PERFORMANCE OF TOURISM SECTOR WITH REGARD TO THE GLOBAL CRISIS - A COMPARATIVE STUDY BETWEEN INDONESIA, MALAYSIA AND SINGAPORE

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ABSTRACT
This study employs ordinary least square method to investigate the importance of tourism to economic growth in Singapore, Malaysia and Indonesia. Comparative study between the three countries provides evidence that the countries differ in tourism performance. Number of tourist arrival and hotels' rate of occupancy are employed as proxy to represent tourism growth. While emphasizing the importance of tourism for the economic growth in these three countries, we also contribute by stating that regional tourists play an important role in the development of tourism as compared to foreign tourists, particularly during the financial crisis. This is an important contribution since most countries in the Asian region are focusing on development of tourism as a part of their vision 2020 while spending a lot on infrastructural changes and promotional offers in a view of attracting outside tourists. We deliberate that the countries must focus on catering to the preferences of regional tourists to contribute to the growth of this sector.

JEL Classifications: L830, E19, E31  
Key Words: Tourism, Indonesia, Malaysia, Singapore, economic growth, financial crisis  
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INTRODUCTION
Tourism has accounted for 30% of world's total export in services and 45% in the developing countries. It also generates roughly 7% of total world employment (UNWTO, 2013). Apart from contributions to the Gross Domestic Product (GDP) it also contributes to the household income and government revenues through multiplier effects and balance of payments (Sloman and Hinde, 2007). Direct multiplier effect comes from tourist spending in tourism activities such as hospitality industry and/or purchasing airline tickets. Indirect multiplier effect occurs when the recipients of direct expenditure spend the money for necessary goods. Finally, the beneficiaries of direct and indirect spending in turn spend the revenue on unrelated goods and services, thus creating an induced-multiplier effect (Khan, Phang and Toh, 1995; Cooper, 2012).

Other benefits include employment effect, foreign exchange earnings and triggering infrastructure development (Cooper, 2012; Forsyth, 2006). Tourism is, hence, one of the strategic sector critical to the growth of economy, both for developing and developed countries (Blanke and Chiesa, 2013; Vaugeois, 2000). Several studies in the past have examined the relationship between international tourism earnings and economic growth (Chen and Chiow-We, 2009; Kim, Chen and Jang, 2006). Stronger causality between tourism earnings and economic growth alongside bidirectional relationship between the variables are found in tourism-led economy like Greece, Spain, Turkey and Taiwan (Dritsakis, 2004; Balaguer and Cantavella-Jordà, 2010; Gunduz and Hatemi-J, 2005; Kim, Chen and Jang, 2006).

Developing and developed countries apply tourism as main strategic economic pillar (Hampton, 1998; Harrison, 2001; Sharpley, 2009; Swain and Mishra, 2012). Countries that have positioned themselves as tourist destination include Spain, Greece, Macau, Hong Kong, South Africa, India, Singapore, Indonesia, Malaysia and Thailand. Negative impacts of focusing on tourism were also raised in previous studies. Studies have shown that tourism is negatively impacted by outbreaks such as foot-and-mouth diseases in UK (Blake, Sinclair and Sugiyarto, 2003), Malaria (Modrek et al., 2012), SARS (Mason, Grabowski and Du, 2005; Henderson and Ng, 2004; Chen, 2011) and Avian Flu (Kuo et al., 2008). Other adverse effect also caused by political turmoil such as coup and war (Poirier, 1997; Casado, 1998; Sonmez, 1998; Richter, 1999; Smeral and Wuger, 2008); terrorism e.g. Bali bombings (Fletcher and Morakabati, 2008; Arana and Leon, 2008; Hitchcock and Putra, 2005), natural disasters (Huan, Beaman and Shelby, 2004; Ritchie, 2004; Henderson, 2005) as well as financial crisis (Kontogeorgopoulou, 1999; Sausmarez, 2004, Smeral, 2010).

Our study aims to examine the tourism performance in three Association of South East Asian Nations (ASEAN) countries which closely relate in terms of economy and cooperation, but differ in terms of economic condition. We choose Indonesia, Malaysia and Singapore, considering several reasons. Firstly, they are incorporated in common economic cooperation ASEAN. Secondly, they are closely related in terms of geographical region and also as market-generating visitors (World Tourism Organization, 2012). Lastly, all of them have incorporated tourism into their long-term economic development plan. For instance, Singapore Tourism 2015 (Singapore Tourism Board, 2012); Visit Malaysia 2014 (Malaysia Tourism Board, 2013), Vision 2020 (Sarji, 1993); and Indonesia with Masterplan of Acceleration and Expansion of Indonesia's Economy (MP3EI) (Ministry of Tourism and Creative

1 UNWTO: United Nations of World Tourism Organization
Economy, 2012). All the commonalities and differences make these countries more intriguing to put into study. Due to the limited number of study that examines tourism sector during financial crisis, particularly with regards to comparison between Indonesia, Singapore and Malaysia, this study comes as a contribution in understanding the tourism sector in these countries. The findings of this study would likely influence the policymakers of the respective countries, with regards to development of tourism sector, especially in regional cooperation.

LITERATURE REVIEW
Tourism interestingly has found its way to be categorized as an ‘industry’ by itself due to its linkage to economics, geography, finance, sociology and business. (Smith, 1994; Leiper 2008, Beech and Chadwick, 2006). Tourist attractions to entice the tourists has also evolved over time. Ranging from natural attractions (Swarbrooke, 2001) such as lakes, beaches, wilderness areas, forests, including ecotourism, the tourist attraction covers man-made visitor attractions like historic houses, castles and cathedrals (Fennel, 2007; Nolan and Nolan, 1992; Conforti, 1996; Boyd, 2002) archaeological attractions such as Stonehenge in England and industrial tourism such as mining (Edwards and Coit, 1996; Rudd and Davis, 1998; Vargaz-Sanchez, Plaza-Mejia and Porras-Bueno, 2009) and purpose-built attractions like human made buildings, sites and structures or archaeological attractions such as Stonehenge in England and industrial tourism such as mining (Edwards and Coit, 1996; Rudd and Davis, 1998; Vargaz-Sanchez, Plaza-Mejia and Porras-Bueno, 2009) and theme-parks such as Disneyland (Pearce, 2007; Hinch and Walker, 2005; Henderson, 2006).

Contribution of tourism to a nation’s economy
Contributions of tourism to an economy are plentiful: employment, income through wages, interest, rent, sales and taxes; foreign exchange earnings, multiplier effect; contributions to balance of payment and infrastructure development (Tang and Jang, 2009; Chen, 2011; Swain and Mishra, 2012). According to Economic Survey of Singapore, there was an increase in the employment rate in the tourism industry from 2008 to 2012. In 2008, there were 120 thousands people employed in ‘hotels and restaurants’ industry as compared to 2012 when the number increased to 129.3 thousands, meanwhile there were thirty nine thousand employees employed under their new classification titled ‘arts, entertainment and recreation’ (Ministry of Trade and Industry Singapore, 2013).

