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The Impact of Migrants on Tourism Demand -The case of Fiji-

This study aimed to analyze the impact of migration stock for tourism demand in Fiji. First, we demonstrated the nexus of migration source and international tourism demand using with statistical model. Second, we focused on the relation between the purpose of travelers and seasonality. In general, the linkage of tourism demand and migration were focused on the purpose of traveling, especially "visiting friends and relatives (VFR)." Seasonal trends between VFR and holiday trips showed a resemblance. From these results, the linkage between emigration countries and Fiji affected the latter's international tourism demand. Seasonality was one of the significant points.

Key words: Migration Source and International Tourism Demand, Visiting Friends and

Relatives, Islands in Pacific Regions, Tourism Demand Model, Seasonality

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Introduction

Tourism demand is influenced by the tourist motivations. When tourists choose the destinations, they have several factors. In economic perspective, some of economic factors are often regarded to measure tourism demand. Income of tourists and price level are used for many of econometric models (Witt & Witt 1995). When revenue increases, tourists pay better tourism commodity which means superior goods. Meanwhile, tourism commodity is regarded as luxury goods. Thus, tourism demand would be increased when relative price is decreased. These economic variables are considered general factors to be influenced to tourism demand.

Other factors are also demonstrated in each of empirical works, and migration is one of them. According to William and Hall (2000), causal relations exist between tourism and migration. One cause is that tourism generates labor migration to fulfill the employment needs of tourism industries, which depend on particular skills from foreign countries. Another is that migration leads to tourism demand because of friendship and kinship networks. In this case, migrants become tourists when returning to visit friends and relatives in their areas of origin; this phenomenon is known as visiting friends and relatives (VFR) tourism demand.

This study aimed to analyze the impact of migration stock on international tourism flow in Fiji and the tendency of VFR as a form of tourism between tourism and migrants. Fiji, which is one of the central island states in the Pacific region, is also one of emigrants' states. According to the World Factbook, remittances from Fijians working abroad are the country's largest foreign exchange earners. Meanwhile, the tourism industry is one of the country's crucial economic sectors. Categorized as Migration, Remittance, Aids, and Bureaucracy (MIRAB) States by Bertram and Waters (1985), many Small Island Developing States (SIDS), particularly in the Pacific region, are influenced by foreign developed countries, and emigrants are significant for these islands' society. Many of the emigrants from the Pacific Islands maintain relationships with their relatives and local communities

(Browne & Mineshima, 2007). In this context, migrants visit their home countries to meet with their family or friends, influencing tourism demand.

This work is divided into two sections. First, a tourism demand model is applied to show the relations between Fijian migrants and tourism demand in Fiji. This section presents a general discussion on the linkage between Fiji's tourism demand and migration source of foreign countries. The discussion highlights the purpose of visit to show the relations between tourist purpose and seasonality. VFR has been regarded as one of the strong relations between migrants and tourism flow. Although this tourism purpose has been given attention in recent tourism studies, seasonality is rarely considered. By comparing other tourism purposes, such as holiday visit or business trip, the analysis sought to shed further light on the relations among the factors.

These insights would be significant for economic development, even in other island states where the economic structure tends to have strong relations with emigrant communities in foreign countries. Moreover, the tourism industry is significant for economic development in these islands, as tourism is one of the main industries. Therefore, understanding the relations between tourism demand and migration stock is crucial for many Pacific Island economies.

Literature Review

Many of the Pacific regions also have a long history of emigrants. Migrants represent a vital factor for island societies and economies (Christensen & Mertz, 2010). Some islands have low salaries and limited employment opportunities. From their socioeconomic context, some people, especially younger generations, leave the islands to seek a job opportunity in developed countries and they send part of their revenue back to their home islands. These remittances are one of influential revenue sources for these island economies. This social

situation may be influenced to tourism market according to previous work. Takahashi (2018) uses gravity equations to demonstrate the determinants of tourist and remittance flow in Pacific islands. His paper infers the similar pattern among them from each of statistical model. From his result, tourism markets would be related to migrants from many of Pacific islands.

