SPENDING OF SPORTS EVENT PARTICIPANTS AND TOURISTS: EVIDENCE FROM THE 2018 ASIAN GAMES

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Spending of Sports Event Participants and Tourists: Evidence from the 2018 Asian Games[*]

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Abstract

The 2018 Asian Games was the biggest sports event in the history of Asian Games. Held in Indonesia, the sports event contested 40 sports and 465 events while served for 11,326 athletes from 45 Asian countries, apart from hundreds of thousands of international visitors, officials and journalists. While required a considerable amount of public spending, such a massive scale of event generated large economic stimuli to Indonesian economy, among which were the spending of international participants and spectators. This study aims to estimate the determinants of international participants and spectators' spending. Data were collected through face-to-face interviews during the event. The findings suggest that the spending and spending composition of international participants and spectators vary across types of participants, country of origins, gender, age group and traveling experiences. The academic and policy implications of the findings are discussed.

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1. INTRODUCTION

The Asian Games is a multi-branch sports event involving all countries in the Asian Continent and an official four-year agenda of the Olympic Council of Asia (OCA). Indonesia hosted the 2018 Asian Games, which was officially known as the 18th Asian Games Jakarta-Palembang 2018. The 2018 Asian Games took place from August 18 to September 2 in three provinces - DKI Jakarta and South Sumatra (of which Palembang is the capital city) as the host regions and West Java as the supporting region.

The 2018 Asian Games was the biggest in the history of Asian Games, with 11,326 participating athletes from 45 Asian countries, including Indonesia as the host country, competing in 40 sports and 465 events. This figure exceeds the participating athletes in 2014 Incheon Asian Games (South Korea), Guangzhou 2010 (China) or Doha 2006 (Qatar), even being comparable to the 2016 Rio de Janeiro Olympics (Brazil) which featured 11,238 athletes. Further, 1,149 country officials from participant countries also took part, adding to the hundreds of OCA officials and representatives of various international sports federations. To ensure that this grand event would run successfully,

no less than 11 thousand local committees were involved, comprised the Indonesia 2018 Asian Games Organizing Committee (INASGOC) and its volunteers, excluding task forces from various government institutions and community organizations that helped smooth the event.

It is also safe to say that the 2018 Asian Games had successfully attracted international attention beyond the Asian region for it was covered by more than 5 thousand international journalists across the globe. In addition, the event also attracted nearly 79 thousand foreign tourists who came to Indonesia with main intention to watch the games.

Taking into consideration that such a massive event was funded mostly by the state budget and that Indonesia envision to host other grand sports events in the future, the need to capture the economic stimuli generated from the event is of paramount importance. The direct economic stimuli come, amongst others, from the spending of the event participants and spectators. As such, this study aims to estimate the spending of the event's international participants and spectators. This study contributes to the limited extant literature on spending behavior in sports event, none of them specifically draws the reference to Indonesia.

This paper is organized as follows. Section 2 provides brief review of existing literature on sports tourism in general, spending during sports event, and impact of sports tourism to the broader economy. The third section explains the data and the methodology. It will then be followed by the fourth section that discusses the results. The final section of the paper provides conclusion and implications of the findings.

2. LITERATURE REVIEW

2.1 Sports Events and Sport Tourism

Delpy (1998) as cited in Roche et al. (2013) defines sports tourism as a travel activity to compete in sports events, to observe sports events or to visit sports attraction in a tourist destination. Sports tourism can be divided into three categories: sports attraction visitation, sports event attendance, and active participation. Sport tourism can also be defined in broad and narrow terms (Schwark, 2007). Broadly, it refers to *"the appropriation of 'self'-participation in sports in the routine living environment under other/alien, non-familiar conditions outside of one's own living environment". Narrowly, it refers to "the expanded, quasi double conflict and appropriation of the participation of another sport which does not exist in the routine living environment, and under other, non-familiar conditions".*

Sports tourism has been undergoing rapid growth recently. Orbis Research (2018) estimated this industry worth more than USD800 billion globally[1]. Sport tourism is also one of the largest and fastest-growing business within the global travel and tourism industry (Hritz & Ross, 2010). The growth of sports tourism has been spurred by the availability of various affordable travel means for middle and low-class spectators, as well as better ticketing system.

Sports event has been an important segment within the sports tourism in the last few decades (Roche et al., 2013). Likewise, in the sports spectator market, sports competitions or events have steadily become the main product (Fullerton & Mertz, 2008). However, there have also been increasing active participation to compete formally or informally as teams or individuals. Growing leagues, tournaments, and competitions in some sports disciplines have increased the number of participants and the frequency of participation and have contributed in promoting the development of these segments (Fullerton & Mertz, 2008).

2.2 Economic Impact of Sports Event

The economic impact of a sport event can be analysed in at least three phases of the event: (1) the impact of the event preparation phase; (2) the impact created during the event; and (3) the long-term impact beyond the event. The economic impact of a sports event already begins as early as the preparation phase as the preparation of venues and supporting public facilities as well as investment made by private sectors anticipating the event create direct and indirect impacts to the economy. Construction, transportation and trading sectors are among the directly affected sectors by the event preparation. The indirect impact may come from increasing demand for inputs of those three sectors in the upstream industries.

During the event, international and domestic participants and tourists spend money on merchandise, souvenirs, food, and beverages. In addition, tourists also spend money on tickets, hotels, restaurants, and transportation. The increasing demands affect the businesses' revenue and create the multiplier effect in the supporting industries as well as creating temporary jobs.

Gratton et al. (2006) classified sports tourist expenditure into three categories. First, organizational expenditure, which refers to the spending made directly by the event's organizers in the event and its surrounding areas. Second, competitor or delegation expenditure, which refers to the spending made directly by event participants and their supporting staffs in event and its surrounding areas. Third, other visitor expenditure, which refers to the spending made directly officials, journalists and spectators.

Wang and Davidson (2010) reported that sports event tourists' spending is influenced by their socio-demographic characteristics including, but not limited to, gender, age, marital status, education level, occupation, place of origin, nationality and household size. Hu and Cole (2016) reported that in the case of mega sports event such as Superbowl the length of stay has a positive impact on total tourist expenditure while the trip duration has a small opposite effect.

The economic impact of a sports event to the local economy is expected to last beyond the event. In longer term, sports event may bring benefits to the economy through increasing tourism, destination awareness and image, new public infrastructure, global reputation, increasing inward investment and event hosting experience (Roche et al., 2013; Kasimati, 2003; Müller et al., 2016; KPMG, 2018). These in turn will create employment opportunities as well as improved public welfare.

Hence, sports events, especially large-scale ones such as Asian Games, are invaluable opportunities for the host country to stimulate their economies. Haddad and Haddad (2010), using the Computable General Equilibrium model, estimated that the 2016 Brazil Olympics contributed USD39.1 billion to Brazil's economy, including USD269.8 million to regional tax revenue income, USD582.9 million to the provincial administration and USD4.82 billion to the state administration. Fifty-five sectors within Brazil's economy were directly and indirectly benefited from the event. More importantly, the event was estimated to create around 120 thousand employment opportunities in 2009–2016 and additional 130 thousand in 2017–2027. Hence, despite the claim that those numbers were overestimated (Barios et al., 2016), the economic benefit of the event exceeded the event hosting cost of USD14.4 billion. It is therefore unsurprising that cities and countries compete to host mega sports events due to their potentials to create economic multiplier effects.

There has been growing academic interest towards sports tourism area of research. In particular, more attention is devoted on how sports event may attract more participants, receive high media value or media branding, bring a region to the global attention of the international world and therefore increase the economic benefits for the hosting regions.