A similar employment statistics of Malaysia revealed that there was decline in number of people employed under ‘arts, entertainment and recreation’ from 89.8 thousands in 2010 to 85.3 thousands in 2011. Nevertheless, the employment on ‘accommodation and food services’ increased from 857.4 thousands in 2010 to 940.5 thousands in 2011 (Department of Statistics Malaysia, 2011). These two sectors accounted for 8.4% of total employment in 2011. Meanwhile the Bureau of Statistics Indonesia (BPS), recorded an increase of employment to 24 million in 2012 from 19.4 million in 2007, which accounted for 21% of total employment (Bureau of Statistics Indonesia, 2013). Foreign exchange earnings sourced from tourism in Indonesia reached USD 9.1 billion in December 2012, an increase of about 5.8% from 2011 (Bureau of Statistics Indonesia, 2013).

Tourism in Malaysia
Since its independence, Malaysia has transitioned itself from exporting on primary goods to diversified economy. Tourism, on the other hand, was not tapped until early 1980’s (Kaplan, 1999). The birth of Tourism Development Corporation (TDC) in August 1972 gave rise to three main objectives. Firstly, to coordinate activities pertaining to tourism industry conducted by government and non-governmental organization; secondly, to make recommendations on measurement and policies to facilitate the growth of tourism; lastly, to promote national and international tourism within the country (Okposin, Hamid and Boon, 1999). The years 1980-1990, witnessed aggressive tourism promotion drive by the Malaysian Government, which resulted in ‘Visit Malaysia Year 1990’ promotion. However, Malaysia was still considered a beginner in comparison to Singapore, Hong Kong and Thailand which were already the top 1 international tourism earners in 1991 (UNESCAP, 2012). Twenty years after TDC was established under Malaysia Act 1972, it was replaced by Malaysia Tourism Promotion Board (MTPB) in 1992 which still exist to date. Since then to date Malaysian Government has taken conscious steps to improve upon the sector. The marketing of ‘1 Malaysia’ shopping spree, introduction of budget airlines by Air Asia to various local and international segments, the extension of Kuala Lumpur International Airport 2, malls, theme parks, eco tourism (Cooper, 2012, p.153, (Chung and Whang, 2011; Donzelli, 2010; Graham and Dennis, 2010). With all these international tourist arrival in Malaysia has increased about 17.8% from 2007 to 2011 with figure 24.7 million tourist in 2011 (World Tourism Organization, 2012). Tourism can contribute in achieveing Malaysia’s national aspiration to become newly industrialized country by 2020 or called Vision 2020, a goal initiated by Malaysia's former prime minister Dr.Mahathir Mohammad in1991 (Sarji, 1993). The contribution goes in three ways: firstly, from direct taxation on employees, goods and services; secondly, from indirect taxation such as custom duties; and lastly, from revenues generated through government-owned businesses (Okposin, Hamid and Boon, 1999,p.188).

Tourism in Singapore
Singapore has been developing tourism as economic sector since 1970’s, by establishing Singapore Tourism Board (STB) in 1964, ever since its separation from Malaysia in 1963. The establishment of Sentosa Island in 1970's marked the beginning of the tourism era followed by international hotels in Singapore. Towards 1980, the focus shifted to conservation of historic-ethnic neighborhood and heritage building (Chang, 1998). Realizing her huge potential on geographical location, Singapore also developed herself to become hub for foreign travel especially through aviation network (Lohmann et al., 2009). Therefore, to attract more travellers, Singapore invested in high infrastructure (Cheong and Khem, 1988) and advancing its national airlines. As a result, Changi has been selected as World's Best Airport 2013 Skytrax version and Singapore airlines was chosen as top 5 World's Best Airline 2012
Tourism in Indonesia

Tourism in Indonesia began during the colonialism of Netherlands in the early 19th century. After the Dutch came to form Dutch East Indies, many Netherlands ‘tourist’ came to visit the colony. The Dutch Government during the time, established some kind of travel agency which was called Vereeneging Touristen Verkeer, which was used as base of Dutch national airlines KLM (Ferbianty, 2007). Bali was officially opened for tourism in 1924. Tourists arrived in Bali using weekly sailing ship called Bali Express, enroute Singapore-Batavia (Jakarta)-Semarang-Surabaya-Bali before reaching its main destination Makassar in Sulawesi (Sjaafari, 2013). Post independence, Indonesian government began focusing on tourism industry by establishing Hotel National and Tourism (HONET) in 1947. During The New Order era, tourism also had been promoted by introducing Visit Indonesia Year, in 1992. REPELITA VI (Five Year Plan VI) targeted 4.5 million tourist arrival at the end of fifth year (Sofield, 1994). Devastating effect came from Bali bombing in 2002 and 2005, which not only caused unemployment along with decreasing tourist arrival, but also had negative impact on other regional tourist destinations in Java such as Jakarta and Yogyakarta (Sundberg, 2003; Pambudi, McCaughey and Smyth, 2009). Contribution of tourism to economy of Indonesia was 3.05% to GDP in 2010 (Bureau of Statistics Indonesia, 2012). In 2011, total tourist arrival (according to country of residence) reached 7.6 million people (World Tourism Organization, 2012) and for 2015 targeted tourist arrival is 10 million people (Nirwanda, 2012).

Nowadays, Indonesia offers not only heritage tourism (Borobudur, Prambanan), water-sports and surfing, beaches (Bali, Lombok) and ecotourism (Komodo Island, Mt.Bromo, Raja Ampat, Wakatobi) but also highlights famous local cuisine, shopping, theme-parks (Ancol, Taman Mini Indonesia Indah), MICE and also traditional village (Baliem Valley in Papua, Bulukumba Phinisi Boat Building in South Sulawesi) (Ministry of Tourism and Creative Economy, 2013). Tourism industries in Indonesia is actively promoted through website and social media also through introduction of Garuda Air and Lion Air which provide opportunities for low income group to travel.

Crisis and tourism

Some past researcher have focused on the impact of the crisis to tourism industries, particularly in Asia. Song and Lin (2010), forecast decline in inbound tourism to Asia especially during year 2009, along with decline in tourism outbound from Asian countries 2009, except China and Hong Kong. However, demand of tourism was expected to rebound in 2010. A study by Meng et al (2010) examined the impact of the US subprime crisis to tourism industry in Singapore, using Computable General Equilibrium (CGE) model. They found that, all industries were negatively affected, except for exports sector which greatly benefited. Similarly, the Eurozone Sovereign Debt Crisis affected Asia in a big way. Past researches have covered the impact of crisis on tourism industry and have deliberated that demand for tourism is sensitive to crisis events, particularly security and health concern (Blake and Sinclair, 2003). Severe Acute Respiratory Syndrome (SARS) which infected Singapore in 2003, caused deep plunged of tourism as reflected from hotel occupancy rate (Henderson and Ng, 2004): In Taiwan stock market of hotel industries was negatively affected by SARS, earthquake and 9/11 terrorism (Chen, 2011, Hui 2005). Blake, Sinclair and Sugiyarto (2003) found negative impact of Foot and Mouth Disease (FMD) to UK’s tourism and agriculture industry.