Some papers refer to the relation between tourism and migrants as one of the significant themes. For example, diaspora tourism is the phenomenon of migrants reconnecting to their ancestral homelands to search for their roots and personal heritage (Huang, Haller, and Ramshaw, 2013). Meanwhile, the linkage between migration stock and tourism demand has also been considered in economic field. According to Deyer Forsyth and Dwyer (2010), the choice of destination is influenced by ethnic and migration factors. This traveling style is considered a form of VFR tourism.

Several empirical studies have examined the volume of migration and tourism demand in some developed countries and discussed about impact of VFR for international tourism market. Dwyer, Seetaram, Forsyth, and King (2014) compared VFR and other forms of tourism demand in Australia to estimate the linkage between tourism and migration. They reported a strong linkage between migration and tourism demand in Australia. Meanwhile, Etzo, Massidda, and Piras (2014) discussed the nexus of Italian outbound tourism and migration disaggregated by purpose of visit, focusing on Italian migrants who live in outside of countries and foreigners who residents in Italy. Their results indicated a significant effect on Italian migrants for outbound tourism, whereas foreign residents in Italy were partly significant for each form of tourism. These works focus on developed countries which have strong history of migrants. Meanwhile, Takahashi (2019) infers that VFR also exists in Pacific islands with applying the statistical model. According to his analyzing results, migration stock is one of significant factors for tourism demand in pacific islands.

This study identified the relation between tourism demand and migration stock in Fiji with other economic variables. As previous studies have mentioned, many migrants maintain relationships with their mother countries, for example, by sending remittances. Although Takahashi (2019) shows the relations between tourism and migration stock in Pacific islands, the social economic situation is different between islands. Fiji is one of central countries in Pacific islands and well-known as resort island. Tourism industries are one of main economic activity for national income. (Narayan 2004). Meanwhile, Fijian migrants have the role for the regional society since their remittance is also an important driver. From these regional contexts, this paper focuses on Fijian tourism. Besides, tourism demand is influenced by situations of labors. Holiday is one of significant factors to generate tourism demand. However, previous works less considers the linkage between seasonality and each of tourism purpose such as VFR and holidaymaker. Thus, this study considered the relations among them. Furthermore, migration is also a significant theme for Pacific islands, and the tourism demand nexus should be discussed. Policy makers may need to consider migrants as a factor for tourism.

