

THE INFLUENCE OF FINANCIAL DEVELOPMENT
TOWARDS THE INTERNATIONAL TOURISM IN
MALAYSIA

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FACULTY OF BUSINESS AND FINANCE
DEPARTMENT OF FINANCE

SEPTEMBER 2020

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BY

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A final year project submitted in partial fulfillment of the
requirement for the degree of

BACHELOR OF BUSINESS ADMINISTRATION
(HONS) BANKING AND FINANCE

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


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DECLARATION

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- (1) This undergraduate FYP is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.
- (2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.
- (3) Equal contribution has been made by each group member in completing the FYP.
- (4) The word count of this research report is 20225 words.

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ACKNOWLEDGEMENTS

We would like to use this chance to express our appreciation to all of the people who gave us the assistance in the process of conducting this final year project. A special thanks to our project's supervisor, Ms Tan Yan Teng. She gave us all the valuable guidance and assistance as she sharing her experience and also her precious knowledge to us in order to improve the quality of our final year project.

Besides, we wish to thanks UTAR as it provide the facilities to proceed our final year project. Our university provide us a strong database that enables us to obtain all the data when conducting our research. Other than that, we would like to thanks our university for providing us a great opportunity to learn more on the research project.

However, we wish to thanks our final year project's coordinator, Mr Koh Chin Min for providing the clear and details guidelines and explanation to us. Next, we are deeply grateful to our second examiner, Dr Tan Ai Lian. She had gave us some useful recommendations which based on her expertise knowledges.

Last but not least, we would like to thank each of the group members for giving out their best attitude and those sleepless nights that we were discussing together in the completion of our final year project.

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey-Fuller
ARDL	Autoregressive Distributed Lag
ASEAN	Association of Southeast Asian Nations
ARCH	Autoregressive Conditional Heteroscedasticity
CP	Consumer Price
CPI	Consumer Price Index
ER	Exchange Rate
ECM	Error Correction Model
FD	Financial Development
FEM	Fixed Effect Model
GDP	Gross Domestic Product
GNI	Gross National Income
GLS	Generalized Least Squares
JB	Jarque-Bera
KPSS	Kwiatkowski-Phillips-Schmidt-Shin
LCU	Local Currency Unit
LM	Lagrange Multiplier
MYR	Malaysia Ringgit
NARDL	Nonlinear Autoregressive Distributed Lag
OLS	Ordinary Least Square
OIC	Organization of Islamic Cooperation
PP	Phillips-Perron

REM	Random Effect Model
SUR	Seemingly Uncorrelated Regression
SADC	Southern Africa Development Community
TA	Tourist Arrivals
TOL	Tolerance Level
TDC	Tourism Development Corporation
USD	United States Dollar
UECM	Unrestricted Error Correction Model
VIF	Variance Inflation Factor
VECM	Vector Error Correction Model
WOM	Word-of-Mouth

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PREFACE

This research is completed under the title of “The Influence of Financial Development Towards the International Tourism in Malaysia”. Tourism sector is one of the major topic that the economy of Malaysia will concern about. It can be one of the factors that boost an country’s economy rapidly. This means that tourism Malaysia is able to generate a substantial income in the development of economy. Besides, financial development also plays an important role in economic sector where it can help to stimulate economic growth. It commonly proxy by private credit. Private credit can be defined as a long-term loan to companies and normally is for investment purpose. As to that, borrowers such as businessman can make use of the loan to finance assets, boost up business developments and other business objectives.

ABSTARCT

This research paper aim to estimate the influence of financial development towards the international tourism in Malaysia. There are four explanatory variables that include in this research which are financial development, gross domestic product, exchange rate as well as inflation. The data collection for international tourist arrival of Malaysia was from year 1995 until year 2018 which total for 24 years. In this research, domestic credit to private sector is being used for a proxy in the measurement of financial development. The sources of all data was collected from World Bank Group. The data is time series data and Autoregressive Distrubuted Lag (ARDL) model will be used in this research. Besides, Econometrics View (EViews) program was being used to estimate the economic problems and relationship. The result ended up showed a negative relationship between financial development and international tourist arrival of Malaysia.

