there is no evidence to prove the effectiveness of bank merger in improving efficiency and financial performance although the "forced merger" had already taken place for 10 years. Therefore this paper aims to figure out whether Malaysia local bank are able to achieve the target of improving their overall financial performance and level of efficiency after the merger and acquisition by adopting financial ratio analysis and DEA. Moreover, previous study are on voluntary bank mergers and have very less study on forced merger alike in Malaysia therefore we tend to further investigate on forced merger performance in this paper.

II. Literature Review

Many believe that a company's overall performance and its management will have a great improvement after merger and acquisition. In the past 10 years, there are numerous studies done by the researcher to examine and assess the issue of merger and acquisition and also their post-merger performances, including studies on commercial banks.

According to Weinberg and Blank [1] and Gaughan [2] "Merger" is defined as the assets of two difference companies invested or put in together and these assets will be conducted or controlled by only one company and the company being to control the joint assets can be the one of these two companies but also can be out of these two companies or two companies assets are combined together and one of these two companies will acquire the another one company. During the acquiring process, the acquire bank not only acquire the target bank's assets but also have to liable to the target bank's liability.

Berger, Demsetz and Strahan [3] believed that merger activity will bring the impact to the banks' efficiency, market power as well as current availability of products and services. This idea was supported by Capron [4], as he also agreed that merger and acquisition is a faster and more direct method to achieve and gain competitiveness for a company as merger and acquisition allows merging and acquiring the necessary resources to strengthen their company financial backup to fight with other competitors in the market.

Merger and acquisition benefits the merged banks by increasing economic of scale and hence reducing their operating cost. Besides that, with a larger capital arising from merged assets and equity merged banks have more funds to

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invest and expand their businesses. Moreover, with larger merged assets and equity, liquidity of merged banks increases and thus reduces insolvency or default risk.

Therefore, it is crucial for Bank Negara Malaysia to ensure that the acquirer bank merge with an appropriate target bank because a mismatch could potentially create lots of problem which lead to loss of resources and financial losses.

Studies by Jane and Crane [5], Knapp, Gart and Chaudhry [6] and Diaz, Olalla and Azofra [7] have found that the merged banks were able to earn more profit and increase the wealth of their shareholders. Rhoades [8] has shown a significant cost reduction arising from bank merger. However, Muhammad [9] was against this finding as he concluded that the merger and acquisition did not help the banks to achieve cost savings but instead increase their non-interest expenses and reduce the level of efficiency.

There was an interesting finding from Bendeck and Waller [10] study, as they found that both acquirer and target banks' financial report showed an opposite expected result after the acquirer bank made an announcement to merge with the target bank. From their analysis, merger seems to bring positive impact on target bank's profitability level but negative impact on the acquirer's bank profitability level. Earlier, Amel [11] also claimed that there was no positive correlation between profit and cost efficiency after the bank mergers Furthermore, there was no obvious and clear evidence that merger and acquisition brought any cost reduction and also do not generate significant shareholder value. He attributed all these insignificant results with agency problem that occur in merged banks post-merger.

Berger and Humphrey [12] study concluded the positive improvement was due to the merged banks had more capital in expanding their businesses globally to generate more income. However the researchers failed to provide evidence that merger activity helped to reduce the cost of merged banks. The researchers had also given a few suggestions to Malaysia local banks to increase their efficiency level such as investing more in research and development to search for banking products and services with "best", "good" and "attractive" price

By applying DEA method, Krisnasamy [13] and Sufian [14] found that the productivity level and overall financial performance increased during the post-merger period. Theoretically, level of efficiency will be increased if the financial performance improved.

III. Methodology and Data

Four approaches will be used in this paper to compare bank's financial performance before and after the merger, namely Data Envelopment Analysis, T-Value testing, paired sample T-test and financial ratio analysis.

All the banks data can be retrieved from bank's annual reports or Datastream system. According Rubi Ahmad [15], Majority consolidation activity in Malaysian banking industry was executed in mid of year 2000 when it was proposed and imposed by the Bank Negara Malaysia (BNM). Therefore, the performance from 1999 to 2001 will be treated as pre- merger performance in order to compare with post-merger performance. Year 1998 not included Malaysia hasn't fully back to the track after a serious financial crisis hit in 1997. Researcher also mentioned longer period of study should provide a better picture. Thus, the period 2002 to 2010 was chosen as the post-merger period. CIMB bank acquired southern bank in March 2006, and the total of local banks in Malaysia is nine. EON bank will be excluded from our study and data collection is only on 8 other Malaysian local banks this is due to Hong Leong bank was newly acquired EON bank in May 2011

Financial ratio is a widely used analytical tool to assess a bank's overall financial performance. Five categories of financial ratios will be used in this study, namely profitability ratios (Return on Asset and Return on Equity), liquidity ratio (Total Loan to Total Deposit), market-based performance ratios (Earnings per share and Dividends per share), cost saving ratios (Total Expenses to Total Revenues and Non-Interest Expenses to Total Assets) and leverage ratios (Total Debt to Common Equity, Total Debt to Total Capital and Short Term Debt).

