Tourism and Economic Growth in Malaysia

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ABSTRACT

The objective of this study is to build a model of long-term relationship estimation between the number of tourist arrivals, foreign exchange rates, total trade in goods and services and total tourism receipts on economic growth in Malaysia. In order to achieve the objective of this study, the annual time series data is taken from 1990 to 2015. For the purpose of formulating the budgeting model, this study uses the Ordinary Least Square (OLS). The findings suggest that there is a significant and positive relationship between total tourist arrivals and total trade in goods and services with economic growth. However, there is a significant and negative relationship between foreign exchange rates and total tourism receipts with economic growth. Generally, the results of this study show that there is a long-term relationship between all independent variables and economic growth in Malaysia. Based on the findings of this study, it is able to make a big impact especially on the Ministry of Tourism and Culture Malaysia in improving the country's economic performance through the tourism sector.

Keywords:
Economic Growth, Ministry of Tourism and Culture Malaysia, Tourism Sector

1. INTRODUCTION

In this era of globalization, the tourism industry in Malaysia has become a major source of income for this country. Travel industry in the country is growing after the existence of various places to visit in this country. As we know, Malaysia is very well known for its diverse natural resources that are very beautiful and suitable to visit. Visitors who visit this country are not only from Malaysia and even from all over the world. From this we can see that the travel industry is one of the country's income. Humans are traveling for certain purposes or motives. In this context, the reasons for traveling or traveling always exist and drive to the true experience that travelers or visitors want to achieve. Epperson (1983) has drawn up a model that encompasses the drive to travel based on "pull" and "push" factors. The attraction factor (something that can be felt and perceived by the senses like the beauty of the viewer) that attracts and drives people to a destination is an important reason for them to travel. Attraction factors include human elements, places and activities. Examples include: friends, relatives, celebrities, beautiful areas, historic sites, sports events, cultural events, educational events and recreational events. While push factors are the motivations, needs and ways of thinking that exist within us that encourage travel such as traveling for the purpose of finding challenges, prestige, recognition, hazardous experiences, odds or something new, calm and relaxed.

Malaysia is well-known for the beauty of natural shapes of the earth such as the beauty of the beach, the islands and the mountains. In addition, Malaysia is also known for its fascinating history to make Malaysia a world tourism destination in addition to the unique cultural, cultural and hospitality of its inhabitants. One of Malaysia's most important assets is also climate change in the tropical rainforest and the beauty of tropical rain forests and the unique flora and fauna of Malaysia. The Malaysian government has spent millions of ringgit in developing attractive places to capture the hearts of tourists visiting our country. According to AzizanMarzuki (2010), since the 2nd Malaysia Plan (1971-1975) to the 9th Malaysia Plan (2005-2010), RM 4212.08 million has been allocated to develop the country's tourism industry. Based on statistics released by the Ministry of Tourism and Culture Malaysia (2014), Malaysia has received 25.03 million arrivals from within and outside the country to visit the uniqueness of our country. Due to the advent of tourism from around the world, our country earns RM65.44 billion in revenue in 2013 and as of May 2014, tourist arrivals to Malaysia have reached 11.53 million tourists where an increase of 10.1% per cent compared to 2013. Malaysia has also been recognized by the United Nations Tourism United Nations (UNWTO) to place Malaysia in the eleventh position of the country among the most visited countries in the world in 2013. Our country is also selected ole Lonely Planet as one of the top 10 destinations to be visited in the year 2014 (MOTAC, 2014). Therefore, the tourism sector is a very important sector in developing our country. Government in Malaysia must play an important role in ensuring the tourism sector is constantly growing and growing in developing the country's economy. Also, the tourism sector needs to be maintained as it can increase our nation's revenue to be equivalent to other developing countries.

2. LITERATURE REVIEW

In this section will be discussed in relation to previous studies related to tourism and economic growth in Malaysia. Some past study results have been reviewed and conclusions have been given.

According to Govokali U. &Ozan B. (2006) states that this paper investigates whether the tourism hypothesis brings growth to the Mediterranean countries. It uses a 15-year time series data from 1987-2002. Among the variables used in this study were the formation of gross fixed capital, tourism income and labor force. Approach of panel data used and estimated coefficients are obtained by applying fixed effects and random effects models. The effect of hypothesis results that tourism is conducive to economic growth is confirmed based on regression decisions. In conclusion, the results of empirical studies show that traditional factors (capital and labor) as well as tourism-related factors contribute to economic growth for the Mediterranean countries under focus.