CHAPTER 1: INTRODUCTION

1.1 Background of Study

1.1.1 Tourism in Malaysia

A country that progress with multi-tribal humanity can be a good description of Malaysia. The governmental scheme is ground on congressional constitutional caesarism by means of Federal Government system, constructing 14 states. The constitution and congressional scheme could be refer to the British government style, omit the fellow of domestic government are guided by the regnant units. The position of both Malaysia, Sabah and Sarawak are locaed wholly in the subsolar area. The weather is monitored by the goverment of the north-east and south-west monsoons which will be taking turns to blow into Malaysia. The norm temperature from end-to-end of the year is 26°C with day temperature is around 7°C. Rainfall of a year is approximately of 2500 mm which consider as quite humid weather because of the hot temperature and high degree of vaporization. Because of this, some tourist from the country which is cold weather may choose to come Malaysia as their travel desnination since hot weather is not familiar to them. When we think about hot weather, the picture of islands might exist in our mind. Fortunately, Malaysia had developed many tourism project on the island location. There are some well-known island location in Malaysia such as Pulau Penang, Pulau Pangkor, Semporna and so on. These types of island provided the confortable surroundings and it suitable

for a relax trip. Besides, Malaysia also had advanced cities with all those spectacular building and advanced transportation.

Besides, Malaysia's government also set up a specific department to expand the development of tourism Malaysia. This agency was named as Malaysian Tourism Promotion Board and established on year 1987. They aim to promote the tourism information of malaysia and also seek for the potential opportunity which may grow up tourism sector. They will take advantage of those oppotunities in order to fully attract more people for generating more income (UKEssays, 2018). Located at north of this earth, around 1000 of beautiful and unique islands can be found at Malaysia. Other than that, Malaysia also owned the oceans parks and tropical rainforests which live of different types of birds and animals. In tourism sector, there are some hot topic that always discussed in the society such as golden beaches, healthy vegetarian, grand side of mountains or hills and also variety brands that operates in shopping centers. Basically, every countries will have the special point to attract tourist. All stated at the above can be found in malaysia so it made Malaysia become a riveting place.

Multiculturalism in Malaysia with the population of different types of racial groups for example Malays, Chinese and Indian has become the attractions to the tourists from around the world. They are not only attracted to the multicultural and some tourist attractions but also impressed by the unity of Malaysian since the differences in cultures and religions could raises up ethnic tension among the citizens. Other than that, one Malaysian may proficient in multiple languages. For example, a Chinese may know how to speak in Malay, Chinese and English. Due to that, Malaysia is becoming well-known to the other countries and thus attracts them to travel to Malaysia. Every tourist may had more options on language, so it will be an advantage for Malaysia tourism

industry. Hand thus Malaysia becoming well-known to the other countries. “Visit Malaysia Year” was firstly launched in 1990 which it had succeeded to attract around 7.4 million tourists during that year. There was around 2.6 million increased in the tourist arrivals compared to 1989. The second campaign with the subject of “Fascinating Malaysia. Naturally More” where the tourist arrivals had reached up to 10.22 million (Tourism Malaysia, 2018).

During the year 2007 which was also Malaysia’s 50th Year of Independence, the topic “Celebrating 50 years of Nationhood” was being created for the third campaign (Tourism Malaysia, 2018). It defines the unique diversity in Malaysia as well as its temptation that attracts many of the tourists to come to Malaysia. Not only that, it also represented the mouth-watering foods that could be found in Malaysia from the different cuisines (Tourism Malaysia, 2018). There are some of the well-known food that always represented Malaysia which included Nasi Lemak, Roti Canai, Maggie Goreng, Bak Kut Teh and so on (Calderon, 2017). All of these had their own unique point to attract the tourist to let them not forget once they had given a try. In year 2014, the tourist arrivals had achieved more than 28 million with the subject “Celebrating 1Malaysia Truly Asia”. The mascot for that year was Proboscis Monkey which is also known as long-nosed monkey that usually can be found in mangrove forests. Beyond that, Malaysia still have some rare animal which protected in the wildlife areas.