3. METHODOLOGY

3.1 Data

The study employs both primary and secondary data. The primary data includes the amount of money spent by international and national athletes, officials, committee members, journalists, and spectators on accommodation, food, transportation, entertainment, clothing, and other items during their stay in Indonesia for the 2018 Asian Games. The pri-

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[1]Cited in Reuters, https://www.reuters.com/brandfeatures/venture-capital/article?id=26683

Table 1. Number of Population and Obtained Samples for Each Type of International Respondents

Type of Respondents	Total Population	Respondents
Athletes	10,391	1,268
Foreign Country Officials	1,149	261
International Journalists	5,000	121
International Spectators	78,854	218
Olympic Council of Asia Officials	Unknown	46
Total		1,914

Source: LPEM FEB UI Survey (2018), Bappenas (2018), and INASGOC (2018)

Note: The number in the table refers to the number of spectators but each spectator may watch more than one match.

The survey also collected data from national respondents, but the spending behaviours of national respondents are beyond the scope of this study.

mary data is collected through the survey using structured questionnaire.

The secondary data consisted of the number of participants and spectators of the 2018 Asian Games. The number of national and international athletes and officials from 45 participant countries, OCA officials, INASGOC officials and volunteers, international sport federations officials, and international journalists were provided by the INASGOC. The approximated number of national and international spectators attending various Asian Games matches and events were provided by the Ministry of National Planning (Bappenas). The secondary data was then used as the basis of sampling method for the survey.

3.1.1 Sampling

The sampling was designed to ensure that the proportions of the respondents simulate the population. The proportional sampling method was applied to athletes and country officials by country of origin rather than sport disciplines on the base that the spending varies more across countries rather than sports. For the survey on OCA & IF officials, convenience sampling method was applied due to the difficulties in arranging survey appointments.

In absence of population list, the survey on international journalists and spectators applied quota sampling method, with which the sampled respondents were surveyed conveniently until a targeted maximum number of respondents from a single country was filled. In total there were 2,618 respondents interviewed during the survey, including domestic and international participants and visitors. However, this study only focuses on the spending behavior of 1,914 international respondents. The population and obtained responses for each international respondent category is provided in Table 1.

3.1.2 Questionnaire

A specific questionnaire was developed for each of the five types of international respondents including International Athlete (IA), Olympic Council of Asia and International Sports Federations Officials (OCA & IF), Foreign Country Officials (CO), International Journalists (IJ), and International Spectators (IS). The first section of the questionnaire enquires the respondent's identity including name, nationality, age, gender, contact details as well as the arrival, and departure dates to/from Indonesia.

The spending section of the questionnaires cover the questions regarding the total planned spending, the details

of planned spending, the plans for traveling during the event and the number of family or friends that came with the respondents. For international athletes and country officials, there was additional question regarding the accommodation for those opting to stay outside the athlete village (AV) during their stay in Indonesia. Similarly, for international journalists there were additional questions on the hotels to approximate the spending on accommodation. As for international spectators, there were further questions regarding their expenditure on the Asian Games match tickets.

The draft of the questionnaires underwent the development and validation through the following: (1) questionnaire piloting to several national athletes and sports federations; and (2) field training and survey simulation for the enumerators to national and international athletes, officials and organizing committees that were met around the venues a week before the opening ceremony.

3.1.3 Data Collection

The questionnaires were transformed into the Computer Assisted Personal Interview (CAPI) program to be used by the enumerators. CAPI program was used to facilitate the survey team in obtaining the survey results in real time, giving feedback, making voice recordings and verifying the coordinates of survey locations. Four days training was conducted to six local supervisors and 40 local enumerators on the interview techniques, CAPI program, comprehension of questionnaires, and practice interviews both in Indonesian and English. The survey of 2018 Asian Games was carried out on August 19 to September 4 in Jakarta and Palembang as well as several cities in West Java that participated in hosting the event.

3.2 Profile of Respondents

Figure 1 shows the number of international athlete respondents based on the country of origin. The largest number respondents were obtained from People's Republic of China (77 responses) whose team was the second largest (859 athletes) after that of Indonesia. Based on sports, Figure 2 shows that the largest number of responses were collected from from Athletics (87 respondents).

Figure 3 shows the number of international spectator respondents by country of origin. The highest number of respondents was from Japan (27). Figure 4 shows the number of international journalists by country of origin, in which the largest number of respondents were obtained from Japan
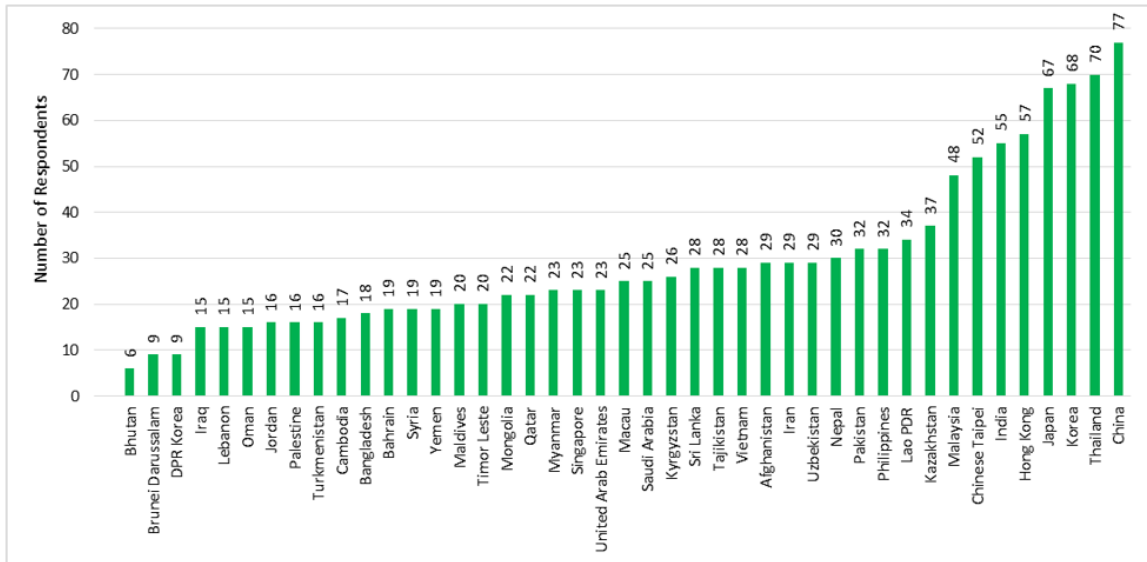
Figure 1. Number of International Athlete Respondents by Country of Origin
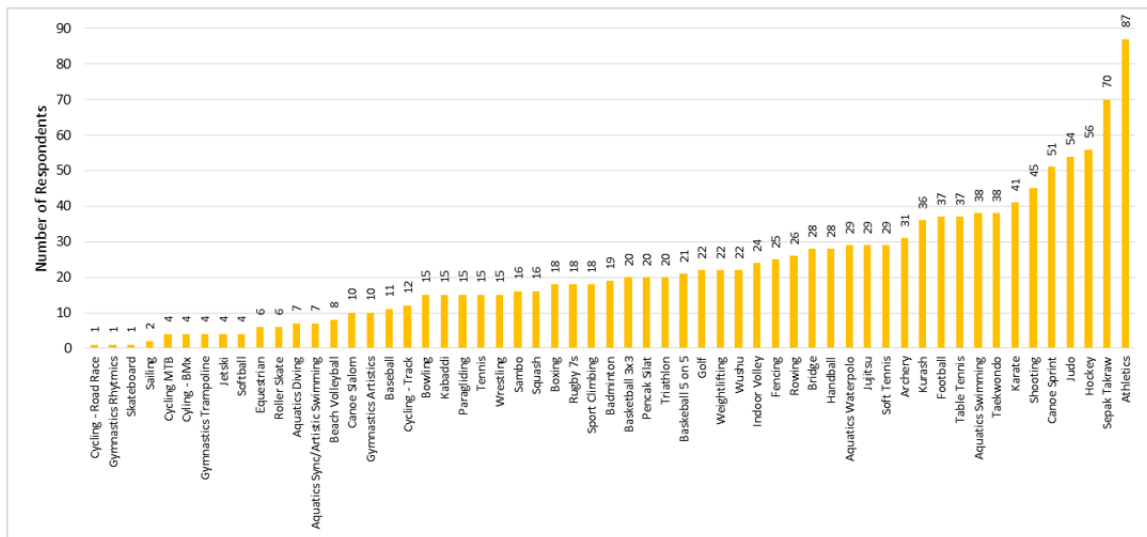Source: LPEM FEB UI Survey (2018)