This study investigates the contribution of the travel industry to the growth of GDP in Western Balkan countries. This study uses 8-year time series data from 2006 to 2014. It also analyzes the available data for tourist arrivals and some travelers overnight in the countries observed by the Western Balkans such as Serbia, Macedonia, Montenegro. It has led us to conduct research to determine the contribution of the tourism sector to overall economic growth. Based on the modified CGE (Computable General Equilibrium) method used by Brida et al. (2008) to calculate the real GDP growth rate and the contribution of the tourism sector to overall economic growth, suggesting that tourism contributed moderately to the overall economic growth in the countries examined, irrespective of the continued increase in the number of foreign tourist arrivals. The level of tourism contribution to overall economic growth differs and is mainly related to the diversity and supply quality (Slobodan C. et al (2015). According to Balaguer and Cantavella (2002), with this background, several countries have chosen to combine tourism as part of their growth strategy, which in turn leads to a new round of growth research (TLG) led tourism hypothesis As in the case of the hypothesis of export growth, the TLG hypothesis that Granger's tourism has led to economic growth, Balaguer and Cantavella (2002) among the first researchers to test the TLG's hypothesis The writer seeks proof of causality one-way travel from tourism to economic growth for Spain. Thus, the conclusion is that economic growth in Spain has been desirable for the continued expansion of international tourism.

There are some empirical studies focusing on investigating the relationship between tourism development and economic growth. Many studies on the relationship between tourism development and giving different economic outcomes for different countries in the same subject or region, different periods in the country and different methods in different regions. However, countries such as preliminary analysis are for countries when designing their specific strategies. However, when many countries (as Mediterranean countries) have the same goal for tourism development, called for further research, suggest that researchers may like to compare the relationship between countries between economic development and tourism activities. Answering to better understand the relationship between the group of countries and their interactions, it is recommended that the data panel approach be taken (Lee and Chang, 2008).

According to Lee and Chein (2008), in South Korea a hypothesis of the growth of the tourism-led economy does not hold on to Oh (2005) research that investigates the causal relationship between tourism growth and economic expansion for the Korean economy by using the two-tier Engle and Granger approach autoregative bivariate vector (VAR) model. The findings show that there is no long-term balance between the two series of relationships, while one of the causal factors of tourism-driven economic growth. Furthermore, Lee and Chien (2008) are empirically investigated and causal relationships between real GDP, development of variable tourism and real exchange rates using unit root tests and cointegration tests. The decision suggests that causality between tourism and economic growth is bias.

A recent study by Schubert, Brida, and Risso (2011) examines the impact on the growth of a small-driven tourism economy due to an increase in the growth rate of international tourism demand. This study uses the annual data of Antigua and Barbuda from 1970 to 2008. This model shows that an increase in growth in tourism demand leads to the dynamics of transitions gradually improving economic growth and increasing trade. The authors make cointegration analysis to find the existence of long-term relationships between economic growth variables, international tourism revenues and real exchange rates. This step confirms the discovery of the theory.

Katircioglu (2009) uses the boundary test for co-integration and causal test of Granger to investigate long-term equilibrium relationships between tourism, trade and real income growth, and the causal direction between them for Cyprus. Data used in this study are annual figures covering the period from 1960 to 2005. The results of the study show that tourism, trade and real income growth are co-opted, therefore long-term balance relationships can be concluded between the three variables. In addition, Granger's causal test results suggest that real income growth stimulates the growth of international trade (export and import) and the arrival of international tourists to the island.

Arslanturk, Balcilar and Ozdemir (2011) investigate the causal relationship between the tourism results and the Gross Domestic Product in Turkey for the period 1963 to 2006. This study uses window rolling method and the coefficient changes with estimated time to analyze Granger's cause based on the Vector Error Correction Model (VECM). Paper discovery shows that there are no causal factors for Granger between these series, while the findings of the time-varying coefficient model based on state-of-space modeling and rolling show that the

technical window of GDP has no predictive power for tourism acceptance. However, tourism revenue has a positive forecast of GDP following the early 1980s.

