Chapter 4

Empirical Results

In this chapter, the analysis is conducted in four steps as the following:

Step 1: test the panel data by using panel unit root tests to test whether data are stationary or non-stationary using Lin and Chu Test or Im, Pesaran and Shin (IPS) Test and to know the data also can be adopted for an appropriate statistical approach.

Step 2: in case that the data both exogenous variables and endogenous variable are stationary by the order of integration is 0 or I(0) and, then data can be taken to estimate long-term relationship between exogenous variables and endogenous variable as shown on Table 1: Hypothesis of testing the Unit root..

Step 3: the data are not stationary I(1) , it can be solved by finding the first difference (1^{st} Difference), with t-statistic value that is less than the critical value. This means rejecting the null hypothesis that the data are stationary at that level as shown on Table 1: Hypothesis of testing the Unit root.

Step 4: estimate the data to determine short-term relationship, long-term relationship and speed of adjustment by panel ARDL (Pooled Mean Groups Estimator and Mean Groups Estimator), estimated by the group. The hypothetical relationships test between short-term, long-term and speed of adjustment to a long-run equilibrium, among both exogenous variables and endogenous variable of the international tourism demand model.

4.1 Result from Panel Unit Root Test

Panel unit root testing occurred from time series of the unit root testing. The main difference to time series testing of unit roots, it mean the panel unit root test had to consider asymptotic performance of the time-series (T) and the cross-sectional (N). The technique in which N and T touch to infinity is critical if one wants to conclude

the asymptotic performance of estimators and tests used for non-stationary panel data. There are some possibilities to handle the asymptotic.

Testing stationary panel data, there are many methods to test panel unit root as following: 1) LLC test, 2) IPS test, 3) PP test and 4) ADF test. The program was used computer software, if the data non-stationary or contains a unit root information will cause a spurious regression in order to avoid information with mean and variance that are not stationary in each different time period. The results of the test data is based on the probability value of significant Level, there are three levels of the statistically significant such as 99 percent, 95 percent and 90 percent. (α = 0.01, 0.05, and 0.10), respectively. if the value of t-statistic is not significant at a level or I (0), it will devalue (lag) down to first difference (1st different), respectively, until the the statistical value is statistically significance, it mean independent and dependent variables are stationary. The details are as follows.

4.1.1 Result from Panel Unit Root Test at Level

The result of unit root test can be divided in to two parts as follows: the first part is the LLC test, IPS test, ADF test and PP test at the Level I(0) to examine the panel data stationary or non-stationary shown as follows:

Table 4.1 Panel unit root test at order level

Variable	Panel Unit Root Test				Level
	LLC	IPS	PP	ADF	
lnDt	-2.26417	0.36018	19.2669	13.4844	Level
lnGDP	-1.19466	1.11097	14.3343	7.87946	Level
lnTP	-0.90763	1.23901	17.0205	11.0222	Level
lnPO	-7.20313***	-0.32664	54.6143***	20.7202**	Level

Source: Calculated

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses.

Dependent variable: demand of tourist (lnDt) , independent variable: GDP per capita (lnGDP), Tourism price (lnTP), Price of fluel (lnPO).

The table 4.1, shows estimating the panel data to find out the unit root are conducted by using Augmented Dickey-Fuller (ADF), Lin Levin, Chu (LLC), Im, Pesaran and Shin (IPS) Test and Phillips-Perron (PP). Most of them the null hypothesis is different to determine stationary of the data base on statistic value as such:

The null hypothesis of Philip - Perron (PP) test of panel unit root at levels is non-stationary, from the table 4.1 the result for logarithm of demand of tourist arrival to Lao PDR (lnDt), logarithm of GDP per capita of destination countries (lnGDP) and logarithm of tourism price (lnTP) exhibit a time trend and intercept. The Philip-Perron (PP) test accepts the null hypothesis it mean the panel data non stationary (has unit root) at level I(0). The PP statistic value of lnDt, lnGDP and lnTP are 19.2669, 14.3343 and 17.0205 representively which less than critical value. But the result for the logarithm of price of fuel (lnPO), which reveals a time and intercept. The PP test rejects the null hypothesis. It mean the panel data stationary at level I(0).