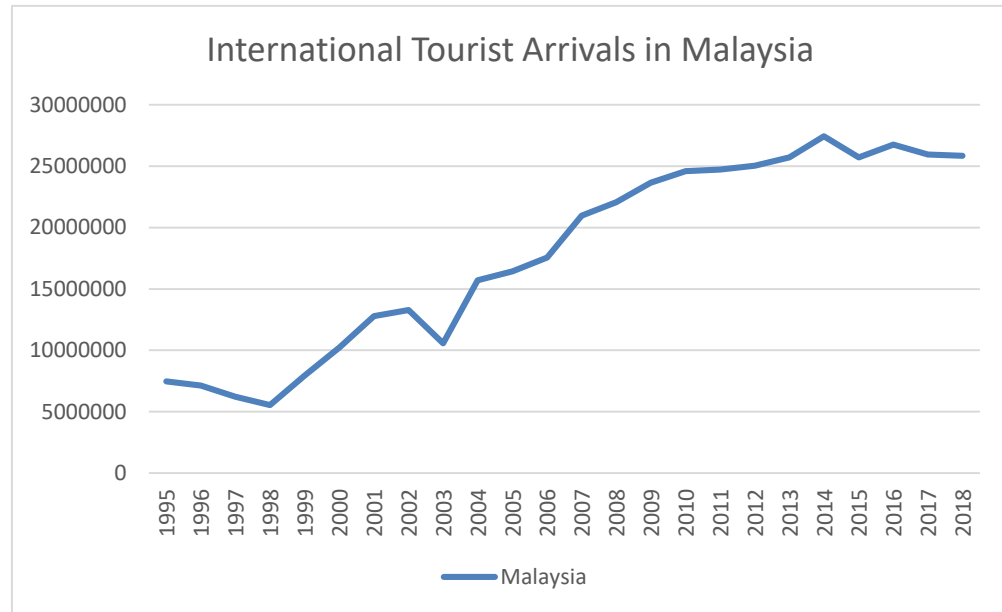
Besides, there were also many promotional campaigns that had been done such as events and activities. “Visit Truly Asia Malaysia” is the theme for this year with the logo that signifies the enrichment of Malaysia in terms of plant and animal as well as ethnical multiplicity where it includes some precious and rare materials. The main goal for this campaign is to attract substantial amount of international tourists. The campaigns can included the information of Malaysia which may involve the characteristic and highlight point of Malaysia’s tourism

sector. Because of this, any mentioned place and things must be developed and improved to attract more peoples. And this will also lead to the increasing of crowds in certain scenic spots as well as stimulating the consumption. Due to that, the government had allocated an amount of RM 500 million in handicraft and homestay business as well as RM 1 billion to Malaysian Tourism Infrastructure Fund (Malaysia Visa, 2020). This is aims to improve the tourism industry and help some tourism company which may plan to expand their business. The rate of the funds will be allocated at 4 to 5.5 percent and the application period will open until the last day of year 2020 (Ministry of Tourism, Arts and Culture Malaysia, 2019).

Formerly, tourism industry growing speed is as greater as before. As we know, most of the tourists will come to Malaysia either for scenery or foods. As to that, business in Malaysia had become important as well in order to attract the tourists. Due to that, the businessman would definitely need financial support or capital in order to run their business or expand their business. Thus, financial development has becoming important sector to all the business as well. Today, many financial development projects were being conduct to expand the business in tourism industry. Thus, it may be many investor start invest into those project and the fund of the project will be increase. More money to be invested, more feasible the project will be. Besides, it is also one of the major funding business for increasing gross domestic product of Malaysia. This had accomplished positively since it is imitated of development on tourist arrivals and receipts. For instance, our country had only pull in 1.2 million tourist arrivals. Still, the international tourist arrivals has upsurge about 20.9 million in year 2007. According to Kadir and Karim (2012), revenue produced by international tourist arrivals increase to RM46.07 billion in the same dated. Moreover, the expansion of tourism industry likewise subsidized confidently to the enlargement of events in other related units such as the hotel, trade and catering and even transportation sector. Tourism sector are contribute directly to the

whole GDP of Malaysia as it can generate more income or even bringing optimistic effect to other countries.