Rhoades [16] highlighted that the best indicator to detect bank's overall performance and their profitability is by referring to the net income (after tax) to average assets. On the other hand, he also claims that return on equity (ROE) by dividing the shareholder's fund with the net income is a good indicator of the profitability of merged bank.

He also mentioned that a bank's ability in generate the revenue from it expenditure capital can be tested by assessing their bank's cost efficiency ratio. Besides that, he also highlighted that bank's revenue and expenses will indirectly causing the interest rate change however the assets of the bank will not cause this effect. On the other hand, this researcher also mentioned that bank will have high expenses when the banks have high off balance sheet and this could be wrong and inaccurate information which will lead to inaccurate study result as well.

DEA analysis approach getting famous, popular be used and as an important analysis tool in applying to the analysis of the performances of any companies or performance based assessment study according to Charnes, Cooper, Lewin and Seiford [17] study. Normally bank's efficiency will be assessed by using the variables of input and output in the study.

Besides that, paired sample t-test is applied to see whether there is significant difference in each financial ratio in the pre-merger period compared to the post-merger period. If the t-test significance value is greater than 0.05, null hypothesis for this study is failed to be rejected.

Below is the hypothesis for this study:

H1: There is no significant improvement in Malaysia local banks' overall financial performance after merger and acquisition

H0: There is a significance improvement in Malaysia local banks' overall financial performance after merger and acquisition

IV. Analysis of Finding

In our study, each financial ratios of each bank will be assessed in order to determine the level of improvement in each financial ratio. Results are summarised below:

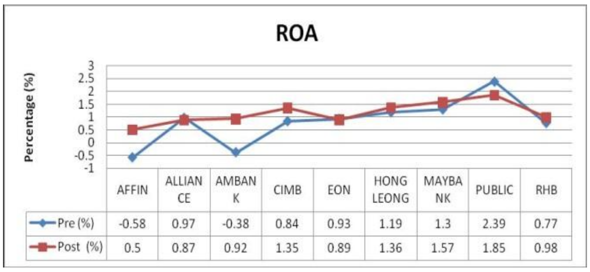

Fig. 1. Return on asset ratio.

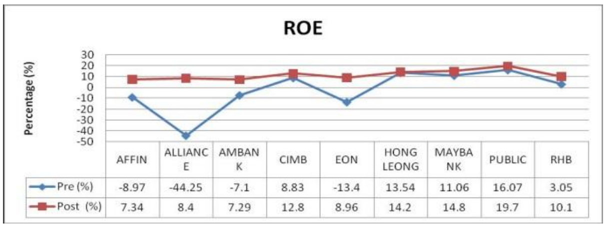

Fig. 2. Return on equity ratio.

Six banks showed improvement in ROA and only 3 banks are decrease based on the Fig. 1 above. However all banks are showed improvement in ROE ratio as Fig. 2 shown. In previous studies most of the researchers are believe that merger and acquisition can help to improve bank's overall performance and the above chart can be the evidence to proof their statement.

Public bank showing decreasing of ROA and we believe that this was related to their bank's conservative in dealing business, however they still is the only bank score the higher ratio in ROA and ROE. The above positive result could be due to most of the banks able to quirkily to adapt to the merger system after merger activity done and well manage in utilizing their available assets and equity capital in generating their bank's income.

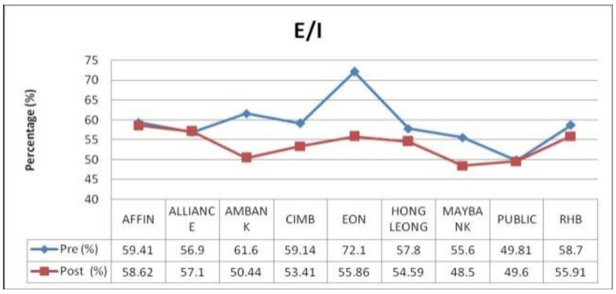

Fig. 3. Expenses to income ratio.