From the table 4.1 the null hypothesis of t-test at levels non- stationarity is performed using the Augmented Dickey-Fuller (ADF) test of panel unit roots. In addition, this result indicate the critical values at the 1%, 5% and10% levels significance. Testing panel unit root which is trend and intercept, results are shown as follow; the result for logarithm of demand of tourist arrival to Lao PDR (lnDt), logarithm of GDP per capita of destination countries (lnGDP) and logarithm of tourism price (lnTP). The Augmented Dickey-Fuller (ADF) test accepts the null hypothesis it mean the panel data non stationary (has unit root) at level I(0). The ADF statistic value of lnDt, lnGDP and lnTP are 13.4844, 7.87946 and 11.0222 represently which less than critical value. But the result for the logarithm of price of fuel (lnPO), which reveals a time and intercept. The ADF test rejects the null hypothesis. It means the panel data stationary at level I (0). Which statistic value greater than critical value 20.7202.

For the IPS and LLC test result indicate that each series accept the null hypothesis of unit root at levels. So lnDt, lnGDP and lnTP are non-stationary at levels I(0). On the other hand, there is only lnPO is strongly rejected at the 1% significance. Hence, the unit root tests in table 4.1 indicates that the series has unit root of order one.

4.1.2 Result from Panel Unit Root Test at First Different

If the data non-stationary at the levels I(0), next step testing unit root by using to conduct a panel unit root test with first differences. Because if the data stationary can help to make estimations and prediction because when the data is stationary, it is significant enough to explain the model and can be assumed to be nearly true. The next step show as follow:

Table 4.2 Panel unit root test

Variable	Panel Unit Root Test				Level
	LLC	IPS	PP	ADF	
lnDt	-8.44750***	-0.72254	57.0791***	27.105	1st difference
lnGDP	-6.06912***	-0.28759***	20.3798	38.1632*	1st difference
lnTP	-6.30394***	-0.19807***	18.9274**	36.0851***	1st difference
lnPO	-7.20313***	-0.32664	54.6143***	20.7202**	Level

Source: Calculated

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses.

Dependent variable: demand of tourist (lnDt), independent variable: GDP per capita (lnGDP), Tourism price (lnTP), Price of fluel (lnPO).

Table 4.2, Shows the results of the testing panel unit root test of the international tourism demand by using LLC (2002), Im-Peasaran-Shin (2003), ADF (2001) and PP (2003). These methods indicated that lnDt, lnGDP, lnOP and lnTP are at significant levels and accept the null hypothesis of the unit root. In conclusion, the results of the testing of these variables based on these methods are shown in Table 4.2. The LLC(2002) revealed that lnDt, lnGDP and lnTP are at significant levels and reject the null hypothesis of unit root test at 1st difference I(1) while the lnPO is at significant level and reject the null hypothesis of the unit root test at the level order I(0). The Im-Peasaran-Shin (IPS) result for logarithm of demand of tourist arrival to Lao PDR (lnDt), logarithm of GDP per capita of destination countries (lnGDP) and logarithm of tourism price (lnTP) exhibit a time trend and intercept. The IPS test

rejects the null hypothesis it mean the panel data stationary (has unit root) at level I(1). On other hand. the null hypothesis of t-test at levels nonstationarity is performed using the Augmented Dickey-Fuller (ADF) test of panel unit roots. In addition, this result indicate the critical values at the 1%, 5% and10% levels significance. Testing panel unit root which is trend and intercept, results are shown as follow; the result for logarithm of demand of lnDt, logarithm of lnGDP and logarithm of lnTP. The Augmented Dickey-Fuller (ADF) test rejects the null hypothesis it mean the panel data stationary (has no unit root) at level I(1). This means that the data can help to make estimations and prediction because when the data is stationary, it is significant enough to explain the model and can be assumed to be nearly true.

4.2. Result of the Statistical Investigating for a Long-run and a Short-run Relationship

The second part tests the relationship between the dependent variable and independent variables using the panel ARDL model under Pooled Mean Group Estimator (PMG) and Mean Group which examining the long run relationship and short run relationship between international tourism demand (lnDt) with lnGDP, lnOP and lnTP. The table below explains this clearly.