Other crisis events examined were politics and alterations in policy (Smeral and Wüger, 2008; Lee and Chien, 2008; Glantz and Charlesworth, 1999); environment pollution such as smog (Henderson, 2002) and finally, financial crisis. Financial crisis examined included Asian financial crisis 1997 (Sausmarze, 2004), analysis of macroeconomic condition and the impact of Eurozone crisis to EU tourism (Smeral, 2009; Smeral, 2010) and analysis of the impact of 2008 financial crisis to tourism economy and policy response in Singapore (Meng et al, 2010). According to Prideaux (1999), due to high devaluation of Rupiah in 1997-1998, cost of outbound travel became higher thus reducing the number of tourists. On the contrary, the falling of Rupiah compared to other currency should have made inbound travel to Indonesia cheaper, thus making it more attractive. However statistical data recorded negative growth of tourism arrival during 1997-1998. Drop in the currency value also affected tourism promotional plan. In 1998, Indonesia was forced to close their tourism board and assigned the job to private sector. Moreover, as part of austerity program, Indonesia withdrew from being member of Pacific Asia Travel Association (PATA) and International Congress and Convention Association (ICCA) which led to further decline of tourist arrival (Prideaux, 2013).
1999). Study result of Smeral (2009; 2010) revealed a decline in foreign travel especially in EU-15, Australia, Canada, U.S and Japan; and also cut back on tourism expenditure. A Computer Generated Equilibrium (CGE) approach towards analyzing impact of 2008 crisis to Singapore economy resulted in highly adverse effect to tourism industries, with minimal impact on Food and Beverages industry (Meng et al., 2010). Nonetheless, according to Papatheodorou, Rosello and Xiao (2010) most Asian nations would experience a revival of its tourism industry in short time.

Although previous studies which examine tourism relations with economic growth are massive (Dritsakis, 2004; Ballaguère and Cantavella-Jorda, 2002; Gündüz and Hatemi-J, 2005), study which examine tourism performance under financial crisis is considerably rare. Therefore this study aims to achieve two things. Firstly, to add insight to body of knowledge about whether tourism significantly affect GDP during timeline of crisis. GDP is used because it portrays a productivity level in a nation (Callen, 2012). Secondly, it compares the tourism industries performance between three countries: Singapore, Indonesia and Malaysia that are close in proximity and have some regional cooperation in tourism, but differ in terms of economic condition, represented by GDP. Singapore is a developed nation; World Bank (2012) classifies her as high-income country with GDP per capita (current prices) USD 51.7 and population only 5.3 million. Malaysia is a developing nation; classified as upper-middle income with GDP per capita USD 10.38 and population 29 million. Indonesia still considered as lower-middle income with GDP per capita USD 3,55 and most populated among the three with 247 million people.

RESEARCH METHODOLOGY

We accessed macro-economic quarterly data using Datastream and CEIC data banks. The variables used in this study are number of international tourist arrival, number of regional (ASEAN) tourist arrival, exchange rates (in US Dollars, 2005 constant prices), hotel rate of occupancy (in percentage) and tourist average length of stay (days). The statistical software IBM SPSS 20 is used for analyzing the data. Three models are used in this research. Model A would test the impact of tourism on GDP; Model B would compare the performance of the three countries and Model C tests the performance of hotels during the time of crisis.

Model A

Model A uses three variables: real GDP, real exchange rates and number of international tourist arrivals. These three variables are commonly employed in previous studies (Ballaguère and Cantavella-Jorda, 2002; Dritsakis, 2004; Oh, 2005; Belloumi, 2010). Likewise, we use international tourist arrivals in place of international tourism earnings (Kim; Chen and Jang, 2006; Lee and Chien, 2008; Katircioglu, 2009; Chen and Chiou-Wei, 2009) to avoid the issues of multicolinearity (Gündüz and Hatemi-J, 2005). GDP is employed to show economic growth. Real exchange rates is included as it is a significant variable that influences international tourist arrivals (Uysal and Crompton, 1984) and secondly, the time of crisis, exchange rate may have greater influence on tourism growth. For instance, Prideaux (1999) argues that devaluation of Indonesian Rupiah (IDR) during crisis 1998 would attract international tourist because travel to Indonesia would be relatively cheaper. Therefore, employing exchange rates in this model is considered highly relevant to the background of the study. Quarterly data are obtained using Thomson-Reuters Datastream and CEIC data banks. GDP (2005 constant prices, not seasonally adjusted) are in US Dollars and exchange rate is in each national currency, meanwhile tourist arrival is plain number. Model A is stated as below:

\[ EGROWTH_t = \alpha + \beta_1 TRAt + \beta_2 EXC_t + \varepsilon_t \]

Where: \( EGROWTH \) is GDP; \( TRA \) represent number of international tourist arrival; \( EXC \) is exchange rates; and \( \varepsilon \) is an error term.

\( H_0: \) There is no significant impact of international tourist arrival to the growth of economy

\( H_1: \) There is significant impact of international tourist arrival to the growth of economy

Model B

Model B is quite similar to Model A. However in the second model we added dummy variables in order to see whether type of country has affected significantly to the model, because there is country effect such as size of country, openness of economy, which may affect the result of test (Oh, 2005; Chen and Chiou-Wei, 2009; Tang and Jang, 2009). For this second model, we employed hierarchical multiple regression to see if additional predictors would make the adjusted r-square better. Model B is stated as below:

\[ EGROWTH_t = \alpha + \beta_1 TRAt + \beta_2 EXC_t + \sum_{i=1}^{n} \beta_6 Dummy_i + \beta_7 i + \varepsilon_t \]

Where: \( EGROWTH \) is GDP; \( TRA \) is represent number of international tourist arrival; \( EXC \) is exchange rates; Dummy is dichotomous variable for the countries; \( i \) is interaction between independent variables and country effect; and \( \varepsilon \) is an error term.