Figure 2. Number of International Athlete Respondents by Sports
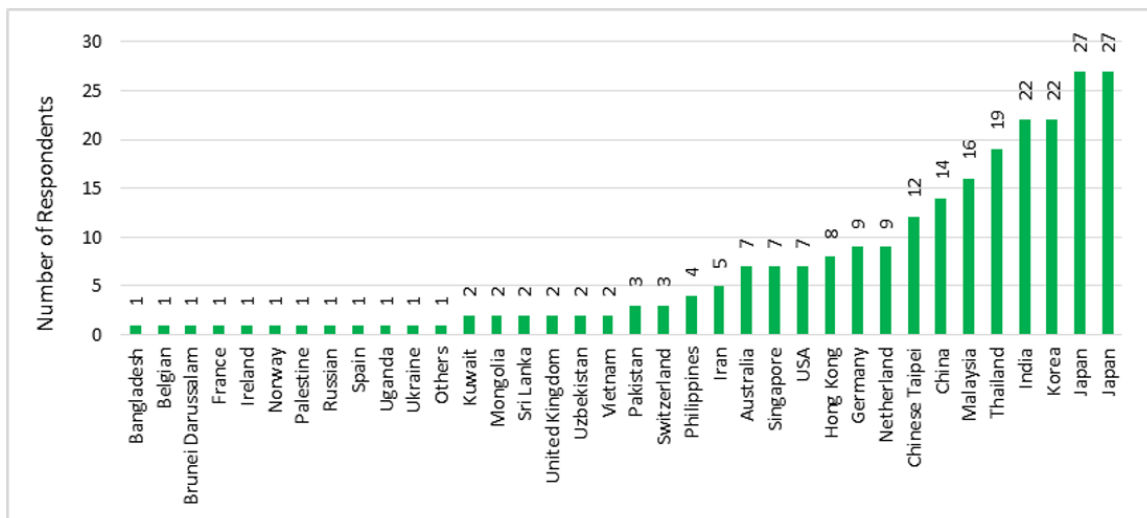Source: LPEM FEB UI Survey (2018)

Figure 3. Number of International Spectator Respondents by Country of Origin
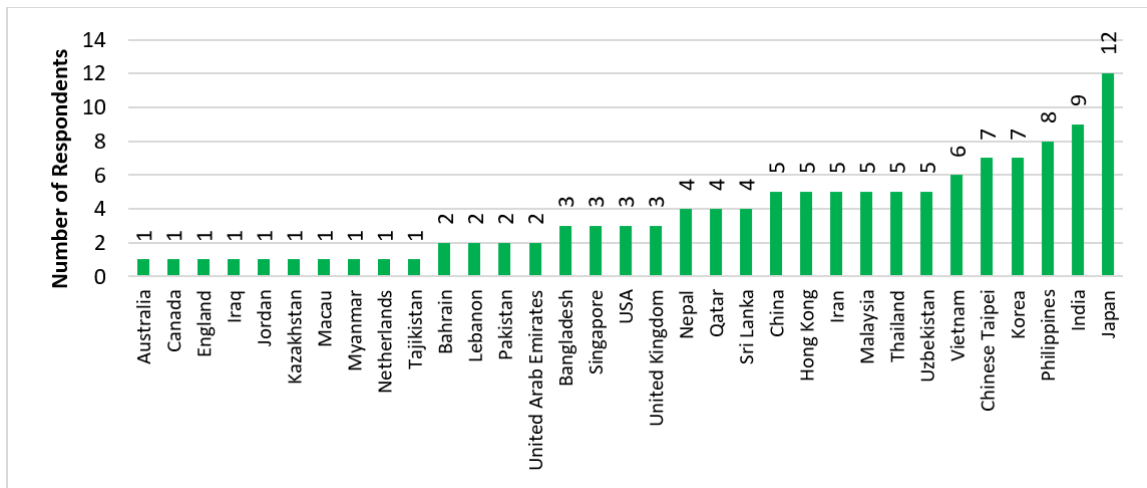Source: LPEM FEB UI Survey (2018)

Figure 4. Number of International Journalist Respondents by Country of Origin
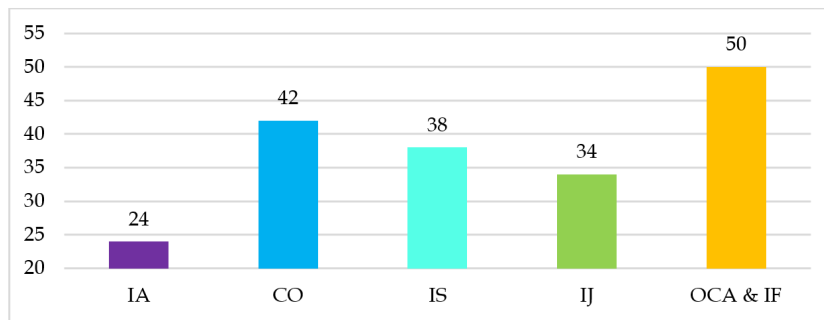Source: LPEM FEB UI Survey (2018)

Figure 5. Average Age of International Respondents (Years)
Source: LPEM FEB UI Survey (2018)

(12). As for the OCA & IF officials, out of total 46 respondents collected, 11 of which came from non-Asian countries.

Figure 5 show the average age of every type of international respondents. International athletes were the youngest with average age of 24 while OCA & IF were the oldest with average age of 50.

Figure 6 shows the gender composition of every type of international respondents. There were more male than female in every type of international respondents, with the highest percentage observed in international journalists (85.9%) and the lowest found in international spectators (59.6%).

3.3 Estimation Method

Figure 7 illustrates the conceptual framework of the study. In general, the expenditure of sports event participants and visitors is determined by three factors: (1) socio-demographic factor, (2) tourist-specific factor, and (3) psychographic factor. See Table 2 for further details of each factor.

This study employed OLS model to analyze the determinants of spending behavior of the Asian Games 2018 participants and visitors. This econometric tool is used to detect the central tendency of the data and estimate the average expenditure for those attending the Asian Games, to the changes in the independent variables. The OLS model is formulated as the following:

$$Y = f(SD, T, PS)$$

Where Y is the individual total expenditure per respondent which was transformed through its natural logarithm in order to make it closer to the normal distribution. On the other side of the equation, a set of independent variables representing the determinants of spending including the vectors of SD, T, and PS, where SD = socio-demographic variables, T = tourist variables, and PS = psychographic variables.