4.2.1 Result from panel ARDL Approach by using PMG Estimator

In order to estimate the model using Pooled Mean Group estimator (PMG), the relationship test between short-term, long-term and speed of adjustment to long run equilibrium, among dependent variable and independent variables of the international tourism demand model was estimated by using a group data. The interpretation results from the model showed a relationship between the factors influencing Lao PDR tourism demands. The statistical results can be divided in three output solutions as follows: 1) a judgment on adaptation to the long equilibrium (Error Correction Model) or $Ec_{i,t-1}$ 2) an explanation about positive or negative statistically relationship of dependent variable and independent variables, by investigating an informal interpretation of a p-value, based on a statistically significance level and 3) explaining statistic values in a short-run equilibrium or speed of adjustment. Statistic significant result can be compared by utilizing error correction term or $Ec_{i,t-1}$, as shown details shown on below table 4.3:

Table 4.3 Estimation of International tourism demand model by using PMGE

lnDt	Coef	Std.Err	Z-statistic	$P > \|Z\|$
Long - Run Coefficient				
lnGDP	2.463315***	.1359057	18.13	0.000
lnPO	0.5356962***	.0677245	7.91	0.000
lnTP	0.7363867***	.1409598	5.22	0.000
Short – Run Coefficient				
Δ ?	-1.027676	1.591162	-0.65	0.518
	-0.091838	0.1981687	-0.46	0.643
$\ln TP_{i,t-1}$	1.615864	1.09369	1.48	0.140
$\Delta \ln PO_{i,t-1}$				
Const	-11.54398*	4.271041	-2.70	0.007
$Ec_{i,t-1}$	-0.7774005***	0.1849474	-4.20	0.000

Source: Calculated

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses. Dependent variable: demand of tourist (lnDt)

Table 4.3, above presents the result of Pooled Mean Group Estimators (PMGE) using ARDL (1,1,1,1). The output indicated the long run coefficient between lnDt and institution variables by speed of adjustment, coefficient and error term. In the long run there are three institutions variables namely lnGDP, lnPO and lnTP. Those investigated variables are a significant positive relationship as shown on following:

From Table 4.3, the result indicated that lnGDP had the long-run relationship with lnDt and that judgment to adapt to the long equilibrium (Error Correction Model) or $Ec_{i,t-1}$ was a significant negative relationship at – 0.78 , for (Chaitip, Siriporn Kannitade .2014) and also had a positive relationship at p-value significant (0.000).

For the lnTP variable the result shows positive relationship in the long run and statistically significance.

For the lnPO variable, the result showed a significant positive relationship in the long run at p-value significant (0.000).

The speed of the adjustment explains that there is a long run and a short-run relationship. The result revealed by the coefficient of merging is about -0.78 and it is always a significant negative relationship, indicating that there is no mislaid variable bias. However, the result in the short-run in table 4.3, all variables are not statistically significance at 1%,5% and 10% in influencing the inflow of lnDt. It means there are other factors influencing to the tourism demand to arrivals in Lao PDR. This finding signals that international tourism demand for Lao PDR should consider the important of institution variables to lnDt in the long run.

4.2.2 Result From ARDL Approach by MG Estimator

The MG estimator allows differing across groups of the intercepts, slope of coefficients, and error variances. The coefficient of long run parameter estimated by MG estimator, on other word MG estimator relies on estimating N time-series regression and averaging coefficients. The interpretation of MG Estimator results from the model showed a relationship between the factors influencing Lao PDR tourism demands. The statistical results can be divided in three output solutions as follows: 1) a judgment on adaptation to the long equilibrium (Error Correction Model) or $Ec_{i,t-1}$ 2) an explanation about positive or negative statistically relationship of dependent variable and independent variables, by investigating an informal interpretation of a p-value, based on a statistically significance level and 3) explaining statistic values in a short-run equilibrium or speed of adjustment. Statistic significant

result can be compared by utilizing error correction term or $Ec_{i,t-1}$, as shown details shown on below table 4.4

Table 4.4 Estimation of International tourism demand model by using MGE

lnDt	Coef	Std.Err	Z-statistic	$P > \|Z\|$
Long-Run Coefficient				
lnGDP	-1.438168	5.311702	-0.27	0.787
lnPO	-1.2425	1.150831	-1.08	0.280
lnTP	-7.998904	9.971567	-0.80	0.422
Short – Run Coefficient				
$\Delta \ln GDP_{i,t-1}$	-105.6618	104.1096	-1.01	0.310
$\Delta \ln TP_{i,t-1}$	-1.323656	1.069223	-1.24	0.216
$\Delta \ln PO_{i,t-1}$	-43.12969	29.99663	-1.44	0.150
Const	-70.53151	67.03746	-1.05	0.293
$Ec_{i,t-1}$	-2.133183	1.305056	1.63	0.102

Source: Calculated

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses.