\( H_{0A}: \) There is no significant impact of type of country to the growth of economy

\( H_{1A}: \) There is significant impact of type of country to the growth of economy
Hₐₛ: There is no significant impact of interaction (between type of country and variable) to the growth of economy
Hₗₐ: There is significant impact of interaction to the growth of economy

**FIGURE 1: MODEL A AND B**

![Model A and B Diagram]

**Model C**

Model C examines the hotel performance during the timeline of crisis, as hotels are considered as activities related to tourism (ISIC, 2008). Hotel occupancy rate is used as a proxy for performance. Hoteliers are focussing on improving the rate of occupancy in order to improve performance which closely links to revenues (Jeffrey et al., 2002; O'Neill and Mattila, 2006). However, there is argument that it can not be parameter of profits because high occupancy rate can also result from discounting (Jeffrey and Barde, 2000). High rate of occupancy, can be gained through positive word-of-mouth publicity, maintain close relationship with customers and selling unique proposition (Hwang and Chang, 2003).

The independent variables used are average length of stay, from hotels of all classes; and number of international tourist arrival. It is similar to the one employed by Chen (2011) which examines the link between hotel's occupancy rate and tourist arrival. From this model we intend to examine the relationship between tourist arrival and length of stay with the hotel's occupancy rate during the timeline. Model C is stated as below:

\[ OCRA T_e = \alpha_3 + \beta_{AVGSTAY} + \beta_{TRA} + \epsilon_3 \]

Where: \( OCRA T_e \) represents occupancy rate;
\( AVGSTAY \) is average length of stay; and
\( TRA \) is number of international tourist arrival.

Hₐ₅: There is no significant impact of average length of stay to hotel occupancy rate
Hₗ₅: There is significant impact of average length of stay to hotel occupancy rate
Hₐ₆: There is no significant impact of international tourist arrival to hotel occupancy rate
Hₗ₆: There is significant impact of international tourist arrival to hotel occupancy rate

**Figure 2: Hypothetical Diagram for Model C**

![Model C Diagram]

**5. FINDINGS AND DISCUSSION**

For Models A and B, we employ macroeconomic variable: GDP and exchange rate. The descriptive statistics are presented in Table 1.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDPIDR</td>
<td>511363.50</td>
<td>84676.342</td>
<td>40</td>
</tr>
<tr>
<td>TRA TOTAL INDONESIA</td>
<td>1510997.25</td>
<td>312608.811</td>
<td>40</td>
</tr>
</tbody>
</table>
**Significant at 5% level**

Equation: GDP = 66290.036 + 0.251 TRA + 7.004 EXC + ε

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficient</th>
<th>Sig.</th>
<th>Tolerance</th>
<th>Adjusted R-square</th>
<th>Durbin-Watson</th>
<th>ANOVA F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>66290.036</td>
<td>0.357</td>
<td></td>
<td></td>
<td>0.867</td>
<td>1.152</td>
<td>128.131**</td>
</tr>
<tr>
<td>TRA</td>
<td>0.251</td>
<td>0.928</td>
<td>0.000**</td>
<td>.992</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXC</td>
<td>7.004</td>
<td>0.555</td>
<td>0.350</td>
<td>.992</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 3 REGRESSION RESULTS MALAYSIA**
### TABLE 4 REGRESSION RESULTS SINGAPORE

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficient</th>
<th>Sig.</th>
<th>Tolerance</th>
<th>Adjusted R-square</th>
<th>Durbin-Watson</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>B (Constant)</td>
<td>114732.266</td>
<td>.000**</td>
<td>0.963</td>
<td>1.218</td>
<td>512.176**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRA</td>
<td>.005</td>
<td>.287</td>
<td>.000**</td>
<td>.202</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXC</td>
<td>-44504.673</td>
<td>-.718</td>
<td>.000**</td>
<td>.202</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 5% level**

Equation : GDP = 114732.266 + 0.005 TRA - 44504.673 EXC + ε

While for Malaysia and Singapore both exchange rate and number of tourist arrival are significant predictors for Indonesia, the standardized beta coefficient indicates that the best predictor and most significant for Indonesia’s GDP is tourist arrival (Table 2). Exchange rate has a negative relationship with GDP for Malaysia and Singapore. The regression values seems unrealistic in case on Malaysia with a high regression rate (0.92). Similarly incase of Singapore the regression was high too (0.96). We therefore performed ANOVA to compare the means of the predictors across three countries (Table 5) and find that the means differ among the three countries.

### TABLE 5 ANOVA TABLE

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total tourism arrival</td>
<td>Between Groups</td>
<td>253774227020242.0</td>
<td>0</td>
<td>126887113510121.00</td>
</tr>
<tr>
<td>Within Groups</td>
<td>82456823286790.50</td>
<td>0</td>
<td>704759173391.372</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>33623105307032.0</td>
<td>0</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>GDP</td>
<td>Between Groups</td>
<td>53706494442.876</td>
<td>2</td>
<td>26853247221.438</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1025959523.300</td>
<td>0</td>
<td>87688848.150</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>63966089676.376</td>
<td>0</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>EXC</td>
<td>Between Groups</td>
<td>25370694442.876</td>
<td>2</td>
<td>1152386302.506</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1025959523.300</td>
<td>0</td>
<td>149998.639</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2322322445.783</td>
<td>0</td>
<td>119</td>
<td></td>
</tr>
</tbody>
</table>

The post hoc test reveals that the number of tourist arrival is highest in Malaysia compared to Singapore and Indonesia (Table 6). There is a huge difference in exchange rate value between three countries.
For Model B we employ the Hierarchical regression model with additional dummy variables to check the interaction effect. We deploy number of total international tourist arrival (TRA) and exchange rates (EXC) in the first block. In the second block, we put dummy variables and in the last block we put interaction, which is each proxy of country multiplied by each variable, in order to see whether there is interaction effect among them (Table 7, 8 and 9).

TABLE 7 MODEL SUMMARY

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.936*</td>
<td>.877</td>
<td>.875</td>
<td>8199.6520673</td>
<td>.877</td>
<td>417.195</td>
<td>2</td>
<td>117</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.949b</td>
<td>.900</td>
<td>.896</td>
<td>7467.8681544</td>
<td>.023</td>
<td>13.027</td>
<td>2</td>
<td>115</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>.992c</td>
<td>.983</td>
<td>.982</td>
<td>3115.8795717</td>
<td>.083</td>
<td>137.397</td>
<td>4</td>
<td>111</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>
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(in partnership with The Journal of Developing Areas)  

Based on the adjusted $r^2$ in the Table 6 we see that 87.5% of the variance in the GDP can be predicted from tourist arrival and exchange rates. As we move to second block, the adjusted $r^2$ becomes higher. Addition of interaction effects increases the adjusted $r^2$ values. From ANOVA test, the significance indicates that the three models significantly predict GDP. From the table of coefficients (table 7) we notice that in the first block, exchange rate is a significant predictor ($p < 0.05$). However, as we move to the second and third block, exchange rate is no longer a significant predictor. Exchange rate also positively relates to GDP, and they differ between Malaysia and Singapore when we regress it separately.