Hence the expression to be estimated is as follows:

$$\begin{aligned} LOGSPEND_i = {} & \beta_0 + \beta_1 AGE_i + \beta_2 MALE_i \\ & + \beta_3 ASEAN_i + \beta_4 JAKARTA_i \\ & + \beta_6 EXPERINDO_i \\ & + \beta_7 EXPEREVENT_i \\ & + \beta_8 RTICT_i + \beta_9 RTTRANS_i \\ & + \beta_{10} RTSAFSEC_i + \beta_{11} RTINFO_i \\ & + \beta_{12} RTCUL_i + \beta_{13} RTCITY_i \\ & + \beta_{14} d\_CO_i + \beta_{15} d\_IS_i \\ & + \beta_{16} d\_IJ_i + \beta_{17} d\_OCA_i + \varepsilon_i \end{aligned}$$

Where $LOGSPEND$ is the total expenditure made by each respondent (natural logarithm-transformed). The different β_i correspond to the estimated coefficients of the explanatory variables, i is the ith element ($i > 0$) and ε_i corresponds to the error term with zero mean. In this equation, four dummy variables are also included to represent each type of respondent (d_CO, d_IS, d_IJ, and d_OCA) aside
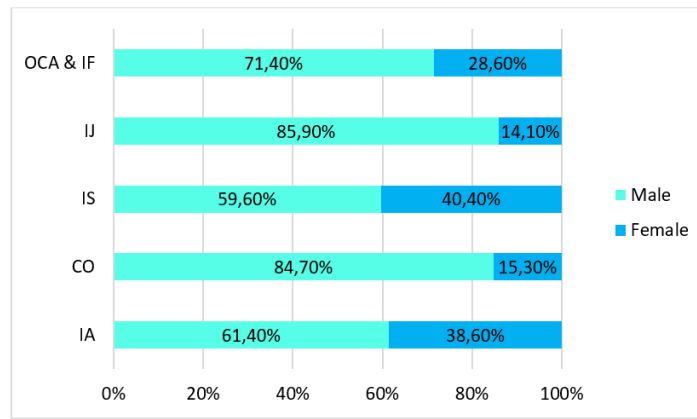
Figure 6. Gender Composition of International Respondents (%)
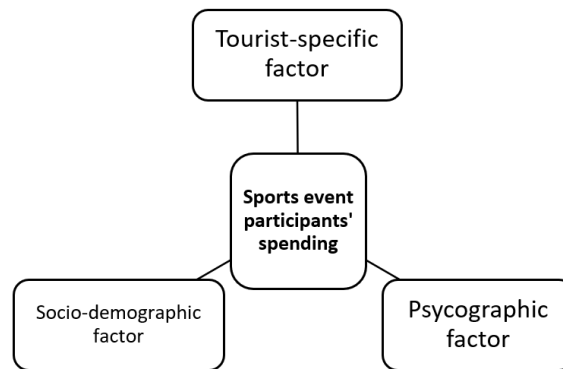Source: LPEM FEB UI Survey (2018)

Figure 7. Conceptual Framework of Sports Event Participants' Spending

from the international athletes (IA) which was set as the reference group. The description of the independent variables, including their expected signs, are provided in Table 2.

4. RESULTS

4.1 Descriptive Statistic

In this study, the spending on accommodation (hotel) is separated from 'others' categories since respondents differ in its arrangement (see Figure 8). Most of international athletes stayed at Athlete Village during the competition, hence did not spend anything on accommodation. The Asian Games committee charged fees on accommodation, but it was paid directly by their respective countries. Most of the country officials also stayed at the athlete village, and only a few of them stayed in the hotel. OCA & IF had the highest spending on accommodation categories since most of them stayed in Indonesia since the preparation of The Asian Games 2018 to a few days after the closing ceremony. Most of them stayed in five stars hotels near the venue. International journalists also spent a considerable amount on accommodation, but not as much as OCA & IF. Most of them stayed for at least two weeks, since the opening ceremony to the closing ceremony. They preferred staying at the hotel near the venues to support their activities. Their accommodations varied from boarding house to five stars hotel, depending upon the ability of their media companies. International spectators also allocated their money for accommodation, albeit at a lower amount, since their length of stay was less long as compared to other types of respondents.

Table 3 and 4 categorized the respondent based on eight variables: gender, interview location, country of origin, previous experience of visiting Indonesia, previous experience of participating or watching international sports event, types of respondent, age and length of stay. The T-test results in Table 3 show no statistically significant average spending differences among groups of these variables. However, several patterns of differences that emerge among these variable groups are noteworthy, as it relates to the regression results presented in the next section.

Based on gender, the findings suggest that male respondents tend to have higher average spending than their female counterparts. With regards to the venue location, our data also suggests that respondents in Jakarta tend to have higher average spending than respondents in Palembang. It may be due to the availability and variance of merchandise, tourism attractions and other factors that might also affect spending. Additionally, groups of respondents who were visiting Indonesia for the first time tend to spend more and having higher average spending. However, the respondents who had previous experience attending international sports event tend to have lower spending than their relatively nascent counterparts. The average spending comparisons are further summarized in Table 3.

Table 4 shows the F-tests conducted among groups comprising three variables, namely types of respondents, age and length of stay. In general, the F-tests show that there had been profound differences on the average spending levels between these variable groups. Such differences are statis-

Table 2. Definition and Expected Signs of the Independent Variables

Variable	Description	Priori Sign
Socio-demographic Variables		
Age	Age of the respondent at the time of the survey	+
Male	Gender of the respondent (with 1 indicating male; 0 otherwise)	+
ASEAN	The respondent's country of origin (with 1 indicating ASEAN; 0 for Non-ASEAN)	+/-
Tourist Variables		
Jakarta	The venue location in which the respondent was interviewed (with 1 indicating Jakarta; 0 indicating Palembang)	+/-
LOS	Length of stay of the respondents, in days	+
Experindo	Respondent's previous visitation experience to Indonesia (with 1 indicating 'at least once'; while 0 indicating 'never')	-
Experevent	Respondent's previous visitation experience to an international sports event (with 1 indicating 'at least once'; while 0 indicating 'never')	-
D_CO	Respondents from 'Country Officials' category (with 1 indicating CO respondents, 0 for otherwise)	+/-
D_IS	Respondents from 'International Spectators' category (with 1 indicating IS respondents, 0 for otherwise)	+/-
D_IJ	Respondents from 'International Journalists' category (with 1 indicating IJ respondents, 0 for otherwise)	+/-
D_OCA	Respondents from 'Olympic Committee of Asia and International Federation' category (with 1 indicating OCA respondents, 0 for otherwise)	+/-
Psychographic Variables		
RTICT	Respondent's evaluation on aspects of telecommunication and internet networks (Likert scale of 1–4, in which 1 indicates 'very poor' and 4 indicates 'excellent')	+
RTTRANS	Respondent's evaluation on aspects of transportation arrangement (Likert scale of 1–4, in which 1 indicates 'very poor' and 4 indicates 'excellent')	+
RTSAFSEC	Respondent's evaluation on aspects of safety and security (Likert scale of 1–4, in which 1 indicates 'very poor' and 4 indicates 'excellent')	+
RTINFO	Respondent's evaluation on aspects of provision and access to information (Likert scale of 1–4, in which 1 indicates 'very poor' and 4 indicates 'excellent')	+
RTCUL	Respondent's evaluation on local culture (Likert scale of 1–4, in which 1 indicates 'very poor' and 4 indicates 'excellent')	+
RTCITY	Respondent's evaluation on Indonesian cities (Likert scale of 1–4, in which 1 indicates 'very poor' and 4 indicates 'excellent')	+
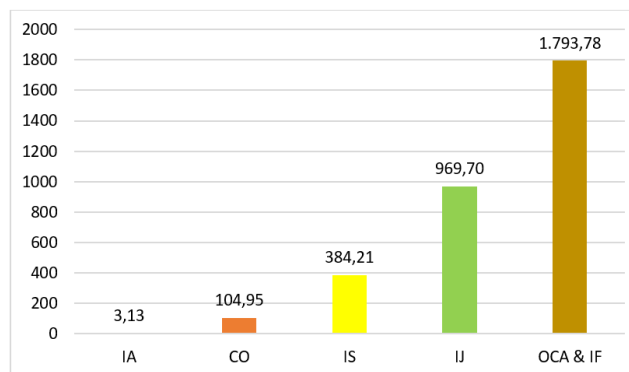
Figure 8. Average Spending for Accommodation (USD)
Source: LPEM FEB UI Survey (2018)

Table 3. T-test Results

Categories		Observation	S.D	Average Spending	T-stat	Df
Gender	Female	644	2414.32	623.22	-0.4885	1912
	Male	1248	1886.219	672.29		
Location	Palembang	507	2462.532	645.99	-0.1219	1912
	Jakarta	1407	1924.387	659.13		
ASEAN	Non-ASEAN	1495	2119.398	689	13.254	1912
	ASEAN	419	1929.906	536.65		
Previous Visit to Indonesia	Never	607	2605.899	696.18	0.5809	1912
	At least once	1307	1784.45	636.83		
Previous International Sports Event	Never	1180	1819.745	621.42	-0.9129	1912
	At least once	734	2440.965	710.68		

Source: LPEM FEB UI Survey (2018)
Source: Authors' calculation based on the LPEM FEB UI's survey data.