Dependent variable: demand of tourist (lnDt), independent variable: GDP per capita(lnGDP), Tourism price (lnTP), Price of fluel (lnPO).

Table 4.4, presented the result of Mean Group Estimators (PM) using ARDL (1,1,1,1). The output and indicated the long run coefficient between lnDt and institution variables by speed of adjustment, coefficient and error term. The results between MG and PMG showed no different to explain the value, so there are three institutions variables namely lnGDP, lnPO and lnTP that are not positive relationship and not significant at 1 per cent influencing the demand of foreign tourist arrivals (lnDt). The result of the long-run relationship shows no relationship because value of

the speed of adjustment positive it should be negative to significant, it is always a significant negative relationship, indicating that there is no mislaid variable bias.

4.3 Result From Hausman Test to Choose The Appropriate Model

Table 4.5 The Result of Hausman Test to choose best model

Independent Variable	Coefficients			
	(b) MG	(B) PMG	(b-B) Difference	Sqrt(diag(V_b-v_B)) S.E
lnGDP	-1.438168	2.463315	-3.901483	1.80e+14
lnPO	-1.2425	.5356962	-1.778196	3.91e+13
lnTP	-7.998904	.7363867	-8.735291	3.38e+14
Test name	Test statistic		Significant level for rejection of the null hypothesis	
Hausman test	0.00		1.0000	

Note: accept null hypothesis indicates that MG is inconsistent so that choose PMG

This paper uses the panel data model with the ARDL approach to coitegration based on Pooled Mean Group Estimator (PMGE) and Mean Group Estimator (MGE) model to investigate the determinants factors (economic factors) that affect international tourism demand in Lao PDR. The Hausman Test to choose which models are must appropriate.

According to the Hausman test results indicate that international tourism demand in Lao PDR PDR model use Pooled Mean Group cause Hausman test is a test of H0 : the PMGE would be consistent and efficient ,versus H1: that PMGE would be inconsistent so the result showed that the parameters which will be distributed Chi-square 0.00 statistic is small value which significant under 1% level, it indicating that PMG is consistent and better coefficient estimator. In the words from the table 4.3 and table 4.4, the Hausman can be used to determine whether the model between Pooled mean group estimator and Mean group estimator is more reliable and effective in explaining result. Therefore, the Hausman test results showed that P-value equal to 1.000 indicating the null hypothesis (Ho), and PMGE is the best model of those

appropriate and available. Performance is accept at a significant level of 1.000, it meaning that PMGE is most appropriate estimation of models used in this study. The more detail in the table below.

Table 4.6 Estimation of International tourism demand model by PMGE and MGE

Independent Variable	PMG	MG
Constant	-11.54398* (0.007)	-70.53151 (0.293)
lnGDP	2.463315*** (0.000)	-1.438168 (0.787)
lnPO	0.5356962*** (0.000)	-1.2425 (0.280)
lnTP	0.7363867*** (0.000)	-7.998904 (0.422)

Source: Calculated

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses.

Dependent variable: demand of tourist (lnDt), Independent variable: GDP per capita(lnGDP), Tourism price (lnTP), Price of fluel (lnPO).

Table 4.6, reports the Hausman test for testing the hypothesis of the long-run to be equal across all panel as stipulated by PMG model. Based on the calculated Hausman test can conclusions that the result conclude that the PMG estimator model is appropriate more than MG estimator model.