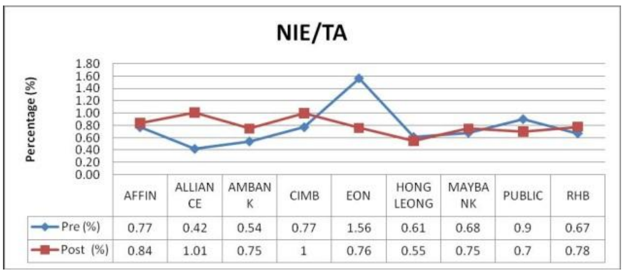

Fig. 4. Non-interest expenses to total asset ratio.

Cost saving is very important to a bank therefore expenses to income (E/I) has been chosen to measure the bank's cost saving performance in order to find out whether the bank is currently performing better in their cost management. As we know, if the ratio is high, it shows that the cost saving management is poor especially in controllingthe interest expenses and operating expenses.

In Fig. 3, we noted that there are 6 banks out of 9 banks showing poor management in their non-interest expenses as well after merger and this can be explained. After merger, employee of the merger bank will be increased largely and this indirectly increase the merger bank's non –interest expenses and one of the non-interest expenses is the salary of the employee. Merger banks wish to cut down their employee after merger activity done in order to reduce their salary paying because the productivity of the merger bank reduces due to excessive employee. However, merger banks still failed to do it as Malaysia government have strictly disallow the merger bank imposed the retrenchment policy once the merger activity done and the result shown in Fig. 4.

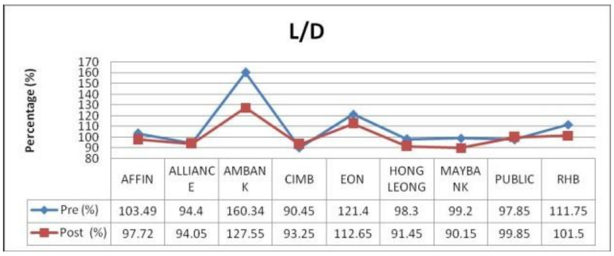

Fig. 5. Loan to deposit ratio.

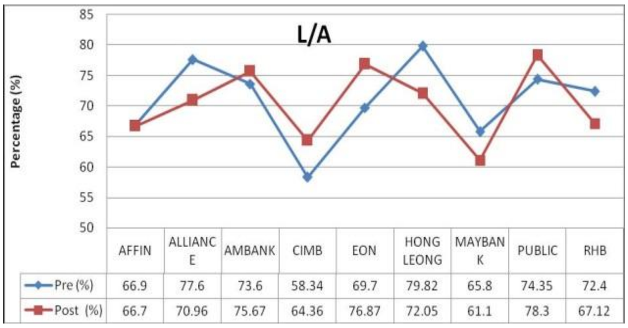

Fig. 6. Loan to asset ratio.

Growth rate in loan to deposit (L/D) help to determine the bank's ability in generating their income by comparing the total loan bank is going to offer and also the total deposit received by the bank.

In Fig. 5, we noted that only two banks showed increase in L/D ratio which are CIMB bank and Public bank and the rest of the banks seems reducing to giving their loan out in order to maintain more liquid cash and assets to prevent unpredictable even happened after the merger activity newly taken place.

Therefore the reducing in loan amount contributing the result of most of the banks are decreasing in their L/D ratio Actually all the merger bank started doing a lot of loan promotion after the merger activity done. This is due to the merger bank's financial condition is more stronger than before, they have more stronger financial support to supply more loan to the public in order to generate more interest income to the merger bank. Lots of effort have been putting such as disseminate the information of all banks are being registered with Perbadanan Deposit Insurans Malaysia

(PDIM) and this society can give protection to each of the customer of the banks and they hope this can help to build a good image and creditworthiness impression toward the bank in the bottom heart of each customer.

However, Bank Negara Malaysia still require all the banks maintain a high loan approval requirement and this result in low loan amount be given out in most of the banks because many loan applicant are not able to meet the minimum requirement and this can explain why the Bank Negara Malaysia wanted to set high minimum loan requirement as they do not wish banks having high default risk in giving loan and the result can be seen in Fig. 6.

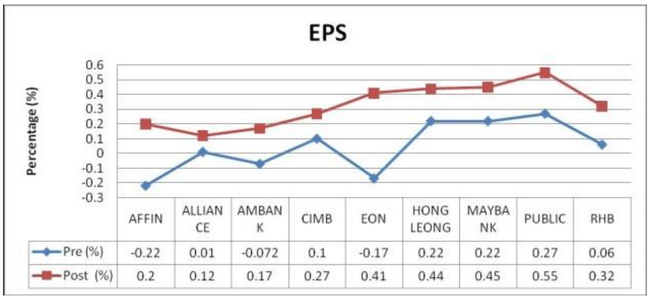

Fig. 7. Earnings per share.