Figure 1 The Stock of Foreign-Born Migrants from Fiji in OECD countries
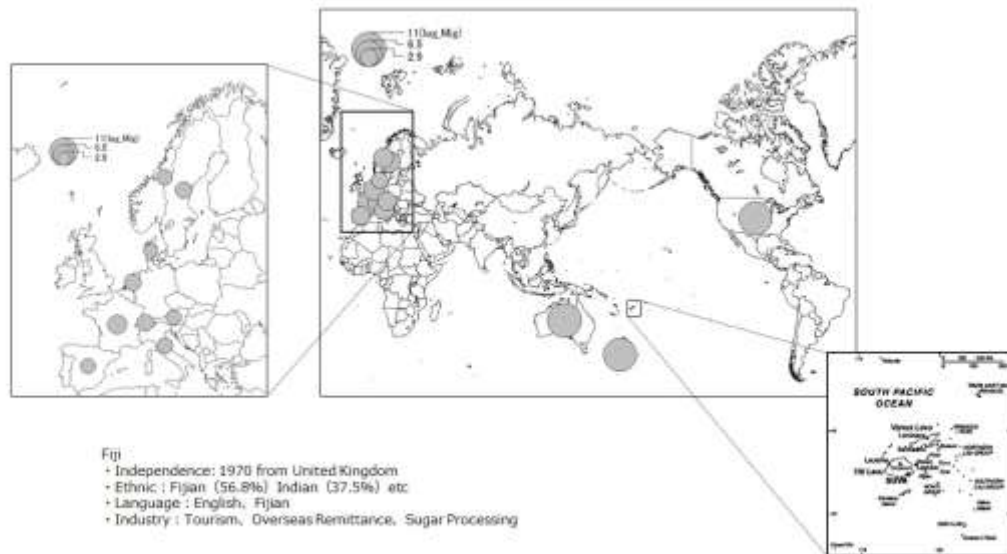
Figure 2 Correlation plot between Tourism Demand and Migration Stock from Fiji
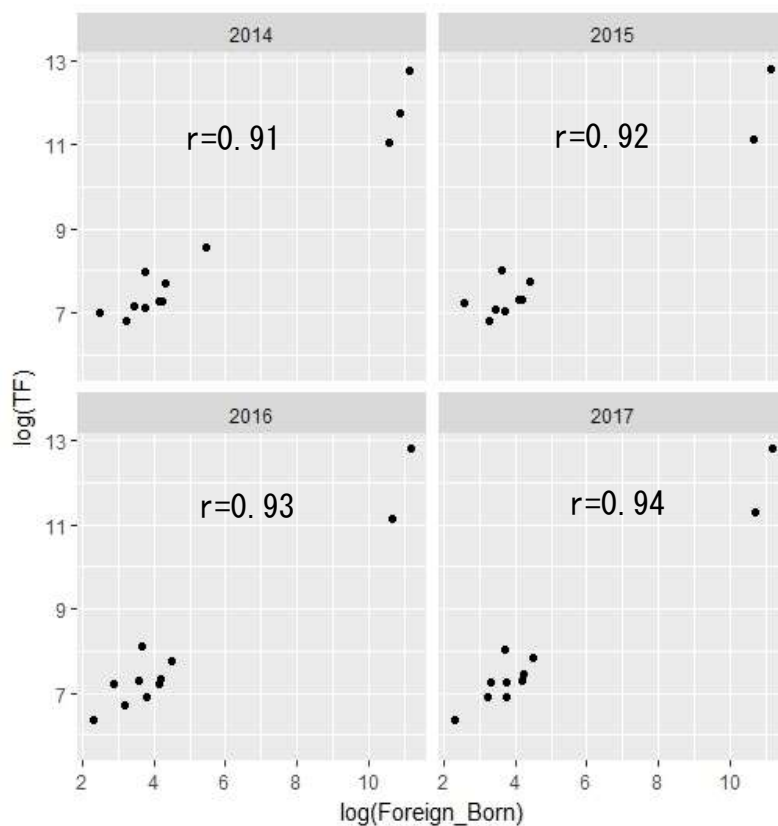
Note: TF: The Number of Tourism Flow from origin states to Fiji, Foreign-born: Migrants from Fiji.
Data is transformed to logarithm.

Methodology

Basic Statistics of Fijian Migrants and Relationships of Tourism Demand

Fijian migrants are spread around the globe. Figure 1 shows the number of foreign-born migrants from Fiji based on the OECD database. According to Figure 1, the migrants mainly live in Australia, New Zealand, and the USA, with a smaller number in EU countries.

Figure 2 shows the relations between Fijian migrants and tourism demand from the same country as the Fijian migrants. The correlation coefficient was around 0.9 from 2014 to 2017. From these results, migration source of Fiji and tourism demand showed a strong relation. Therefore, a regression model was built to estimate the effect of foreign-born people on tourism demand.

Estimation Model and Data

To estimate the effect, a tourism demand model was applied to compose the statistical model. Tourism demand models have been applied in tourism economics, particularly in econometrics field research (Witt & Witt, 1995). The economic and social factors are mainly considered, along with diverse variables. In this study, the equations are composed as follows.

$$Y_{ijt}=f(MIG_{it}, INCOME_{it}, POP_{it}, PRICE_{ijt}, DIST_{ij})\ldots \qquad (1)$$

where "i" and "j" denote the origin and destination, respectively. In this study, destination j indicates Fiji. While "t" is generally time, in the present data structure. "Y" represents tourism demand. In this study, tourism demand was represented by international tourism arrivals. Many previous studies have also used tourism flow from origin i to destination j as the demand variable (Witt & Witt 1995; Song, Li, Witt & Fei 2010). "*MIG*"

shows Fijian migrants of origin country *i*. This variable is likely to be shown as the effect migration stock for tourism demand. The data were taken from OECD statistics.