4.3.1 Panel Long Run Elasticity.

Table 4.7 shows the results of the long-term relationship with the Group Specific Estimates of tourist arriving to Lao PDR

Variable	Thailand	
	Coefficient	t-statistic
lnGDP	4.07***	2.24

lnPO	-0.55***	-2.73
lnTP	-3.80***	-1.91

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses

Table 4.7, shows the result of long run relationship with group specific estimates of tourist arriving to Lao PDR. There is long run relationship between GDP per capita of Thai tourist and demand of foreign tourist for Lao PDR positive and significant at 0.1 levels. But for the price of fuel (PO) likely transportation cost or price of ticket in Thailand had long run relationship with demand for tourism arrival for Lao PDR negative and significant at 0.1 level (t-statistic -2.73). the t-statistic value was significant around 1.4 up. Moreover, tourism price (cost of living) between origin country increase the number tourist arrive to Lao PDR had negative relationship and significant with demand tourism for Lao PDR.

Table 4.8 shows the results of the long-term relationship with the Group Specific Estimates of tourist's Vietnam tourist arrivals to Lao PDR

Variable	Vietnam	
	Coefficient	t-statistic
lnGDP	7.23***	34.24
lnPO	0.55***	20,20
lnTP	-2.61***	-17.00

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses

Table 4.8, shows the result of long-run relationship with group specific estimates of Vietnam tourist arrivals to Lao PDR. There was long-run relationship between GDP per capita of Vietnam tourist arrivals which demand tourist arrivals for Lao PDR was a significant positive relationship at 0.1 level. Also the price of fuel (PO) likely transportation cost or price of ticket increases but does not effect to demand tourism arriving to Lao PDR because the result indicated that lnPO had long-run relationship which demand for tourism arrivals for Lao PDR (lnDt) was a significant positive relationship at 0.01 level (t-statistic 20.20). The t-statistic value

will significant around 1.4 up. Moreover, tourism price (cost of living) in origin country had negative relationship with significant at 0.1 level (t-statistic: -17.00) with demand tourism for Lao PDR

Table 4.9 shows the results of the long-term relationship with the Group Specific Estimates of Malaysia tourist arrivals to Lao PDR

Variable	Malaysia	
	Coefficient	t-statistic
lnGDP	2.50***	0.19
lnPO	0.43	0.54
lnTP	-1.08	-0.09

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses

Table 4.9, shows the result of long-run relationship with group specific estimates of Malaysia tourist arrivals to Lao PDR. This empirical result GDP per capita of Vietnam tourist arrivals and demand tourist arrivals for Lao PDR a significant positive relationship at 10%. There was long-run relationship. With reference to the demand theory in the last previous pages, the relationship between income and quantity demand can possibly be positive or negative base on the type of goods or service under consumer's consideration. But the price of fuel (lnPO) likely transportation cost or price of ticket increases but price of ticket does not effect to demand tourism arriving to Lao PDR because the result indicated that lnPO had no long-run relationship with demand for tourism arrivals for Lao PDR (lnDt) and did not significant, it mean tourism price (cost of living) in origin country increases or decreases not effected with demand tourism for Lao PDR

Table 4.10 shows the results of the long-term relationship with the Group Specific Estimates of Philippine tourist arrivals to Lao PDR

Variable	Philippine	
	Coefficient	t-statistic
lnGDP	1.14***	2.19

lnPO	0.57***	2.45
lnTP	-1.37***	-0.67

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses

Table 4.10, shows the result of long-run relationship with group specific estimates of Philippine tourist arrivals to Lao PDR . This empirical result was GDP per capita of Philippine tourist arrivals (lnGDP) and demand tourist arrivals for Lao PDR (lnDt) a significant positive relationship at 0.1 level and had long-run relationship. With reference to the demand theory in the last previous pages, the relationship between income and quantity demand can possibly be positive or negative base on the type of goods or service under consumer's consideration. Customer will consume less goods and service when their income decreases. But the price of fuel (lnPO) namely transportation cost or price of ticket from origin country to destination country increases but price of ticket did not affect to demand tourist arrivals to Lao PDR, because the result indicated that lnPO had long-run relationship with demand for tourism arrivals for Lao PDR (lnDt) and a significant negative relationship. The tourism price, in the case of study particularly represents two main prices, namely the cost of living and cost of travelling in origin country to destination country increases it affected directly which demand tourism, Tourism price (lnTP) had a significant negative relationship at 0.1 level.