As Po and Huang (2008) point out, the relationship between tourism and economic growth is basically a long-term, biased estimates may result from the size of the sample large enough in the time series, the existence of structural changes or short-term economic fluctuations. To deal with inadequate sample size issues, researchers have begun using panel data. In this article we employ recently built panel and panel data techniques follow the empirical growth literature to test the impact of tourism development on economic growth in extensive panel data. Our data set panel includes 140 developing countries and 15 years covering the period 1995 to 2009.

Finally, according to Nikolaos D. there are some links between economic growth and tourism development in seven Mediterranean countries. The study conducted by Nikolaos D. uses several significant variables such as per capita actual travel receipts, international tourist arrivals per capita, real effective exchange rate and gross domestic product per capita. This study uses a new heterogeneous panel cointegration technique. The time series data used was from 1980 to 2007.

3. FORMATION OF SPECIFICATION MODEL

In this study, data collected and used is secondary data which is a series of time data for 25 years from 1990 to 2015. The formation of the specification model for this study is as follows:

$$GDP_t = f\left(ARV_t, REER_t, TRADE_t RCPT_t\right) \quad (1)$$

Where,

GDP_t	= Gross Domestic Product (GDP)
ARV_t	= The number of tourist arrivals
$REER_t$	= Foreign exchange rate
$TRADE_t$	= Total trade in goods and services
$RCPT_t$	= The amount of tourism receipts

Based on the theory and the results of the previous studies that have been done, the order and the size of the desired parameters can be determined. Because there is a unit difference between the variables then the data has been changed to linear form for budgeting purposes and avoids the problem of specs in the model. Here is the linear model of the gross domestic product that has been established in the Multiple Regression Model where the second smallest power method can be used as follows;

$$\ln GDP_t = \alpha_0 + \alpha_1 \ln ARV_t + \alpha_2 \ln REER_t + \alpha_3 \ln TRADE_t + \alpha_4 \ln RCPT_t + \varepsilon_t \quad (2)$$

Where,

$\ln GDP_t$	= Gross Domestic Product (GDP)
$\ln ARV_t$	= The number of tourist arrivals
$\ln REER_t$	= Foreign exchange rate
$\ln TRADE_t$	= Total trade in goods and services
$\ln RCPT_t$	= The amount of tourism receipts
ln	= Natural logarithm
t	= Annual data from 1990 to 2015
ε_t	= Error term
a_0	= Constant
$a_1 a_2 a_3$	= Parameters

4. RESULT

Estimation model obtained: -

$$\begin{aligned} &GD\hat{P}_t = -2.907 + 0.726 ARV_t + 0.110 REE\hat{R}_t + 0.666 TRADE_t + 0.004 RCPT_t \\ &se = \quad (0.546) \quad (0.098) \quad (0.170) \quad (0.113) \quad 0.007 \\ &t-test = (-5.324) \quad (7.414)*** (0.651)** (5.883)*** (0.566)* \\ &Wald-test = 132.764 \\ &DW = 1.505 \end{aligned} \quad (3)$$

and the notation is as follows

*** = Important at 99% confidence level

** = Important at 48% confidence level
* = Important at 42% confidence level

The estimation results in the analysis are based on the analysis of the relationship between the variables and the statistical value of t, F and R^2 tests. In the t test, the results showed that there were two significant variables in influencing the gross domestic product volume, namely total tourist arrivals (ARV) and total trade in goods and services (TRADE). While other variables such as foreign exchange rate (REER) and total tourism receipt (RCPT) are not important. Furthermore, the F-test modeling test showed a value of 99% and significant, while the value of 42% and not significant. The results show that the results of the original model are minus Ho, which means that all the independent variables are good at explaining the dependent variable at the 95% confidence level. Based on the above equation, an increase of 1% in tourist arrivals will increase the gross domestic product of 99 per cent. Increasing tourist arrivals in Malaysia will affect the country's economic growth through gross domestic product. Subsequently, a 1% increase in real effective exchange rate will result in an increase in gross domestic product by 48 per cent. This is because in Malaysia there is an increase in the number of tourist arrivals and the volume of trade in goods and services has led to economic growth. On the other hand, when there is a shortage of tourist arrivals in Malaysia, the foreign exchange rate will continue to wreak havoc on capital sources and this will further lead to a contraction in the country's economic growth.

4.1 Statistical Criteria

Based on statistical criteria, there are two tests conducted on the Individual Test (T-test) and F-test (Model Fuzzy Test) test.