"*INCOME*" indicates the income effect on tourism demand from origin countries. This variable shows income elasticity for tourism demand; tourism is regarded as a luxury good in international trade (Lim, 1997). Therefore, elasticity would be shown more than 1% hypothetically. To measure the income effect, this study used GDP per capita as a variable. Market size of origin countries is also influenced to tourism demand. To control the size of market, this paper uses the number of populations such as "*POP*". "*PRICE*" represents the price difference between origin and destination. This variable indicated the tourist preference for price differences. PPP between the origin country and Fiji was utilized to create the indicator below.

$$PRICE_{ij} = (PPP_i)/(PPP_j)\dots \qquad\qquad\qquad (2)$$

where *PPP* indicates the purchasing power parity. The assumption of this variable shows that Fiji has more significant variables because it attracts much richer tourists compared with other destinations. This variable would have a negative coefficient for tourism demand (Lim, 1997; Dogru Sirakaya-Turk & Crouch, 2017). Data resources were taken from World Development Indicator published by the World Bank for socioeconomic data such as GDP per capita, population, and PPP.

"*DIST*" represents the distance between the origin country and Fiji to indicate transportation cost as a proxy variable. Transport cost generally shows a negative relation with tourism demand (Witt & Witt, 1995). To capture the transportation effect, Geographical Distance was used as a variable in this study. As previously mentioned, remoteness is one of

the characteristics of SIDS. Distance variables were taken from a CEPII dataset calculated by

Mayer & Zignago (2011). Tourist numbers were as published by the Fiji Bureau of Statistics.

Table 1: Result of Regression Analysis

	Model1		Model2		Model3		Model4	
(Intercept)	5.26	***	3.57		8.52	**	8.98	**
	(0.37)		(7.24)		(2.81)		(2.91)	
log(Foreign_Born)	0.58	***			0.16	**	0.17	**
	(0.07)				(0.05)		(0.05)	
log(GDPCAP)			1.56	***	1.07	**	0.98	**
			(0.38)		(0.31)		(0.31)	
log(POP)			1.05	***	0.66	***	0.67	***
			(0.19)		(0.08)		(0.07)	
log(PRICE)			-0.31	**	-0.07			
			(0.14)		(0.09)			
log(distcap)			-3.12	***	-2.5	***	-2.47	***
			(0.33)		(0.22)		(0.23)	
N	44		88		44		44	
n	13		22		13		13	
Adj. R	0.90		0.55		0.96		0.97	
Hausman Test	13.08	***	11.23	**	4.8		0.53	

Note: "N" shows whole of sample. "n" is the number of cross-sectional samples. Parenthesis shows standard errors. Estimation is carried out by random effect model by Hausman Test. Significant level: ***p<0.01, **p<0.05, *p<0.10

Regression Results

Table 1 shows the results of the regression analysis. Data correction was set by the panel data structure. Given the dataset structure, OLS was calculated with bias in the significant value. Fixed and random effect models were the representative methods for the panel data. Hausman test was carried out to choose either the fixed or random effect as the proper result. As shown in Table 1, the results of the test were obtained for all of the models. The null hypothesis of the Hausman test was accepted for model 4, which was considered as the best model. Therefore, this study chose the random effect model for estimation. For the multi-correlation problem, VIF was calculated, and the number showed <10 as the criterion of the multi-correlation level.

The estimation result showed that migration stock was significant for international tourism demand. Elasticity demonstrated that international tourism demand changed from 0.16% to 0.17% when migration stock changed 1%. Income, population, and distance showed significant results, whereas price did not. The coefficient of the income variable was 1.0. In general, tourism is assumed as a luxury good in economics. In the current study, its demand elasticity exceeded 1%. This result may be attributed to Fiji's large number of tourism attractions and diversified tourism services. Meanwhile, the distance variable showed a coefficient exceeding 2.0. In general, transportation cost is higher in remote areas. The result of the distance variable indicated the locational factors of island states. Lastly, the price variable was not significant to Fiji's international tourism demand, indicating that tourists do not choose Fiji as destination according to the price difference between their countries and Fiji.