**TABLE 8 ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>5609967275.529</td>
<td>2</td>
<td>2804938637.764</td>
<td>417.195</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>7866412400.847</td>
<td>117</td>
<td>67234294.024</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>63966089676.376</td>
<td>119</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regression</td>
<td>57552648377.619</td>
<td>4</td>
<td>14388162094.405</td>
<td>257.995</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>6413441298.757</td>
<td>115</td>
<td>55769054.772</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>63966089676.376</td>
<td>119</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Regression</td>
<td>62888423365.264</td>
<td>8</td>
<td>7861052920.658</td>
<td>809.691</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>1077663111.112</td>
<td>111</td>
<td>9708705.506</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>63966089676.376</td>
<td>119</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: GDP  
b. Predictors: (Constant), EXC, Total tourism arrival  
c. Predictors: (Constant), EXC, Total tourism arrival, Dummy Code Singapore, DummyCode Malaysia  
d. Predictors: (Constant), EXC, Total tourism arrival, Dummy Code Singapore, DummyCode Malaysia, TRAxSg, TRAxMal, ExcxSing, ExcxMal

We perpetuate that the currency difference between the two countries contribute to the difference when we regress them all at once. From the hierarchical test we found that 'type of country' significantly affects the model. There is also interaction effect, which indicates that the type of country significantly affects the prediction result, thus moderating the effect of Model A. Due to the differences in the significance levels of the predictors for each country, we decided to employ another hierarchical multiple regression for each country, based on Model C. We employ identical blocks for each country where first block is number of international tourist arrival (TRA) and second block is average tourist length of stay. In the case of Indonesia, addition of second block reduces adjusted $r^2$. From ANOVA table, we notice that both models are statistically significant. However, looking at the significance levels, only tourist arrival is significant predictor ($p$ value $< 0.05$) in predicting hotel's occupancy rate in Indonesia. For Malaysia the length of stay is significant while for Singapore both tourist arrival and length of stay are significant.(refer tables 8-21)

**TABLE 9 HEIRARCHICAL MULTIPLE REGRESSION - COEFFICIENTS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>25143.308</td>
<td>14</td>
<td>10.645</td>
</tr>
<tr>
<td></td>
<td>Total tourist arrival</td>
<td>.004</td>
<td>.001</td>
<td>261</td>
</tr>
</tbody>
</table>
Compared to Indonesia and Singapore, Malaysia had the highest stay duration about 6-7 days for the last decade. Malaysia also had the highest number of international tourist arrival (based on country of residence) with 4.9 million tourist, compared to 1.5 million (Indonesia) and 2.5 million (Singapore) on quarterly average. As discussed in literature review, Malaysia and Indonesia offered similar features in their tourism promotional campaign: culture, food, shopping, nature, adventure etc. However, it seems that foreign tourist were more attracted to Malaysia. There are two possible explanation for this. First of all, Malaysia is continuously improving upon the infrastructure (e.g. public transport), to attract foreign tourists. For instance, Kuala Lumpur has Monorail in city center and KLIA Express as airport train, the upcoming MRT while Indonesia's monorail project has only begun in 2013, let alone airport train. This argument is backed by some studies that argue development of transport infrastructure is positively related to number of tourist (Prideaux, 2000; Khadaroo and Seetanah, 2007; Khadaroo and Seetanah, 2008; Gronau and Kagermeier, 2007).

Secondly, perceived safety and more stable political economy condition could contribute increased tourist arrivals in Malaysia. Tourism is an industry which sensitive to crisis events, particularly terror attack, natural disasters and outbreaks (Chen, 2011). After Bali bombing in 2002 and 2005, the declining rate of tourist arrival was not only apparent in Bali, but also in Yogyakarta and Jakarta which are other main tourist destination (Pambudi, McCaughey and Smyth, 2009) in Indonesia. Therefore maintaining safe and secure environment should be on the priority list for countries that are ardently promoting tourism. As such the marketing teams must indulge in improving the hotels’ occupancy irrespective of tourist arrivals which can be maximized through loyalty programs or promotional and packaged deals. This technique could be employed particularly when it is difficult to attract new customers.

### TABLE 10 SUMMARY MODEL C - INDONESIA

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficient</th>
<th>Sig.</th>
<th>Tolerance</th>
<th>Adjusted R-square</th>
<th>ANOVA F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>5.667</td>
<td>.220</td>
<td>1.080</td>
<td>25.765</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>TRA</td>
<td>0.566</td>
<td>64.99*</td>
<td>.470</td>
<td>.010**</td>
<td>.676</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AVGSTAY</td>
<td>-1.248</td>
<td>-1.248</td>
<td>.470</td>
<td>.010**</td>
<td>.676</td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 5% level**

Equation: OccupancyRate = 49.392 + 5.330E-006 TRA - 1.248 AVGSTAY + ε

### TABLE 11 SUMMARY MODEL C – MALAYSIA

Comparing Malaysia and Indonesia, the highest stay duration about 6-7 days for the last decade. Malaysia also had the highest number of international tourist arrival (based on country of residence) with 4.9 million tourist, compared to 1.5 million (Indonesia) and 2.5 million (Singapore) on quarterly average. As discussed in literature review, Malaysia and Indonesia offered similar features in their tourism promotional campaign: culture, food, shopping, nature, adventure etc. However, it seems that foreign tourist were more attracted to Malaysia. There are two possible explanation for this. First of all, Malaysia is continuously improving upon the infrastructure (e.g. public transport), to attract foreign tourists. For instance, Kuala Lumpur has Monorail in city center and KLIA Express as airport train, the upcoming MRT while Indonesia's monorail project has only begun in 2013, let alone airport train. This argument is backed by some studies that argue development of transport infrastructure is positively related to number of tourist (Prideaux, 2000; Khadaroo and Seetanah, 2007; Khadaroo and Seetanah, 2008; Gronau and Kagermeier, 2007).

Secondly, perceived safety and more stable political economy condition could contribute increased tourist arrivals in Malaysia. Tourism is an industry which sensitive to crisis events, particularly terror attack, natural disasters and outbreaks (Chen, 2011). After Bali bombing in 2002 and 2005, the declining rate of tourist arrival was not only apparent in Bali, but also in Yogyakarta and Jakarta which are other main tourist destination (Pambudi, McCaughey and Smyth, 2009) in Indonesia. Therefore maintaining safe and secure environment should be on the priority list for countries that are ardently promoting tourism. As such the marketing teams must indulge in improving the hotels’ occupancy irrespective of tourist arrivals which can be maximized through loyalty programs or promotional and packaged deals. This technique could be employed particularly when it is difficult to attract new customers.
For Singapore, Model C can explain 72.2% of variance of hotel's occupancy rate, by far the highest result. Both tourist arrival and length of stay are statistically significant predictors. Therefore in the case of Singapore, we do not reject both null hypothesis because there is significant impact of average length of stay and number of tourist arrival to hotel's occupancy rate. Based on standardized beta coefficient, the most contributing predictor is tourist arrival, with positive relationship; meanwhile length of stay is negatively related. Compare to Malaysia and Indonesia, Singapore has the highest hotel occupancy rate with average 81% and length of stay 3-4 days on quarterly average. We notice that generally the hotel's rate of occupancy has been quite stable, only dropped for two quarters in 2009 but quickly bounced back. We notice some downturns in 2009 on number of tourist arrival. It seems that Singapore's hotel occupancy rate is more affected by financial crisis than other two countries.
Proceedings of the Australian Academy of Business and Social Sciences Conference 2014
(in partnership with The Journal of Developing Areas)

a. Predictors: (Constant), TRA TOTAL
b. Predictors: (Constant), TRA TOTAL, AVGSTAY
c. Dependent Variable: OCCPRATE