Figure 1.1: International Tourist Arrivals in Malaysia from year 1995 until 2018



Source: World Bank

Tourism industry has become an important sector that contributes huge income to the country as well as boosting the economy for the country around the world (Nonthapot, 2013, & Chancharat, 2011). It had grown rapidly side by side with the path of globalization. As we can see from the graph above, the tourist arrivals in Malaysia roughly increased year by year. One of the reasons is there are many job opportunities that will be created when more tourists travel to a certain country. This can be seen obviously in the employment of hotels, restaurants, travel agencies and museum officers. Moreover, development of infrastructure is also one of its contributions that cannot be excluded as the infrastructures such as tourist facilities will be maintained or even being built to attract more tourists as well as ensuring their safety and convenience during

their travelling in Malaysia (Aynalem, Birhanu & Tesefay, 2016). As long as they found out that the facilities are convenient and friendly to them, they will have a better impression of their travel in the country. There are many types of infrastructure were being built in Malaysia such as infrastructure constructions, transportation infrastructures and also physical infrastructures.

Word-of-mouth (WOM) could be a method that charm more travellers to Malaysia as it will directly impact on consumer behavior (Xu et al., 2020). This is due to the previous tourists might share their experiences and impressions to their friends and relatives after they travel back from a country. If they achieved higher satisfaction during their trip, those tourists will give more positive WOM (Lai et al., 2018). Due to that, it can remain the sustainability of the tourism if positive WOM keep being shared by the tourists. For example, when good impressions of them have been spread to their friends or relatives, it will then attract their friends to come to Malaysia. However, when they have bad impressions through their travelling in Malaysia, it will also then affect the tourism in Malaysia. Nowadays, verbal influence can change a person's mind and decision. Verbal is enough to sum up the beauty and positive impact of all the things. All those picture and words that been edited and described at the internet is not enough to attract the person. Instead, WOM has even more clout than anything since it is a real experience.

Not only that, tourists will normally travel to the country that grabs their attention to it. The attractiveness of the country could encourage or persuade the tourists to choose as their destination for travelling (Kim & Lee, 2002). However, according to Mayo & Jarvis (1981), they defined the desirability of the country as “the mixture of the relative significance of discrete remunerations and professed capacity of a country to carry advantages to that individual”. This is then been further explained by Hu & Ritchie (1993), the tourist destination

should sophisticate with tourist facilities and services that could improve the satisfaction of the tourists and ensure their convenience at the same time. Therefore, it is vital to recognize the attractiveness of the travelers in terms of the resource availability to deliver individual benefits (Formica & Uysal, 2006). Thus, private credit cannot be excluded for the business to improve the tourist facilities and services.

As mentioned by Giap, Gopalan and Ye (2016), a spectacular characteristics of tourism industry is it able to create rearward and onward connections that not too specific but still varied. Additionally, it also will make some positive impact which may bring the economic advantages to the economy. For instance, more tourism sector business developed, more job opportunities will be required. If a country able to attract peoples as more as it can, more business will innovated and all of it need manpower. From mental to physical work, it need human to handle it. Hence, unemployment problem may be settle at this situation. Not only on the economic side, tourism industry also created other positive impact to some related industry. For examples, catering services, hotel facilities, native store and so on. As long as the population is large, the business of the related industries will have optimistic effect on itself.

1.1.2 Financial Development in Malaysia

Financial development also plays an important character in economic sector where it can help to stimulate economic growth when allocation of fund being approved by the financial institutions for investment projects of the business (Neimke, 2003). Not only could that better developed of financial system also

allow a country to grow rapidly as it reduces the poverty by allowing the poor or vulnerable groups to obtain financing when they are facing financial difficulties. This situation will also happen same goes to the SMEs as they could get chances on access to finance. In short, financial development not only reducing the poverty but also increase the investment and productivity of the business. (The World Bank, n.d.).

Nevertheless, financial development frequently peroxided by private credit. Private credit can be defined as a long-term loan to companies and normally is for investment purpose (Olowofeso et al., 2015). As to that, borrowers such as businessman can make use of the loan to finance assets, boost up business developments and other business objectives. Hence, it is believe that tourism sector can be improved by wisely using private credit as it can be used to bring in new technologies, invest in new infrastructure and as well as promote the industrial development (Ohlan, 2017). Every companies would need to raise up their funds before they make any sales in order to expand their business either to attract the tourists or improve the equipments that needed (Henricks, 2005).