The coefficient of the migration variable was lower compared with other variables, such as income and geographical distance, but the result was significant. Although the impact was not high, this statistical model showed that migration stock would be a crucial factor for tourism demand in Fiji.

Table 2: The Number of Tourists and Sharing Rates in Each of the Purpose.

|	2017year	2018year
BUSINESS	33,222	29,755
	[3.94]	[3.42]
CONFERENCE	14,708	14,629
	[1.74]	[1.68]
HOLIDAY	630,700	658,585
	[74.83]	[75.67]
VFR	74,492	80,441
	[8.84]	[9.24]
EDUCATION	8,541	7,921
	[1.01]	[0.91]
OTHERS	81,221	78,978
	[9.64]	[9.07]

Note: Units: Number shows the number of tourists (persons). [] shows the share rate (%)

Table 3: Correlation Matrix

	BUSINESS	CONFERENCE	HOLIDAY	VFR	EDUCATION	OTHERS
BUSINESS	1.00					
CONFERENCE	0.69	1.00				
HOLIDAY	0.29	0.50	1.00			
VFR	-0.14	0.07	0.71	1.00		
EDUCATION	-0.14	-0.51	-0.46	-0.39	1.00	
OTHERS	-0.25	-0.22	0.49	0.49	-0.06	1.00

Note: Analysis data is used by monthly data from January 2017 to February 2019

Figure 3 The Result of Principal Components Analysis (PCA)
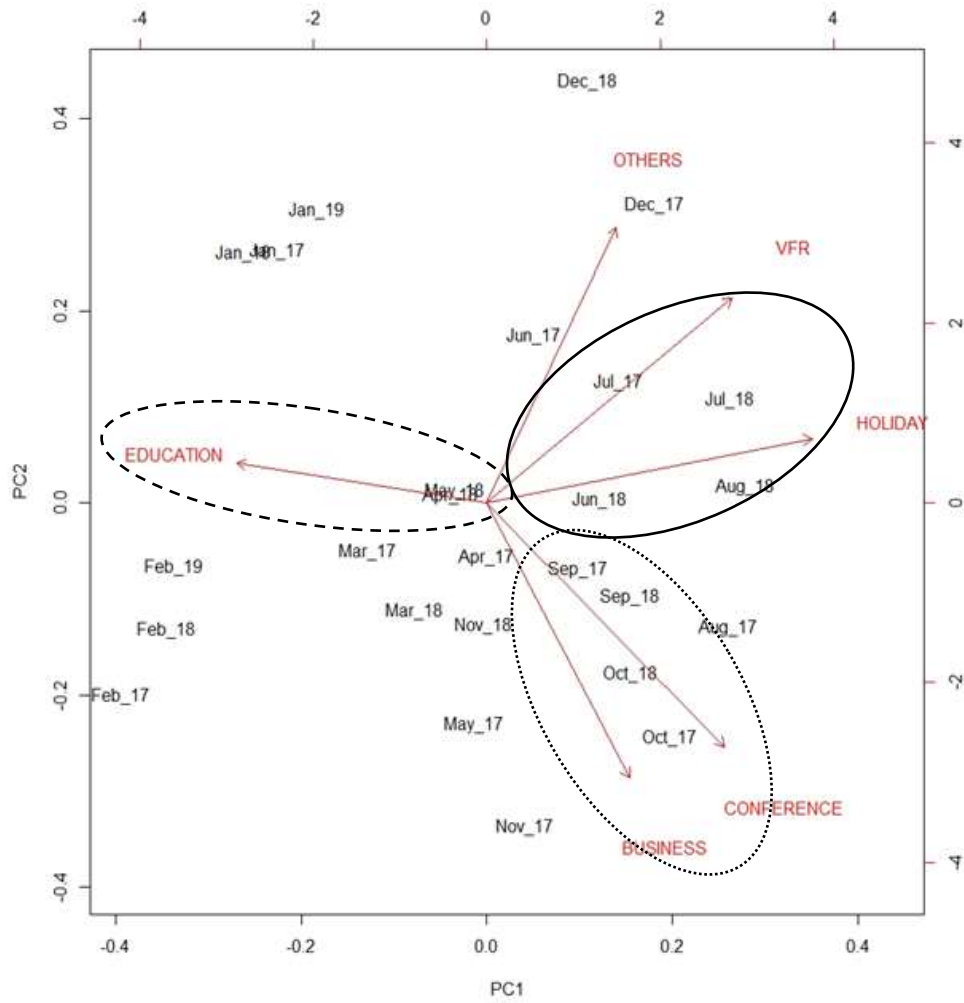
PC1: First Principal Component, PC2: Second Principal Component
Vector: Principal Component Loading, Letter: Principal Component Scores (Month)