### TABLE 14 ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>126.048</td>
<td>1</td>
<td>126.048</td>
<td>13.152</td>
<td>.001*</td>
</tr>
<tr>
<td>1</td>
<td>Residual</td>
<td>38</td>
<td>9.584</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>490.240</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>127.454</td>
<td>2</td>
<td>63.727</td>
<td>6.499</td>
<td>.004*</td>
</tr>
<tr>
<td>2</td>
<td>Residual</td>
<td>37</td>
<td>9.805</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>490.240</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

da. Dependent Variable: OCCPRATE
b. Predictors: (Constant), TRA TOTAL
c. Predictors: (Constant), TRA TOTAL, AVGSTAY

### TABLE 15 COEFFICIENTS

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>45.190</td>
<td>2.446</td>
<td>18.478</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>TRA TOTAL</td>
<td>5.751E-006</td>
<td>.000</td>
<td>.507</td>
<td>3.627</td>
</tr>
<tr>
<td>(Constant)</td>
<td>49.392</td>
<td>11.372</td>
<td>4.343</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>TRA TOTAL</td>
<td>5.330E-006</td>
<td>.000</td>
<td>.470</td>
<td>2.732</td>
</tr>
<tr>
<td>AVGSTAY</td>
<td>-1.248</td>
<td>3.296</td>
<td>-0.065</td>
<td>-0.379</td>
<td>1.479</td>
</tr>
</tbody>
</table>

da. Dependent Variable: OCCPRATE
b. Predictors: (Constant), TRA TOTAL
c. Predictors: (Constant), TRA TOTAL, AVGSTAY

We employ identical blocks for each country: first block is number of international tourist arrival (TRA); second block is average tourist length of stay. In the case of Indonesia, addition of second block actually reduces adjusted r-square. From ANOVA table, we notice that both models are statistically significant. However, from the Sig. value, only tourist arrival is significant predictor (p. value <0.05) in predicting hotel’s occupancy rate in Indonesia.

### TABLE 16: MODEL SUMMARY MALAYSIA

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change F Change df1 df2 Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.068*</td>
<td>.005</td>
<td>-.022</td>
<td>5.648926</td>
<td>.005</td>
</tr>
<tr>
<td>2</td>
<td>.732b</td>
<td>.536</td>
<td>.511</td>
<td>3.908138</td>
<td>.531</td>
</tr>
</tbody>
</table>

da. Predictors: (Constant), TRA TOTAL
b. Predictors: (Constant), TRA TOTAL, AVGSTAY
c. Dependent Variable: OCCPRATE

### TABLE 17 ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>5.646</td>
<td>1</td>
<td>5.646</td>
<td>.177</td>
<td>.676</td>
</tr>
<tr>
<td>1</td>
<td>Residual</td>
<td>1212.594</td>
<td>38</td>
<td>31.910</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1218.240</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Different finding was found in Malaysia. According to Model Summary and ANOVA, number of international tourist arrival solely is not good nor significant predictor; it has to be added with length of stay. From the second block in the table of coefficients, and we notice that length of stay is the only statistically significant predictor to hotel’s rate of occupancy in Malaysia.

Table 18 Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>(Constant)</td>
<td>59.352</td>
<td>3.620</td>
<td>16.394</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>TRA TOTAL</td>
<td>2.961E-007</td>
<td>.000</td>
<td>.068</td>
<td>.421</td>
</tr>
<tr>
<td>(Constant)</td>
<td>123.117</td>
<td>10.109</td>
<td>12.179</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>TRA TOTAL</td>
<td>9.637E-007</td>
<td>.000</td>
<td>.222</td>
<td>1.936</td>
</tr>
<tr>
<td>AVGSTAY</td>
<td>-10.212</td>
<td>1.568</td>
<td>-.745</td>
<td>-6.511</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 19: Model Summary Singapore

<table>
<thead>
<tr>
<th>Model</th>
<th>Adjusted R Square</th>
<th>Std. Error</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R Square</td>
<td>R Square of the Estimate</td>
<td>R Square Change</td>
</tr>
<tr>
<td>1</td>
<td>.736</td>
<td>.542</td>
<td>.530</td>
</tr>
<tr>
<td>2</td>
<td>.858</td>
<td>.736</td>
<td>.722</td>
</tr>
</tbody>
</table>

Table 20: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>1364.328</td>
<td>1</td>
<td>1364.328</td>
<td>44.904</td>
</tr>
</tbody>
</table>

a. Dependent Variable: OCCPRATE
b. Predictors: (Constant), TRA TOTAL
c. Predictors: (Constant), TRA TOTAL, AVGSTAY
Residual | 1154.570 | 38 | 30.383
Total | 2518.899 | 39
Regression | 1853.757 | 2 | 926.878 | 51.560 | .000
2 Residual | 665.142 | 37 | 17.977
Total | 2518.899 | 39

a. Dependent Variable: OCCPRATE
b. Predictors: (Constant), TRA TOTAL
c. Predictors: (Constant), TRA TOTAL, AVGSTAY

**TABLE 21 COEFFICIENTS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>56.644</td>
<td>3.841</td>
<td>14.749</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>TRA TOTAL</td>
<td>9.784E-006</td>
<td>.000</td>
<td>.736</td>
<td>6.701</td>
</tr>
<tr>
<td></td>
<td>(Constant)</td>
<td>92.047</td>
<td>7.400</td>
<td>12.438</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>TRA TOTAL</td>
<td>1.267E-005</td>
<td>.000</td>
<td>.953</td>
<td>10.120</td>
</tr>
<tr>
<td>2</td>
<td>AVGSTAY</td>
<td>-11.746</td>
<td>2.251</td>
<td>-.491</td>
<td>-5.218</td>
</tr>
</tbody>
</table>

Dependent Variable: OCCPRATE

Meanwhile in Singapore, additional block increase the adjusted r-square. It means additional predictor give better prediction of hotel's occupancy rate in Singapore. As we see from the second block in the table of coefficients, the Sig.value signify that the most significant (p < .05) predictors to hotel's occupancy rate in Singapore are both number of international tourist arrival and length of stay.