Table 4. F-Test Results

Categories		Observation	S.D	Average Spending	F-stat
Types of Respondents	Int. Athletes	1268	1.805.215	451.74	11.30***
	Int. Country Officials	261	1764.004	847.14	
	Int. Spectators	218	1994.015	1111.34	
	Int. Journalists	121	4291.699	1477.84	
	OCA & IF Officials	46	1272.349	867.65	
Age	Below 19	163	1707.325	391.65	4.04***
	19-25	726	2024.791	480.37	
	26-30	409	1714.201	607.22	
	31-40	292	2922.090	866.76	
	41-50	146	1720.557	1074.09	
	51-60	107	1625.41	931.53	
	Above 60	49	2242.443	1298.84	
Length of Stay	0-7 days	424	1.076.815	496.35	2.27*
	8-14 days	886	2621.098	636.40	
	15-21 days	494	1671.121	727.00	
	22-28 days	69	1474.299	968.39	
	¿28 days	41	1877.257	1333.05	

Source: Authors' calculation based on the LPEM FEB UI's survey data.

Note: (*), (**) and (***) represent 10%, 5%, and 1% significance levels, respectively.

tically significant at 1% (for types of respondents and age) and 10% (for length of stay). All types of respondents had different average spending levels, in which the international journalists had the highest average as compared to other types of respondents, then followed by international spectators, the OCA & IF officials, international country officials and the international athletes respectively.

4.2 Estimation Results of the Spending Determinants

By analyzing the determinants of spending, the factors that influence the spending of the event participants and visitors can be identified based on the significance of the independent variables. Hence, the spending behavior pattern, differing spending segments and factors influencing these differences can be analyzed. The independent variables were tested in an OLS regression model to see their effects on individual spending for event participants and tourists.

Based on the linear regression results in Table 5, it can be inferred that spending of the participants is significantly influenced by the sociodemographic variables such as age and region of origin. However, the gender variable does not show strong statistical significance. Although previous findings by Sato et al. (2014) and Bilgic et al. (2008) as cited by Salgado-Barandela et al. (2018) show that the gender mattered with men spent more than women, there were also quite a few studies that reported gender variable as insignificant (Barquet et al., 2011; Saayman & Saayman, 2012; Dixon et al., 2012; Salgado-Barandela et al., 2018). This might imply that attracting one gender over another as participants of mega-event has no meaningful effect on the spending.

Age has a significant positive relationship to expenditure, which means that spending increases with age. The older respondents can spend larger expenditure compared to the younger counterpart. This might be due to the fact that age often correlates with income. Previous studies regarding the relationship between age and spending (Saayman & Saayman, 2012; Sato et al., 2014) showed that age significantly correlate with spending. However, the significance of socio-demographic variables and its effect may vary in accordance to the sport event.

The origin of the participants allows the identification of differences of spending in accordance to the country of origin. Country or location of origin is often significant independent variable to the spending as can be observed in study by Bilgic et al. (2008) and Sato et al. (2014). However in our case, there were 45 countries participating in Asian Games with even more countries of the spectators. Therefore, we classified the participants by ASEAN countries and non-ASEAN countries. It can be hypothetized that participants from the ASEAN countries may be familiar with the products sold in Indonesia hence spend less than the non-ASEAN participants. From the regression, ASEAN variable is largely significant affecting the spending of participants. The relationship between ASEAN variable and spending is negative, hence participants from the ASEAN countries spent less compared to the participants from non-ASEAN countries.

Length of stay is one of the main determinants of tourism spending in many studies. Study by Wang and Davidson (2014) reported that length of stay will increase the total spending although may reduce the daily spending. In our estimation, length of stay is found to be statistically significant (at 10%) predictor of spending levels, with positive relationship to the spending. Therefore, the longer the respondents stayed during their visit to Indonesia, the higher their spending.

First time experience of the participants can also affect the spending levels of the respondent. The study by Byrd et al. (2014) found that attendees who come for the first time tend to spend more than those who are repeating the experience. In our case, we differentiated between the experience of visiting Indonesia and the experience of attending international sports event to observe which type of experience affected the spending more. From the regression results, it can be observed that participants who previously visited Indonesia had significantly larger spending compared to the participants who came to Indonesia for the first time for the Asian Games. However, the experience in the previous international sports event is not statistically significant in

Table 5. Estimation Results on Spending Determinants

Lnspend	Coef.	Std. Err.	t	P>—t—
Age***	0.0224564	0.0034793	6.45	0.000***
Male	0.0344540	0.0668203	0.52	0.606
ASEAN***	-0.2286092	0.0738853	-3.09	0.002***
LOS*	0.0099297	0.0060096	1.65	0.099*
Jakarta	0.1087826	0.0694526	1.57	0.117
Experindo***	0.2437597	0.0726576	3.35	0.001***
Experevent	-0.001544	0.0652633	-0.02	0.981
Rtict*	0.0798009	0.0458136	1.74	0.082*
Rttrans	0.0265448	0.0503891	0.53	0.598
Rtsafsec*	0.1113252	0.0632319	1.76	0.079*
Rtinfo	-0.0691311	0.0541588	-1.28	0.202
Rtcul	0.0466561	0.0635870	0.73	0.463
Rtcity	0.0290698	0.0587372	0.49	0.621
d_CO***	0.4177260	0.1090998	3.83	0.000***
d_IS***	0.7735176	0.1099055	7.04	0.000***
d_IJ***	0.9527402	0.1324558	7.19	0.000***
d_OCA**	0.4256720	0.1955066	2.18	0.030**
_cons***	3.5733730	0.2962195	12.06	0.000***

Source: Authors' calculation based on the LPEM FEB UI's survey data.
Note: Dependent variable: Average total spending, in USD (natural logarithmic transformed)
(*), (**) and (***) represent 10%, 5%, and 1% significance levels, respectively.

affecting the spending, which means that there is no significant difference in spending between the two groups of participants.

For our estimation, we created a dummy variable to capture the spending level differences among participants in Jakarta and Palembang. Contrary to our expectation, we fond no significant differences in the spending levels between respondents in Jakarta and Palembang. However, the results still suggest that – although not being statistically significant – respondents in Jakarta spent relatively more than their Palembang counterparts, as shown in the previous section of descriptive statistics. Jakarta as a metropolitan area may have better access to shopping centers and tourist destinations compared to Palembang, creating more varied options for the participants to spend their money on.

Psychographic factors in general may or may not affect the spending of the individuals based on the previous studies that obtained mixed result. In the survey, perception of the respondents regarding Asian Games as well as towards Indonesia were collected and measured. Our estimation found that three evaluated aspects (evaluation on internet provision, safety and security and information provision) have significant impact to the spending. These imply that respondents who perceived the provision of internet, security and information during Asian Games as good and sufficient tend to spend more than those who perceived otherwise. However, the evaluation of Indonesia based on two aspects, the local culture (people, culinary and hospitality) and the city, were not found to be significant statistically.