Comparison of Purpose of Visit

This section focused on the purpose of tourists' visit, particularly VFR. Tourism purpose is diversified, including holiday and recreation and business trip. VFR is regarded as one of the most closely related purpose to migration stock and tourism demand (Dwyer et al., 2014; Etzo et al., 2014). Table 2 shows the number of tourists by purpose of visit. According to this table, the tourism market in Fiji was dominated by holiday trips. VFR accounted for the second most common purpose of visit.

To compare the seasonal trends among the purposes of visit, this study carried out a principal component analysis (PCA) for monthly data from January 2017 to February 2019. The correlation table is shown in Table 3. VFR was strongly related with holiday purpose, with a correlation coefficient of around 0.7. Moreover, business and conference also showed a comparatively strong correlation of around 0.68.

PCA was carried out for this correlation matrix. This study adopted the first and second principal components because they showed eigenvalues of more than 1.0. The cumulative contribution rate was 0.75 until the second principal component. Figure 3 illustrates the PCA results. The vector in Figure 3 shows the principal component loading, and letter indicates the factor scores. The result showed that the trends of holiday visit and VFR were similar. Moreover, the relation with loading and scores showed that both trends were related to the period of June to August. Meanwhile, business and conference showed similar vectors and relations to the season from September to October. The educational purpose was related to April and May.

VFR, being more closely related to migrants' families, is considered a different general tourism purpose compared with holiday and recreation. However, the present results demonstrated that the pattern of VFR resembled that of holiday tourism, indicating that these two purpose types reflected the business calendar. Although the purpose of visit is different

between VFR and holiday tourists, they adhere to a similar schedule for their business. In general, almost all workers take a long vacation in similar seasons. Therefore, the trend showed the similarity between VFR and holiday makers. Likewise, business and conference also showed similarities as almost all temperate countries start a new season in September, which is after the long summer vacation. Lastly, the educational purpose showed correlations to spring. In the school system in East Asia, such as Japan, the semester generally starts from April, and the results of educational purpose visitors may be related to this scheduling.

Conclusion

This study discussed the relations between migration stock and international tourism demand in Fiji and demonstrated tourism seasonal trends among the purposes of visit to Fiji. This perspective helped point out the mechanism of tourist flow. In general, VFR is regarded as a different tourist purpose, being related to reconnecting with one's roots, and its tourism demand is also different from that of recreational purpose tourists. However, this study demonstrated that the pattern of seasonality was similar between VFR and holiday purpose tourists, which may be influenced by calendar schedule of business workers. Both holiday and VFR tourists were generally employed and on leave, and their holiday seasons were likely to be similar. Therefore, the result showed comparatively strong correlations between them.

It is difficult to secure both the holiday and VFR tourist markets. Moreover, VFR continues to capture a small share in Fiji's international tourism market. Nonetheless, VFR is characterized by a stable tourism demand compared with other tourism purposes. In general, family ties between emigrants and their local community in Pacific Islands are strong even in the second or third generation. This relation is likely to contribute to the sustainable development of tourism in Fiji.

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