Private credit means the monetary supply offer to the private sector by financial organization or financial institutions. It can be provided in loans, securities, and trading in credits. This type of financial development required a call for repayment. Some of the nation will include loans to public business. Those fiancial organizations and financial institution will involve the financial regime and funds deposits in bank. For instance, those organization can be leasing corporation, funds loaner, insurance company, superannualtion funds and also currency exchange corporation. Private credit development and investment help the sector to open move on investment project with socially beneficial functions (Ohlan, 2017). In symmetrically with public sector trials, investment in public sector existed a enormous chance to offer up the country's economy growth and

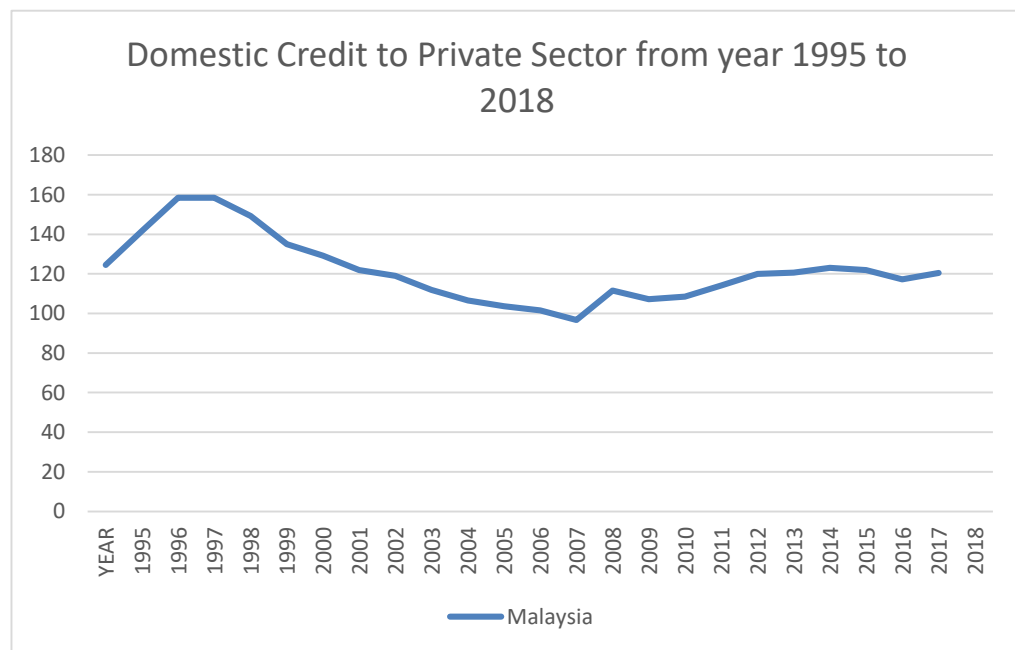
especially for rival markets. It help a lots in the economy growth as it able to offer productive jobs and attractive revenues. Besides, it able to offer the elementary services and facilities for poor people. This will lead to the improvement of education, health and even infrastructure.

However, there is a limitation on private company when it compare to public company which is they may not be able to use the same financing method. For example, public company able to sell bonds or share to the public market to raise their fund. Sometimes, Initial Public Offerings (IPO) will also be issued when the company is a new listed company in the market. Instead, private company only can relied on applying loan from the loan providers. It will need to deal with the interest payment as well as the loan's principal with the maturity. In the private credit market, the investor seeks for the investee for lending money. The investor can group with their investee to constitute a special project (Private debt overview, 2019).

Moreover, private credit can be one of the important factors that help private companies to boost their business (Chen, 2020). All businessess would definitely need sufficient of funds to carry out their day to day operation eventhough the business did not have the desire to further expand or invest in their business (OECD, 2017). There are a few types of private funds that can be offer to the private companies. For instance, distressed funding, leveraged buyouts, real estate private equity, fund of funds, venture capital and so on (Chen, 2020). A country that had a good developed fiscal area is expect to own a rapid growth on their economy (The World Bank, n.d.). In fact, financial development help a lot in medium sized enterprises by rendering them with admittance to finance their business (Patrick, 1966).

Financial development not only boost the business but also enhance the tourism at the same time. This is because when the SMEs especially tourism industry get to access to financing, the company can directly improves the infrastructures that are able to attract the tourists. Investment in transports and infrastructures is a complementary to investment in tourism as it will become the attractiveness to the tourists (Shakouri et al., 2017). As to that, tourism is relying on capital so as to strengthen and improve the quality and competitiveness infrastructure and product offering which the enterprneurs will then apply credit from financial institutions for such investment. Financing of SMEs especially from tourism industry will also turns up build a sustainable tourism sector of the country (OECD, 2017).