Besides the independent variables, there were dummy variables to distinguish the type of respondents. In our estimation, we made the international athletes as the reference group while the rest of respondent groups such as country officials, international journalists, international spectators and OCA & IF officials were included as dummy variables. From the results, it can be observed that all dummy variables are significant, which imply that there were significant differences in spending levels among these respondent groups.

4.3 Spending Composition

The spending composition from every international respondent group shows both similarities and differences (see Figure 9). In general, most of the expenditures accrued by international spectators, international journalists, country officials, and international athlete groups were spent on 'others' category. This category was designed to accommodate the budget that was already allocated for spending during Asian Games which specific purposes were yet to be decided. The rationale for including the 'others' spending post in the questionnaire is that most of the respondents might not have a specific list or prediction on goods/services to be purchased, or that they might not know the price of the goods/services they planned to purchase. This is especially true for respondents in their first week of arrival. For international athletes, there was a tendency to postpone shopping activities until the last few days of stay since they may have to focus first on the competition.

OCA & IF spent a significantly larger percentage of their spending on souvenirs compared to international journalist and international spectators. International journalists' job required them to changing locations and countries frequently and they focused on covering news for their media outlet hence less on leisure activities or buying souvenirs in each place that they visit. Another spending post that was quite important for every group of international respondents is on food and drinks. Indonesia missed opportunity in maximizing participants' spending on the Asian Games merchandises and souvenirs. Most of international respondents had great demand for Asian Games memorabilia and emphasized the planned spending allocation to purchase the Asian Games souvenirs. Nonetheless, these souvenirs were rather difficult to obtain due to limited outlets around the venues and lack of inventories.

Based on the respondent's region of origin, international athletes, spectators and journalists from ASEAN and Non-ASEAN countries showed no large difference in spending composition, with most of them spent largely on the
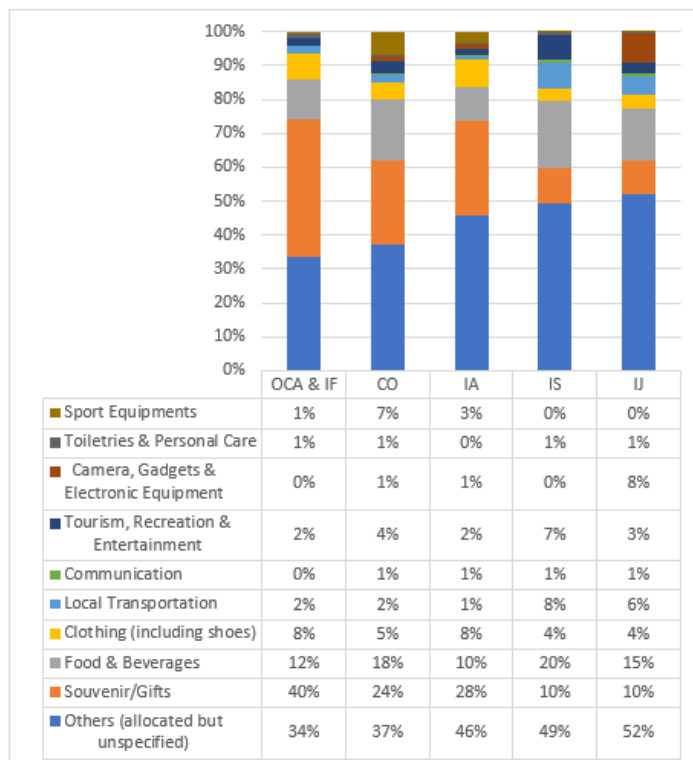
Figure 9. Expenditure Composition of International Respondents
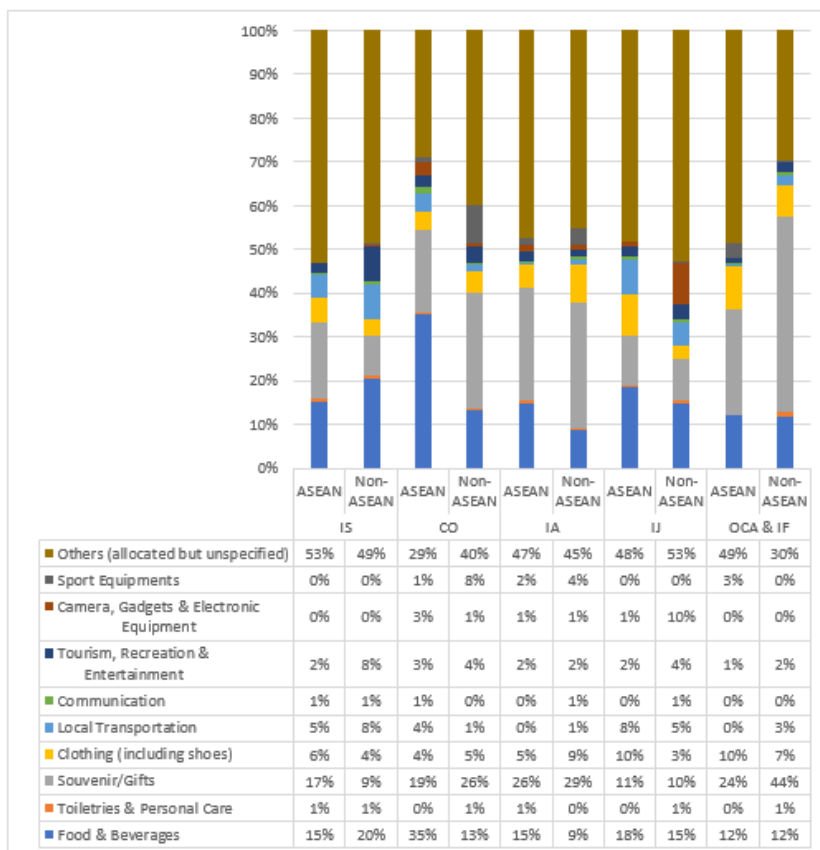Source: LPEM FEB UI Survey (2018)

Figure 10. Expenditure Composition of International Respondent by Country of Origin
Source: LPEM FEB UI Survey (2018)

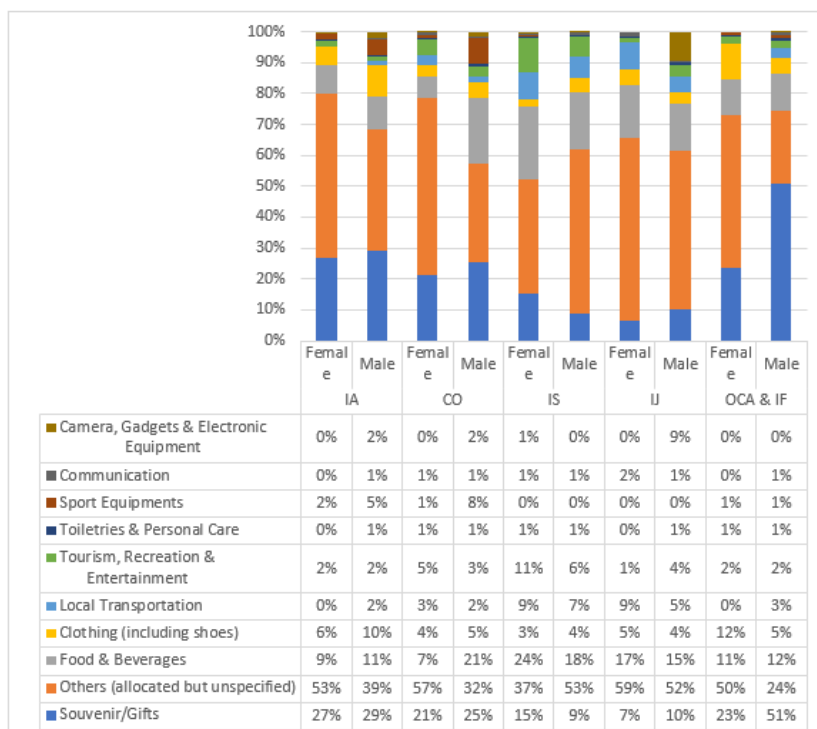|	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
	IA		CO		IS		IJ		OCA & IF	
Camera, Gadgets & Electronic Equipment	0%	2%	0%	2%	1%	0%	0%	9%	0%	0%
Communication	0%	1%	1%	1%	1%	1%	2%	1%	0%	1%
Sport Equipments	2%	5%	1%	8%	0%	0%	0%	0%	1%	1%
Toiletries & Personal Care	0%	1%	1%	1%	1%	1%	0%	1%	1%	1%
Tourism, Recreation & Entertainment	2%	2%	5%	3%	11%	6%	1%	4%	2%	2%
Local Transportation	0%	2%	3%	2%	9%	7%	9%	5%	0%	3%
Clothing (including shoes)	6%	10%	4%	5%	3%	4%	5%	4%	12%	5%
Food & Beverages	9%	11%	7%	21%	24%	18%	17%	15%	11%	12%
Others (allocated but unspecified)	53%	39%	57%	32%	37%	53%	59%	52%	50%	24%
Souvenir/Gifts	27%	29%	21%	25%	15%	9%	7%	10%	23%	51%