Probably we can relate this to the strong exchange rate of SGD, which is 1.49 per USD, on quarterly average, or almost equal to USD itself. Because of the high rate, the tourist perceive travel to Singapore to be more expensive, especially during crisis. We also can relate this to the low tourist's duration of stay. The argument is supported by Toh, Khan and Lim (2004) which finds that tourist's purpose of visit to Singapore is mainly vacation, followed by business trips and in-transit visitors. Although the duration of stay is low, the tourists are high-quality visitors willing to spend high amount of money. For instance, in year 2000, average spending per visitor was USD 770 per person, compared to USD 450 per person in Malaysia (Toh, Khan and Lim, 2004).

Last but not least, we wanted to examine the tourist from ASEAN or regional tourists. We could not include this variable into the statistical test because problem of multi-collinearity exist whenever we try to run it hand-in-hand with total tourist arrival. Still, we believe that number of ASEAN tourist contribute much to each of these country. Based on World Tourism Organization (UNWTO) data in 2012, number of tourist from ASEAN actually hold biggest portion with 76.4% of total number of tourist arrival to Malaysia; followed by North-East Asia (China, Korea, Japan) with 8.6% market share. Similarly in Indonesia, tourists from ASEAN accounted 42.9% of total foreign tourist; second place held by North-East Asia with 20.9%. In Singapore, tourist from ASEAN has accounted for 41.1% market share and tourist from North-East Asia accounted for 25.6% of total foreign tourist. The good news is, the number of ASEAN tourists arrival has been stable, even during the crisis timeline.

**FIGURE 3 INDONESIA GDP (IDR MILLION)**

**FIGURE 4 NUMBER OF INTERNATIONAL TOURIST ARRIVAL**
Based on the graph above, we notice that the GDP of Indonesia during the last decade is growing, although the financial crisis is happening. We can divide the timeline into three: pre-crisis (2003-2006), during crisis (2007-2009) and post-crisis (2010-2012). We notice, there are slight downturn in some points in graph, however the trend is moving up. In Figure 2, we find that the number of foreign tourist arrival is quite stable, even in the crisis period (2007-2009). On the other hand, in Figure 6, we observe more volatile Indonesian Rupiah value to US Dollar. Rupiah depreciated especially during global crisis 2008-2009, due to lost market confidence (Djaja, 2009); foreign debt payment and foreign investment realization which makes demand of US Dollar higher (Patunru and Zetha, 2010). The stability of economy, is said because Indonesia is relatively ‘closed’, the share of exports to the world in 2007 was only 29%. Compare to neighboring Asian country like Singapore (234%) and Korea (45%), the figure is considerably small (Basri and Rahardja, 2010). Another booster of economic stability was the high performance and stable demand in tertiary industry such as finance, telecommunication, also hospitality and restaurants. According to National Bureau of Statistic, the demand was only slightly dropped to 5% in 2008 from 6.7% in 2005 (Djaja, 2009). That supports our findings from model A: tourist arrival make better predictor to GDP, compare to exchange rate. Therefore in the case of Indonesia, we reject the first null hypothesis, because there is significant impact of tourist arrival to GDP growth and it is positively related. Meanwhile, we reject H2 because the impact of exchange rate to GDP is less significant compare to tourist arrival.
From Model A we see that both tourist arrival and exchange rates are significant predictors, therefore we reject both null hypotheses, first and second hypotheses in case of Malaysia and Singapore. However, exchange rate has negative relationship with GDP for Malaysia and Singapore (i.e. when currency appreciates, the higher economic growth). It is supported by the Figure 6, 7, 8, 9.

Moreover, if we take closer look on the number of ASEAN tourists that visited Malaysia in 2011, 70% were from Singapore and Indonesia accounted for 11% market share. Meanwhile even for Indonesia, Singapore contributed 45% market share and Malaysia 39% share. For Singapore, Indonesia contributed 47.8% out of total number of ASEAN tourist and Malaysia contributed 21% share. This is interesting in the sense that businesses may want to focus more on regional tourists, especially during the time of crisis because of the stability and support that the countries are willing to provide each other. It is interesting to note that for ASEAN people, travel within ASEAN is free of visa issue. Secondly improved transport hubs and promotional fares to travel within ASEAN and provision of easier currency exchange (i.e. some business center in Indonesia started to receive payment in Ringgit or SGD, instead of strictly Rupiah), makes travel intra-region more attractive. Nevertheless, proximity and similar culture (in some cases) would influence tourists’ choice of a particular destination (Ng, Lee and Soutar, 2007). Other way around, some scholars (Ghimire, 2001; Henderson, 2001) support the development of regional cooperation in tourism, such as promoting ASEAN as one tourism destination instead of being in competition. However, this is more likely to find challenges such as finding public and private supports, while ensuring that the stakeholders are able to maintain good, stable relations among each states.
Finally we discuss the result of third model which employs hospitality industry as proxy of tourism performance. First of all we discuss about the low adjusted r-square in the case of Indonesia. Compare to Singapore and Malaysia, the model only can explain 22% of variance of hotel’s rate of occupancy in Indonesia. As we notice, among the three countries, Indonesia has the largest area and population. The tourism data provided by National Bureau of Statistic only measured from several samples. For instance, foreign tourist’s average length of stay monthly data available are taken from all stars hotel in 20 provinces of main tourist destination (Bureau of Statistics Indonesia, 2012). That could be one reason explaining the low adjusted r-square. Another interesting thing from the result is, the most significant (p < 0.05) predictor in predicting hotel’s occupancy rate is tourist arrival and they have positive relationship. This is in line with the findings of Chow, Shyu and Wang (1998). They found that number of foreign tourists positively and significantly affect the increase of hotel’s rate of occupancy in Taiwan. Therefore, in the case of Indonesia we reject the H5, according to statistical result there is no significant impact of average length of stay to hotel’s rate of occupancy. We do not reject null hypothesis for the 6th hypothesis because according to statistical test there is significant impact of tourist arrival to hotel’s rate of occupancy.

**FIGURE 11 HOTEL’S RATE OF OCCUPANCY IN INDONESIA**

We observe that generally the occupancy rate has been quite stable, around 50-60%, even during crisis timeline. Lowest drop was witnessed in the last quarter of 2008, but quickly bounced back afterwards with incline trend. Same can be spoken about tourists’ average length of stay. This findings shows that actually hoteliers performance was quite robust even though they were facing financial crisis; this is also supported by the steady growth of tourist arrival to Indonesia during the crisis timeline.