Table 4.11 shows the results of the long-term relationship with the Group Specific Estimates of Cambodia tourist arrivals to Lao PDR

Variable	Cambodia	
	Coefficient	t-statistic
lnGDP	3.94***	23.28
lnPO	-0.57***	-7.66
lnTP	1.05***	5.37

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses

This empirical result indicated that GDP per capita of Cambodia tourist arrivals (lnGDP) and demand tourist arrivals for Lao PDR (lnDt) was a significant positive relationship at 0.01 level and had long-run relationship. The result go with the demand theory, that the relationship between income and quantity demand can possibly positive or negative base on the type of goods or service under consumer's consideration. Customer will consume more goods and service when their income increases. But there was negative impact for the price of fuel (lnPO) namely transportation cost or price of ticket from Cambodia to Lao PDR effect directly to demand tourism of Cambodia arriving to Lao PDR simultaneously, because the result indicated that lnPO had long-run relationship with demand for tourism arrivals for Lao PDR (lnDt) and had a significant negative relationship at 0.1 level (t-statistical: -7.66). Furthermore, the result showed that the tourism price consisting of the cost of living and cost of travelling in Cambodia to Lao PDR or lnTP and lnDt had a significant positive long-run relationship at 0.1 level (t-statistical:5.37).

Table 4.12 shows the results of the long-term relationship with the Group Specific Estimates of Singapore tourist arrivals to Lao PDR

Variable	Singapore	
	Coefficient	t-statistic
lnGDP	0.88***	2.15
lnPO	-0.12***	-1.84
lnTP	-4.64***	-6.15

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses

This empirical result indicated that GDP per capita of Singapore tourist arrivals (lnGDP) and demand tourist arrivals for Lao PDR (lnDt) had a significant positive relationship at 0.1 level and had long-run relationship. The result showed correct answer with the demand theory, explaining the relationship between income and quantity demand. Transportation cost or price of ticket (lnPO) from Singapore to Lao PDR had long-run relationship with demand for tourism arrivals for Lao PDR (lnDt) and there was negative impact with significant at 0.1 level (t-statistical: -1.84).

Additionally, lnTP and lnDt had a significant negative long-run relationship at 0.1 level (t-statistical:-6.15).

Table 4.13 shows the results of the long-term relationship with the Group Specific Estimates of Indonesia tourist arrivals to Lao PDR

Variable	Indonesia	
	Coefficient	t-statistic
lnGDP	2.42***	7.65
lnPO	-0.46***	-4.01
lnTP	-1.37***	-1.48

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses

This empirical result indicated that GDP per capita of Indonesia tourist arrivals (lnGDP) and demand tourist arrivals for Lao PDR (lnDt) had a significant positive relationship at 0.1 level and had long-run relationship. The result indicated that lnPO had long-run relationship with demand for tourist arrivals for Lao PDR (lnDt) and there was negative impact with significant at 0.1 level (t-statistical: -1.84). As well, the tourism price, in the case of study particularly represents namely the cost of living and cost of travelling in Singapore to Lao PDR had a significant negative long-run relationship at 0.1 level (t-statistical:-1.48).

Table 4.14 shows the results of the long-term relationship with the Group Specific Estimates of Brunei tourist arrivals to Lao PDR

Variable	Brunei	
	Coefficient	t-statistic
lnGDP	5.70***	4.05
lnPO	0.29***	1.31
lnTP	-2.75***	-4.97

Note: *** indicate significance at the 1% level; ** at the 5% level; and* at the 10% level. Standard errors are in parentheses

Table 4.14, shows the result of long-run relationship with group specific estimates of Brunei tourist arrivals to Lao PDR. This empirical result indicated that GDP per capita of Brunei tourist arrivals (lnGDP) and demand tourist arrivals for Lao PDR (lnDt) was a significant positive relationship at 0.1 level and had long-run relationship. With reference to the demand theory in the last previous pages, the relationship between income and quantity demand can possibly positive or negative base on the type of goods or service under consumer's consideration. Customer will consume less goods and service when their income decreases. But the price of fuel (lnPO) namely transportation cost or price of ticket from origin country to destination country increases it not effect to demand tourism arriving to Lao PDR, because the result indicated that lnPO had long-run relationship with demand for tourism arrivals for Lao PDR (lnDt) and a significant positive relationship. Furthermore, the tourism price, consisting of the cost of living and cost of travelling in origin country to destination country had a significant positive relationship at 0.1 level and long-run relationship with demand for tourism arrivals for Lao PDR (lnDt).