4.1.1 Individual Significance Test (T-test)

Table 4.1: Individual Significance Test (T-test)

Variables	*Hypothesis*	*Test statistic*	*Critical area*	*Conclusion*
Number of tourist arrivals (ARV_t)	$H_0 : \beta_i = 0$ $H_0 : \beta_i \neq 0$	$t^* = \frac{\hat{\beta}_1 - \beta_i}{S_e(\hat{\beta}_i)}$ $t^* = \frac{0.726 - 0}{0.098}$ $t^* = 7.414$	t = (α/2, N-K) t = 0.05/2, 25 – 5 t = 0.025, 20 t = ± 2.086	$t^* > t$, then reject H_0. This means that the number of tourist arrival variables (ARV_t) is important to explain gross domestic product (GDP_t) at a 95 percent confidence level.
Foreign Exchange Rates $(REER_t)$	$H_0 : \beta_i = 0$ $H_0 : \beta_i \neq 0$	$t^* = \frac{\hat{\beta}_1 - \beta_i}{S_e(\hat{\beta}_i)}$ $t^* = \frac{0.110 - 0}{0.170}$ $t^* = 0.651$	t = (α/2, N-K) t = 0.05/2, 25 – 5 t = 0.025, 20 t = ± 2.086	$t^* < t$, then accept H_0. This means that the number of foreign exchange rate $(REER_t)$ is not important to explain gross domestic product (GDP_t) at a 95 percent confidence level.
Total trade in goods and services $(TRADE_t)$	$H_0 : \beta_i = 0$ $H_0 : \beta_i \neq 0$	$t^* = \frac{\hat{\beta}_1 - \beta_i}{S_e(\hat{\beta}_i)}$ $t^* = \frac{0.666 - 0}{0.113}$ $t^* = 5.883$	t = (α/2, N-K) t = 0.05/2, 25 – 5 t = 0.025, 20 t = ± 2.086	$t^* > t$, then reject H_0. This means that the number of total trade in goods and services $(TRADE_t)$ is important to explain gross domestic product (GDP_t) at a 95 percent confidence level.

Total travel receipts $(RCPT_t)$	$H_0 : \beta_i = 0$ $H_0 : \beta_i \neq 0$	$t^* = \frac{\hat{\beta}_1 - \beta_i}{S_e(\hat{\beta}_i)}$ $t^* = \frac{0.004 - 0}{0.007}$ $t^* = 0.566$	t = (α/2, N-K) t = 0.05/2, 25 – 5 t = 0.025, 20 t = ± 2.086	$t^* < t$, then accept H_0. This means that the number of total travel receipts $(RCPT_t)$ is not important to explain gross domestic product (GDP_t) at a 95 percent confidence level.

4.1.2 Model Fiction Test (F-test)

Table 4.2: Model Matchability Test (F-test)

Variables	***Hypothesis***	*Test statistic*	*Critical area*	***Conclusion***
Estimation model	$H_0 : \alpha_1 = \alpha_2 = \alpha_3 = 0$ $H_1 : \alpha_t \neq 0$	$F^* = \frac{ESS / df}{RSS / df}$ $F^* = \frac{1.489 / 4}{0.059 / 21}$ $F^* = 132.764$	F_a, V_1, V_2 0.05, K-1, N-K 0.05, 4, 20 = 2.87	$F^* > F_a, V_1, V_2$ then reject H_0. All the independent variables are good in explaining the dependent variable at the 95% confidence level.

4.2 Econometric criteria

Based on the econometric criteria, there are three tests carried out, namely autocorrelation, heterocedasticity and multicolinearity.

4.2.1 Autocorrelation

The autocorrelation problem can be known whether or not the budget model is taking into account DW *(Durbin Watson)* results obtained at 1% and 5% significance levels. The findings of the study show that failed to test the autocorrelation test at both significance levels. *(calculations and diagrams: refer appendix).*

4.2.2 Heterocedasticity

Table 4.3: Heterocedasticity

Variables	*Hypothesis*	*Test statistic*	*Critical area*	*Conclusion*
Estimation model	$H_0 : \alpha_1 = \alpha_2 = \alpha_3 = 0$ $H_1 : \alpha_t \neq 0$	$F^* = \frac{ESS / df}{RSS / df}$ $F^* = \frac{1.489 / 4}{0.059 / 21}$ $F^* = 132.764$	F_a, V_1, V_2 0.05, K-1, N-K 0.05, 4, 20 = 2.87	$F^* > F_a, V_1, V_2$ then reject H_0. All the independent variables are good in explaining the dependent variable at the 95% confidence level.