**FIGURE 12 HOTEL’S RATE OF OCCUPANCY IN MALAYSIA**
Compared to Indonesia and Singapore, Malaysia has the highest average tourist duration of stay, which is 6-7 days for the last decade. Malaysia also has the highest number of international tourist arrival (based on country of residence) with 4.9 million tourist, compare to 1.5 million (Indonesia) and 2.5 million (Singapore) on quarterly average. As discussed in literature review, Malaysia and Indonesia offered similar features in their tourism promotional campaign: culture, food, shopping, nature, adventure. However, it seems that foreign tourist more attracted to come to Malaysia. There are two possible explanation for this. First of all, better infrastructure (e.g. public transport) than Indonesia, so it is more convenience for foreign tourists. For instance, Kuala Lumpur has Monorail in city center and KLIA Express as airport train, meanwhile Indonesia's monorail project has only been started in 2013, let alone airport train. This argument is backed by some studies that argues development of transport infrastructure is positively related to number of tourist (Prideaux, 2000; Khadaroo and Seetanah, 2007; Khadaroo and Seetanah, 2008; Gronau and Kagermeier, 2007). Secondly, perceived safety and more stable political economic condition would have attracted tourism in Malaysia. Tourism is an industry which sensitive to crisis events, particularly terror attack, natural disasters and outbreaks (Chen, 2011). After the tragic Bali bombing in 2002 and 2005, the decline of tourist arrival not only affected Bali, but also Yogyakarta and Jakarta as other main tourist destination (Pambudi, McCaughey and Smyth, 2009). Therefore maintaining safe and secure environment should be highest priority for countries that promoting its tourism.

Comparing hotel's rate of occupancy between Singapore and Malaysia, we find that Singapore has the highest hotel's occupancy rate with average 81% and length of stay 3-4 days on quarterly average. From the graph on Figure 13, we notice that generally the hotel's rate of occupancy has been quite stable, only dropped for two quarters in 2009 but quickly bounced back. If we have a look at Figure 5, we notice that there are also downturns in 2009 on number of tourist arrival. This explains the slight drops of hotel's occupancy rate. It seems that Singapore's hotel occupancy rate is more affected by financial crisis than other two countries. Probably we can relate this to the strong exchange rate of SGD, which is 1.49 per USD, on quarterly average, or almost equal to USD itself. Because of the high rate, it was perceived to be more expensive to travel to Singapore, especially during crisis. We also can relate this to the low duration of stay. For vacation-purpose, it would be quite expensive to stay long, so it seems more sensible to stay during weekend only for short getaway.

After we examine the result and data, it seems that global financial crisis which occurred in late 2008 has more impact towards tourism than ongoing Eurozone debt crisis which started in 2009. One of possible reason is that the tourists who come from Europe, specifically the Euro zone such as Greece, Spain was relatively smaller compared to the tourists from East Asia and South-East Asia. Therefore the number of international visitors to Indonesia, Malaysia and Singapore has recovered in 2010 and kept increasing so far.

**SUMMARY AND CONCLUSIONS**
This paper examined tourism sector in Indonesia, Malaysia and Singapore with regards to the financial crisis of 2008-2009. Three models were developed and tested. The variables used in model A were GDP as proxy of economic growth; exchange rate and number of tourist arrival to represent tourism growth. Type of country was also employed to see whether it effected the economic growth. The third model used hotel occupancy rate as proxy of tourism business performance, accompanied by tourist's average length of stay and number of tourist arrival as predictors. Data used were quarterly data, with total 120 samples selected between 2003-2012. Quantitative approach was taken for analysis, using ordinary least square (OLS) method, specifically simultaneous and hierarchical multiple regression. Analysis was also done by examining the trend of data.

The findings were interesting. First of all, tourism has significant impact to GDP for the three countries. In the case of Indonesia, exchange rates was not statistically significant to tourism in predicting the economy, whereas it was significant for Malaysia and Singapore. Based on comparison between Indonesia, Malaysia and Singapore, all three countries experienced short dip in number of international tourist arrival, especially in the first quarter of 2009. However, based on annual changes; Singapore experienced the lowest drop among the three, but it quickly bounced back in 2010. The drop can be related to the strong real exchange rate of Singapore, which is almost equal to USD. Currency appreciation is related economic growth, however in the case of Singapore, strong currency impedes tourists to come because the cost of travel is high, price is less competitive compared to Indonesia and Malaysia. The fact that number of tourist arrival in the three countries had recovered in 2010, supports the previous studies that deliberated tourism sector experienced milder impact compared to other sectors during crisis (Song and Lin, 2010; Ritchie, Molinar and Frechtling, 2010). It also implies that tourism sector is resilient, therefore the government's long-term economic development plan incorporating tourism sector is in the right direction provided the promotions and infrastructures are improved appropriately to attract tourists.

With respect to hotel occupancy rate, number of tourist arrival become significant predictor and positively related to higher hotel's occupancy rate in Singapore and Indonesia. On the contrary, tourist's length of stay is the most significant predictor for Malaysia's hotel occupancy rate. Overall, hotel's occupancy rate also experienced short dip, especially in fourth quarter 2008, with exception of Singapore which experienced low occupancy rate until first quarter of 2009. Based on comparative study, it is found that tourists from ASEAN hold largest portion to international tourists arrival in the three countries. A closer look at the statistics revealed that the largest number of tourists spanned around the three countries itself. It implied that biggest support for tourism comes from regional tourists, because the trend has been stable with inclination to increase, despite the crisis in 2008-2009. Although the regional-relationship findings could not be supported by empirical study because of problem of multi-collinearity issues, this study highlights the potential of regional tourists, as supported by the stability of the demand.

Although this study has contributed to empirical study to provide evidence that tourism affect economic growth, it has several limitations. In order to analyze the significance of impact of tourism on economic growth, this paper only employed ordinary least square (OLS) method through simultaneous and hierarchical multiple regression analysis. Most literature in year 2000 and above, such as Lee (2008), Ballaguer and Cantavella-Jorda (2002) employ co-integration and unit root test before doing regression in order to check stationarity of the data. Checking stationary aims to provide better analysis and avoid spurious inferences. Secondly, the industry we chose to represent tourism is only hospitality. It would provide better insight if other variables also included, to represent other industry such as airlines, restaurants or travel businesses. However it is also subject to the availability of the data. This opens up scope for future research in the areas of business travels and causality of tourism to economic growth using Granger causality test.

This study has several implications for academicians, businesses, tourism marketers and policy-makers in respective countries. First of all, with respect to the result obtained, it is statistically significant that tourism growth impact to GDP growth with positive relationship. Therefore the tourism development should be maintained as one of strategic economic pillar. With regards to exchange rates, the stability is more important (Eichengreen, 2008), as stable currency would enhance economic growth and also would be more attractive to tourists. However, destination which has high exchange rates seems to be less attractive to tourists during the time of financial crisis. Similarly amendment of marketing techniques to improve occupancy rate is suggested. For government, we provide recommendations to improve infrastructure and take measures to improve safety of the place to attract tourists. Last but not the least maintaining good relationship between the three countries is important to support each other during crisis is very significant.

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