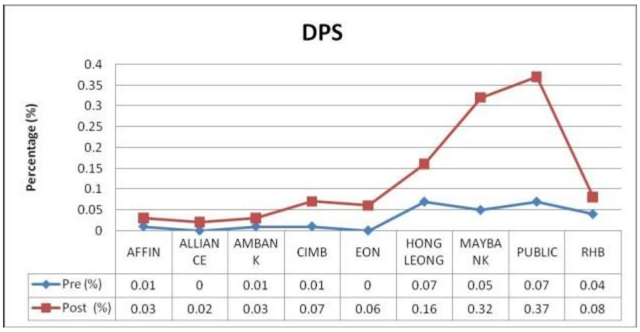

Fig. 8. Dividends per share.

In Fig. 7 and Fig. 8, we realize the result of EPS and DPS are showing positive improvement during the post-merger period and this might indicated that the bank is able to generate enough income to cover the bank's expenses. The excess of the income used to expand the business and invest in other financial entrustments therefore it boosts up the EPS and DPS and this indirectly also increase the shareholder's wealth.

Some of the merger bank experienced the decreasing of their share price and the reason might cause by the conflict of interest between the shareholders and the management level especially during the post-merger period which shareholders and management staffs still have no same motivation and motif.

EPS and DPS figures in pre-merger period are lower compared to post merger because Malaysian banking consolidation was seriously be impacted by the Asian financial crisis and bank's earning was affected by the crisis.

As the whole, most banks are less reliant on debt financing after merger. The leverage ratio for Eon Bank, Hong Leong Bank, Public Bank and RHB Bank has risen after the merger. Increase in leverage ratio illustrated that these banks are more reliant on debt financing after merger. Yet the increase of leverage ratio in these banks was considered rational because of their TC/CE ratio and TD/TC ratio was very low compare to the industry average before merger as shown in Fig. 9 and Fig. 10 above. At the meantime, Ambank has recorded the highest TC/CE ratio among the banks which achieve almost four times higher than the industry average. However, the bank has successfully reduced it by 65.73 percent as the result of trim down their business dependency on debt financing.

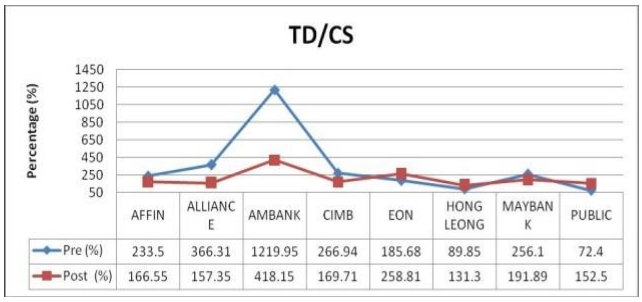

Fig. 9. Total debt to common equity.

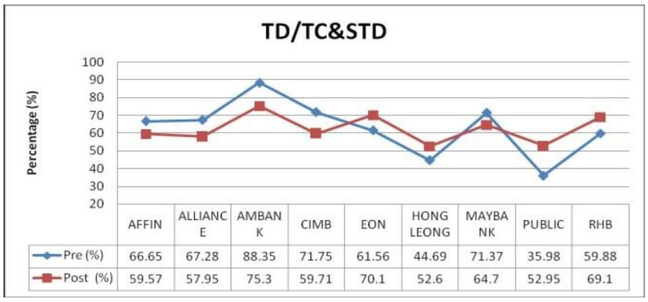

Fig. 10. Total debt to short term debt ratio.

The increase of financial leverage of bank could because of an increase in debt capacity or because of unused debt capacity from pre-merger years. Ghosh and Jain (2000) [18] found that financial leverage of combined firms increases significantly following mergers. The increase in financial leverage is an outcome of an increase in debt capacity, although there is weak evidence that some of the increase in financial leverage is a result of past unused debt capacity. Financial crisis could causes that banks are highly leveraged before the merger due to the weak protection for creditor and outside equity. Thus, it had caused low common equity during the pre-merger period result in high leverage ratio. Moreover, with the expectation of greater performance after the merger, more investors are interested on the merged banks. Banks are able to obtain funds from investors for the purpose of expansion. Another potential reason for decreased leverage ratio after merger is the new guideline from BNM on the approval for increases in capital. BNM required future capitalization of banks by controlling shareholders to come from non-obligatory sources of financing such as equity, internally generated funds and extremely long-term debt of at least 10 years maturity. Hence, banks would prefer capital fund from investors rather than long term debt as it exposed to higher risk.