Figure 11. Expenditure Composition of International Respondents by Gender
Source: LPEM FEB UI Survey (2018)

'other' spending category. They did not specifically plan their spending, but they knew the approximate amount that they were willing to spend in Indonesia (see Figure 10). Differently, OCA & IF officials coming from non-ASEAN countries spent their money mostly for souvenirs. Furthermore, the country officials from ASEAN countries spent most of their money on food and beverages.

Based on gender, both male and female international respondents spent the highest amount for the 'other' spending post (see Figure 11). An exception is observed in male OCA & IF officials who spent most on souvenir or gifts.

Based on the age group, there were similarities in the spending composition between the younger and older respondents of all respondents groups (see Figure 12). An exception was observed in OCA and IF officials older group who spent more on souvenirs.

Further breakdown of expenditure composition, with an additional differentiation by previous visit experience to Indonesia, shows that same patterns are governing overall differences between first-time visitors and non-first time visitors across expenditure compositions (see Figure 13). Most of them spent most on 'other spending' categories except for OCA & IF respondent groups, who spent most on souvenir and gifts. On a more detailed note, first-timers from CO, IA, OCA, & IF groups also spend more on souvenirs/gifts than their more-experienced counterparts.

However, it needs to be noted that the transportation for international athletes, country officials and OCA & IF officials was mostly provided by INASGOC during the Asian Games weeks. International athletes and country officials also had the food and beverage provided in the Athlete Village. Therefore, the international athletes and country officials who wanted to extend their visit might have more budget to spend.

Figure 14 shows the expenditure composition as differentiated by previous international sports events attendance. Across every respondent groups, the proportion of 'other' expenditure is higher for respondents who were new to sports event than in their more experienced counterparts. Respondents who had previously been to sports events may be more informed in making purchases. Hence, non-first timer respondents allocate a higher proportion in clothing expenditure across all respondent groups than their first-timer counterparts. A stark difference is further demonstrated by the difference in the purchase of electronic equipment (e.g. camera, gadgets, among others) in the international journalists group, for which the non-first timers allocate 15% of their total expenditure as compared to 0% in the first-timers category.

5. CONCLUSION AND IMPLICATIONS

Based on the linear regression result, the spending of the international participants and visitors of the 2018 Asian Games significantly correlates to some sociodemographic variables (age and region of origin), length of stay, previous visit to Indonesia, the provision of internet, security, and information, interview location, and types of respondent. Age, length of stay, satisfaction on the quality of internet, information provision, perception on security and city size positively correlate with spending while being non-ASEAN citizen and knowledgeable about Indonesia is associated with higher spending.

The findings of the study have several practical implications. In general, as the spending behaviour of sports event participants and visitors can be partly explained, Indonesia should actively aim to host other international-scale sports event in the future and increase the generated economic
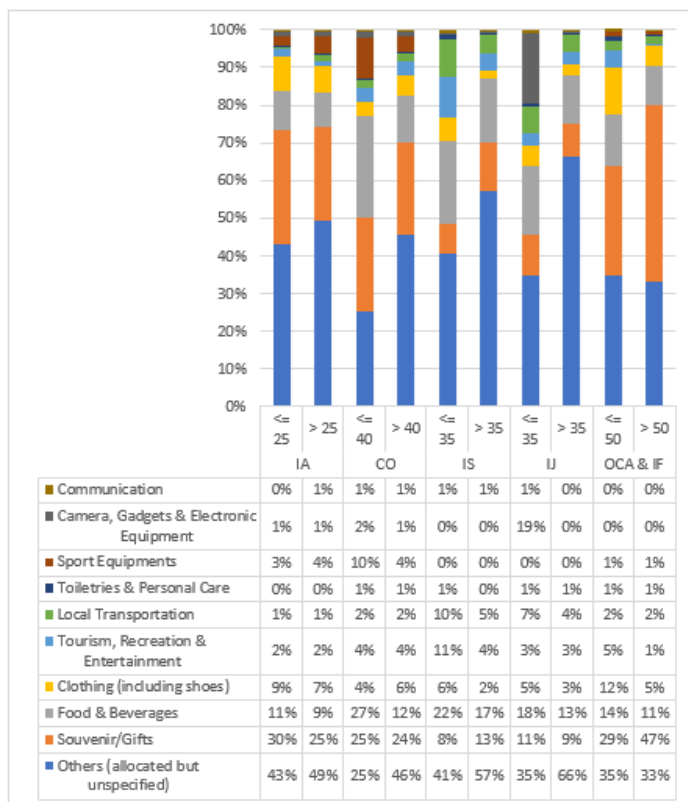
	<= 25	> 25	<= 40	> 40	<= 35	> 35	<= 35	> 35	<= 50	> 50
	IA		CO		IS		IJ		OCA & IF	
■ Communication	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
■ Camera, Gadgets & Electronic Equipment	1%	1%	2%	1%	0%	0%	19%	0%	0%	0%
■ Sport Equipments	3%	4%	10%	4%	0%	0%	0%	0%	1%	1%
■ Toiletries & Personal Care	0%	0%	1%	1%	1%	0%	1%	1%	1%	1%
■ Local Transportation	1%	1%	2%	2%	10%	5%	7%	4%	2%	2%
■ Tourism, Recreation & Entertainment	2%	2%	4%	4%	11%	4%	3%	3%	5%	1%
■ Clothing (including shoes)	9%	7%	4%	6%	6%	2%	5%	3%	12%	5%
■ Food & Beverages	11%	9%	27%	12%	22%	17%	18%	13%	14%	11%
■ Souvenir/Gifts	30%	25%	25%	24%	8%	13%	11%	9%	29%	47%
■ Others (allocated but unspecified)	43%	49%	25%	46%	41%	57%	35%	66%	35%	33%

Figure 12. Expenditure Composition of International Respondents by Age Group
Source: LPEM FEB UI Survey (2018)