Park test	$H_0 : \alpha_1 = \alpha_2 = \alpha_3 = 0$ $H_1 : \alpha_t \neq 0$	$F^* = \frac{ESS / df}{RSS / df}$ $F^* = \frac{79.652 / 4}{0.066 / 21}$ $F^* = 6316.211$	F_a, V_1, V_2 0.05, K-1, N-K 0.05, 4, 20 = 2.87	$F^* > F_a, V_1, V_2$ then reject H_0. All the independent variables are good in explaining the dependent variable at the 95% confidence level.
Glejser test	$H_0 : \alpha_1 = \alpha_2 = \alpha_3 = 0$ $H_1 : \alpha_t \neq 0$	$F^* = \frac{ESS / df}{RSS / df}$ $F^* = \frac{1.489 / 4}{0.000 / 21}$ $F^* = 36590.865$	F_a, V_1, V_2 0.05, K-1, N-K 0.05, 4, 20 = 2.87	$F^* > F_a, V_1, V_2$ then reject H_0. All the independent variables are good in explaining the dependent variable at the 95% confidence level.

4.3.3 Multicollinearity

To test the multicolinearity problem, a test using the Pearson correlation coefficient value needs to be done. It is important to know whether there is a serious problem with multicollinearity or serious multicollinearity problems.

4.3.3.1 Correlation Pearson

The results obtained by using the Pearson correlation coefficient are as follows:

Corr $(ARV_t, REER_t)$ = -0.594

Corr $(ARV_t, TRADE_t)$ = 0.769

Corr $(ARV_t, RCPT_t)$ = 0.148

Corr $(REER_t, TRADE_t)$ = -0.813

Corr $(REER_t, RCPT_t)$ = -0.096

Corr $(TRADE_t, RCPT_t)$ = 0.127

As a result of this correlation analysis, it shows that the independent variable is $(ARV_t, REER_t)$, $(ARV_t, TRADE_t)$ and $(REER_t, TRADE_t)$ has a significant relationship with each other at the 99% confidence level. However, independent variables $(ARV_t, RCPT_t)$, $(REER_t, RCPT_t)$ and $(TRADE_t, RCPT_t)$ have significant relationships with each other at 95% confidence level. Based on this model, it is also found that the value of R2 is equal to 0.962 which is greater than the value of Corr $(ARV_t, REER_t, TRADE_t, RCPT_t)$. Therefore, when $R^2 > Corr\ (ARV_t, REER_t, TRADE_t, RCPT_t)$ this causes a non-serious multicollinearity problem.

5. CONCLUSION

In conclusion, the analysis of this study is very important to know the most dominant factor in influencing the impact of the tourism sector on economic growth in Malaysia from 1990 to 2015. Therefore, the results of the research findings have found that the most dominant factor in affecting the impact the tourism sector on economic growth is the number of tourist arrivals and the volume of trade in goods and services where the value

is significantly better than other variables. In addition, foreign exchange rate factors and total tourism receipts are weak in influencing the impact of the tourism sector on economic growth. The findings are also based on the methodology or methodology used, taking into account economic criteria, statistical criteria and econometric criteria. Based on the findings of this study, it is able to make a big impact especially on the Ministry of Tourism and Culture Malaysia in improving the country's economic performance through the tourism sector.

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APPENDIX

Testing of Autocorrelation Problems

Testing of autocorrelation problems was identified at 1% and 5% levels.