TABLE I: T-VALUE FOR EACH PRE AND POST MERGER FINANCIAL RATIO

	Profitability Ratio		Liquidity Ratio		Cost saving Ratio		Leverage ratio		Wealth of shareholder	
	ROA	ROE	L/D	L/A	E/I	NOET/TA	TD/CS	TD/TE	EPS	DPS
Pre	0.83%	-2.34%	108.57%	70.95%	59.01%	0.77%	329.79%	63.06%	0.05%	0.01%
post	1.14%	11.51%	100.91%	70.35%	53.78%	0.79%	218.25%	62.44%	0.33%	0.13%
T-Value	0.13667	0.03343	0.06214	0.7605	0.02197	0.85114	0.2593	0.8733	0.0003	0.02739

TABLE II: PAIRED SAMPLES T-TEST FOR PRE-MERGER AND POST MERGER

	Variable 1	Variable 2
Mean	0.630693	0.51963
Variance	1.036343654	0.474322789
Observations	10	10
Pearson Correlation	0.986314855	
Hypothesized Mean Difference	0	
df	9	
t Stat	0.983099677	
P(T<=t) one-tail	0.175623339	
t Critical one-tail	1.833112923	
P(T<=t) two-tail	0.351246678	
t Critical two-tail	2.262157158	

Based on the above Table I T-value table, the significant value of 6 ratios out of 10 financial ratios are indicated there is no significant value and we failed to reject the Null hypothesis Put in other words, these 6 ratios were told us that there is no significant improvement in Malaysia Local banks 'overall financial performance after merger and acquisition.

Table II paired sample T-Test value, result show as above is more than significant value which is more than 0.05 and this represent that we failed to reject Null hypothesis .This indicates that there is no significant improvement in Malaysia local banks' overall financial performance after merger and acquisition. This result is consistent with some of the studies that have been done in previously.

The reasons that contributed to the above result could be due to Malaysia experienced two times financial crisis and economic was hit badly. Moreover Bank Negara Malaysia imposed the policy of standardizes most of the bank's products and services. This resulted the competitive advantage of the bank reduce as they isolate their product and services among all the banks. We strongly believe that the above two reasons would be the main factors that contribute the slow growing of the banks after merger activity is being done

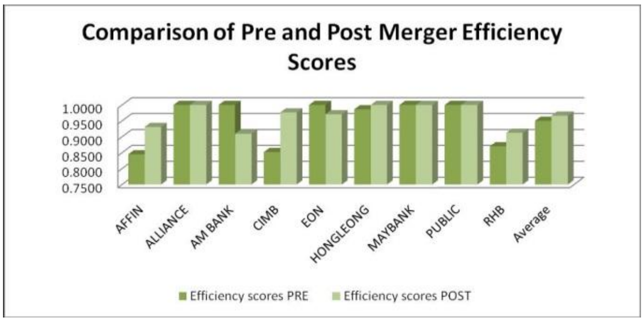

Fig. 11. Pre and post efficiency scores.

4 banks showing significant improvement in the efficiency scoring testing however the others banks is either remain unchanged status or having a decrease efficiency scoring. This was proved that most of the banks have are not showing positive improvement in their efficiency level during the post-merger period as shown in above.

The reasons that contribute to the low efficiency level might cause by Malaysia economic was badly hit by two times financial crisis and during the bad economic condition, the expenses of the banks might increase (for example salary, rental) and could occur the situation of expenses more than the income generated by the bank and this was due to banks still have to pay their employee's salary even through the sales and profit that can be generated during the bad time is lesser that the expenses.

V. CONCLUSION

Majorities of the banks have high score in non-interest expenses to total assets ratio (NIE/TA) and the main reason that contribute to this result was due to Malaysia government has restricted Merger banks in having big form of retrenchment program once the merger activity is done. The purpose of Malaysia government in setting this rule was because they want to protect the employees of the bank that being acquired. In this study, two ratios from the liquidity ratio will be used to measure and assess the bank's liquidity level. The increase in the liquidity level after merger is due to the drop of loan to deposit and loan to asset ratio.

Most of ratios have showed no significant improvement in their overall financial performance, productivity level, cost saving management as well as their level of efficiency. In this study, the paired sample t-value and T-Test are more than 0.05 therefore we can conclude that there is no significant improvement in Malaysia Local banks' overall financial performance for pre-merger and past merger. All these results are compatible with DEA approach testing which shows most of the banks have no positive improvement and some are remaining unchanged.

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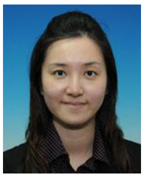

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