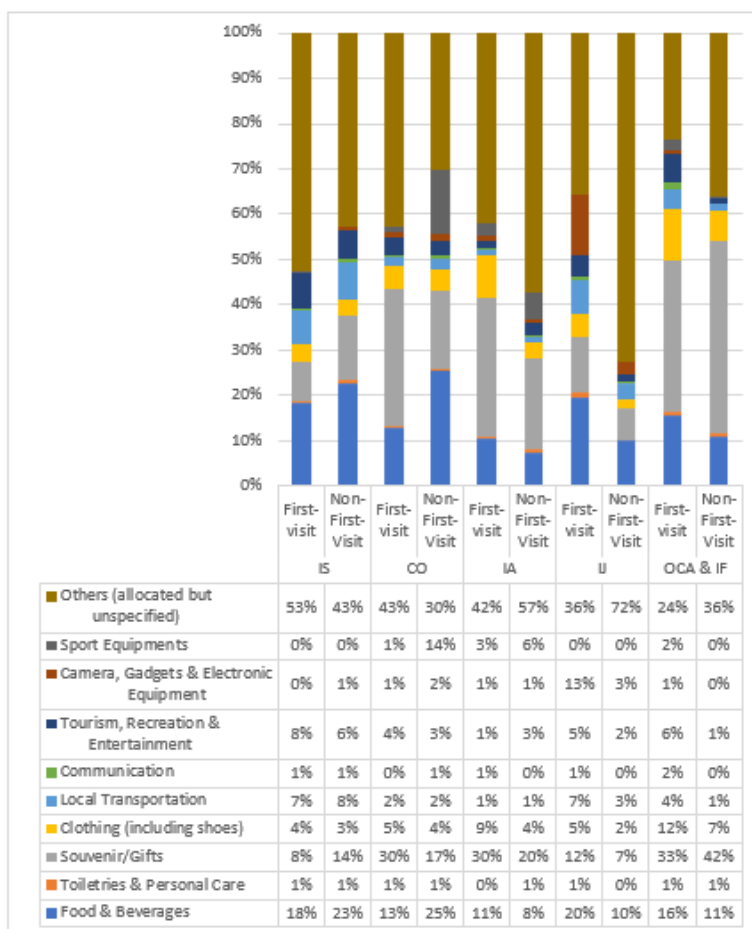|	First-visit	Non-First-Visit	First-visit	Non-First-Visit	First-visit	Non-First-Visit	First-visit	Non-First-Visit	First-visit	Non-First-Visit
	IS		CO		IA		IJ		OCA & IF	
■ Others (allocated but unspecified)	53%	43%	43%	30%	42%	57%	36%	72%	24%	36%
■ Sport Equipments	0%	0%	1%	14%	3%	6%	0%	0%	2%	0%
■ Camera, Gadgets & Electronic Equipment	0%	1%	1%	2%	1%	1%	13%	3%	1%	0%
■ Tourism, Recreation & Entertainment	8%	6%	4%	3%	1%	3%	5%	2%	6%	1%
■ Communication	1%	1%	0%	1%	1%	0%	1%	0%	2%	0%
■ Local Transportation	7%	8%	2%	2%	1%	1%	7%	3%	4%	1%
■ Clothing (including shoes)	4%	3%	5%	4%	9%	4%	5%	2%	12%	7%
■ Souvenir/Gifts	8%	14%	30%	17%	30%	20%	12%	7%	33%	42%
■ Toiletries & Personal Care	1%	1%	1%	1%	0%	1%	1%	0%	1%	1%
■ Food & Beverages	18%	23%	13%	25%	11%	8%	20%	10%	16%	11%

Figure 13. Expenditure Composition by Previous Indonesia Visit Experience
Source: LPEM FEB UI Survey (2018)

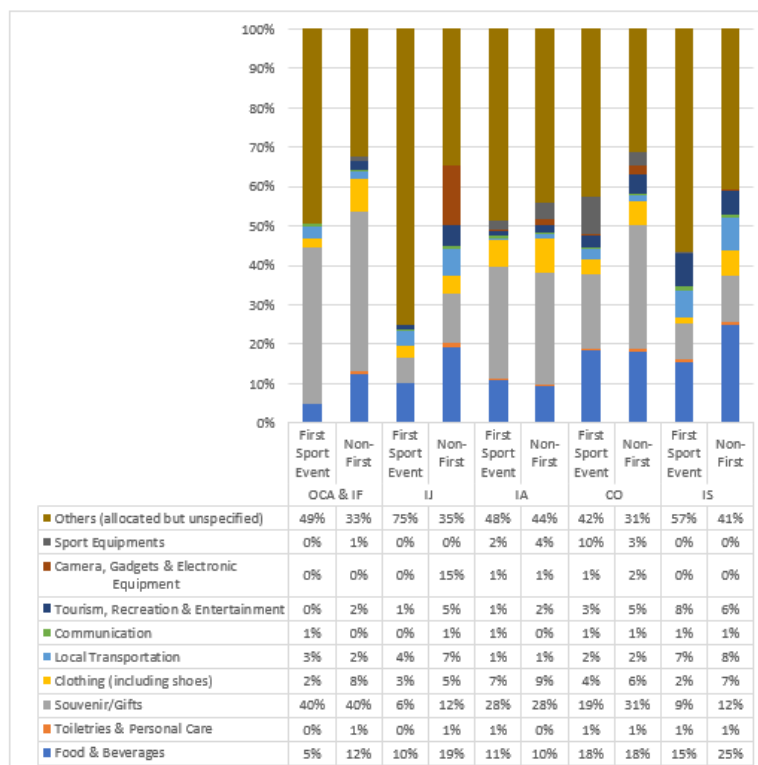|	First Sport Event	Non-First	First Sport Event	Non-First	First Sport Event	Non-First	First Sport Event	Non-First	First Sport Event	Non-First
	OCA & IF		IJ		IA		CO		IS	
Others (allocated but unspecified)	49%	33%	75%	35%	48%	44%	42%	31%	57%	41%
Sport Equipments	0%	1%	0%	0%	2%	4%	10%	3%	0%	0%
Camera, Gadgets & Electronic Equipment	0%	0%	0%	15%	1%	1%	1%	2%	0%	0%
Tourism, Recreation & Entertainment	0%	2%	1%	5%	1%	2%	3%	5%	8%	6%
Communication	1%	0%	0%	1%	1%	0%	1%	1%	1%	1%
Local Transportation	3%	2%	4%	7%	1%	1%	2%	2%	7%	8%
Clothing (including shoes)	2%	8%	3%	5%	7%	9%	4%	6%	2%	7%
Souvenir/Gifts	40%	40%	6%	12%	28%	28%	19%	31%	9%	12%
Toiletries & Personal Care	0%	1%	0%	1%	1%	0%	1%	1%	1%	1%
Food & Beverages	5%	12%	10%	19%	11%	10%	18%	18%	15%	25%

Figure 14. Expenditure Components by Previous Sports Event Attendance
Source: LPEM FEB UI Survey (2018)

stimuli by inducing the participants and visitors' spending. In order to do so, several aspects need to be carefully addressed.

First, there should be specific promotion strategy on shopping, tourism packages and additional attraction targeting each types of respondents (athlete, officials, journalist, visitors), each age group, each country or sub-continent of the participants and spectators. These information packages should be readily available at least a year before the sports event begins in order for the visitors to make a better travelling plan. Second, the competition schedule should be arranged such that they allow for the participants to have more free time and leisure activities apart from training and matches.

Third, Indonesia should improve the internet connection, upon which nowadays the participants and visitors heavily rely on to seek for information about the area surrounding the venues and hotels. Indonesia should also ensure the presence of security officers that can make the international participants feel safe; provide more information desks, counters, boards, booklets or flyers; develop user friendly mobile application and website; and providing more official merchandise outlets. It may also be beneficial if the organizing committee could provide better transportation arrangement that can ease the visitors to commute from their accommodation to the sports event or to other tourism attractions.

Similar studies need to be conducted on various sports events in the future. Future studies can address the importance of local and domestic visitors in stimulating the economy. Future studies can also look at the differences in the spending behaviour of athletes and officials across sport disciplines.

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