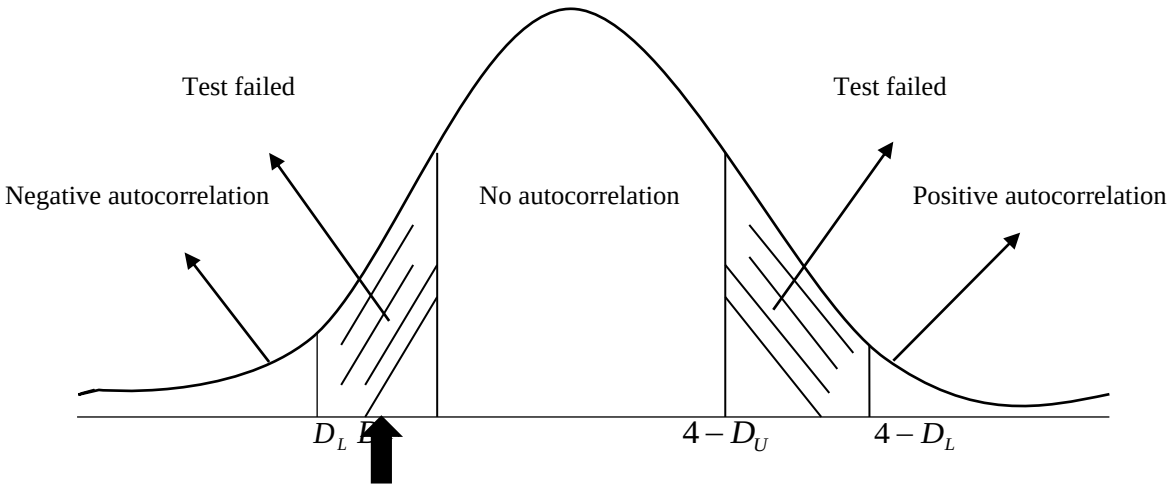
The significance level of 1%

Durbin Watson Test
DW = 1.505
N= 25 K= 5

Step 1:
d_L = 0.756
d_U= 1.645

Step 2:
4-d_L = 3.244
4-d_U = 2.355

Step 3: Diagram



$D_w = 1.505$

0.756 1.645 2.355 3.244

In conclusion, at the significance level of 0.01 (α = 1%), Durbin Watson (DW) statistical value obtained from the SPSS output is 1.505. Hence the test results received indicate that failed to test the autocorrelation test.

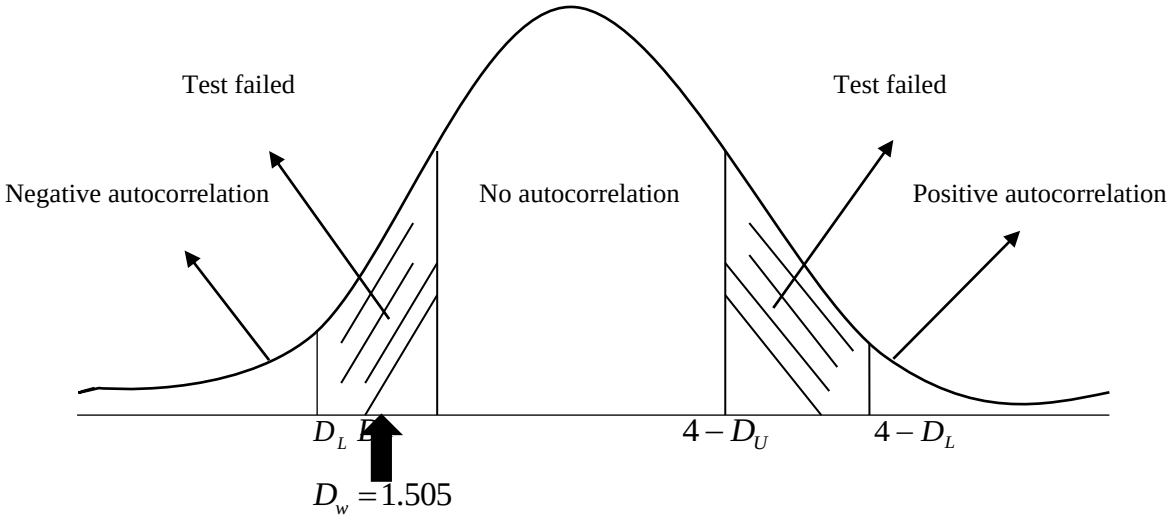
The significance level of 5%

Durbin Watson Test
DW = 1.505
N= 25 K= 5

Step 1:
d_L = 0.953
d_U = 1.886

Step 2:
4-d_L = 3.047
4-d_U = 2.114

Step 3: Diagram



0.953 1.886 2.114 3.047

In conclusion, at the significance level of 0.01 (α = 5%), Durbin Watson (DW) statistical value obtained from the SPSS output is 1.505. Hence the test results received indicate that failed to test the autocorrelation test.