Figure 1.2: Private Credit from year 1995 until 2018



Source: World Bank

During 1990s, greater financial development has been reflected due to the condusiveness of high credit expansion for the needs of economy that had strengthen the banking industry and fiscal stability in Malaysia. The credit

expansion not only accessing to the business but also the household. As so, Malaysia also ranked the top 3 countries together with Thailand and China that supply loan to the private area annually. Due to the development of economy, we can see that financial development in terms of domestic credit raised up yearly from year 1995 to 1998 based on the figure above. According to Athukorala (2010), the growth rate of the domestic credit had increased 26% during year 1994 to year 1996. Not only that, Vision 2020 Statement that proposed by Prime Minister Mahathir to turn Malaysia to a developed country had also caused much of the investment went into development of infrastructure projects.

However, the economy of Malaysia was in recession during the year of Asian Financial Crisis which lead Ringgit Malaysia to be depreciated about 50% of US Dollar (Athukorala, 2010). As soon in year 1999, the economy of Malaysia had rebounded as compare to year 1998. When came to year 2003, international tourist arrivals had dropped dramatically due to the SARS outbreak that caused most of the tourism industries such as restaurants, airlines and hotels to be negative (Girijia, Shankar, Larsson, 2020). As results, the tourists during that year fall by 3 million which was around 17.4% compared to the previous year (The Star Online, 2020). Apart from this, with the same figure of 3 million increased in year 2007, the international tourists that visited Malaysia had reached to about 20 million. “Visit Malaysia Year 2017” had lead to a stronger demand in tourism and thus strengthen the economic for that year with such surplus in services account.

1.2 Problem Statement

In this modern era, the tourism sector has been an significant sector in a country in term of source of revenue. This is because when the development of the country is sufficient to improve the level of living style, people will involve themselves actively in travelling to other countries. In Malaysia, tourism has significant contribution in country's economy and this sector is acknowledged as main resources of foreign exchange incomes and vehicle to grow the economic. Moreover, Malaysia is also the hot option when tourists make decision on destination. The reason of Malaysia being so attractive is because it is a multi-ethnic and federal constitutional monarchy among countries in Southeast Asia. Furthermore, Malaysia has a dominant position on its location. Firstly, it is encircled by Brunei, Indonesia, Singapore and Thailand. Secondly, it has two areas which are peninsular Malaysia that sits betwixt Singapore and Thailand as well as East Malaysia crossways the South China Sea on Borneo island.

In order to advance the tourism industry, the government of Malaysia made a lot of effort. In year 1972, an authority was established for developing tourism sector which was Tourism Development Corporation of Malaysia (TDC). However, the outcome of this authority was not reach the expectation. After the introduction of 5-year Malaysian Plans (MPs) which started from year 1990 to year 2015, the tourism sector was developed greatly. According to Soshkin (2019), it stated that advanced nations with well-developed infrastructure able to handle tourism growth. According to Mosbah and Salleh (2014), the government did much effort to strengthen infrastructures as well as facilities. For example, in 6th MPs, the government enlarged the public provision for tourism development to RM 533.9 million. Furthermore, the government distributed RM1.8 billion to enhance tourist destinations and infrastructure in 9th MPs. Hence, when financial development of Malaysia is high, the tourism infrastructure can be enhanced as well. Without financial development, the country is not able to attract tourists. We believed that financial developemnent has positive effect towards tourism

infrastructure. Thus, it will increase tourism growth. Therefore, it can be assumed that financial development has positive relationship with tourism.

By looking at the data obtained from Tourism Malaysia, it showed that the tourists' arrivals were not following the positive relationship that we mentioned before. During the period between year 1996 and year 2008, the tourist's arrivals were either increased when financial development decreased or decreased when financial development increased which have shown a negative relationship. On the other hand, from year 2010 to year 2014, tourist's arrivals increased as financial development increased. This condition is same with the assumption as tourism growth is supported by financial development. Nevertheless, the tourism's arrivals are not following the trend of financial development in recent years which is starting from year 2015 until year 2018.

Financial development is playing important role in stimulating tourism growth. Without financial development, tourism infrastructure cannot get improvement and thus cannot increase tourist arrivals. Furthermore, if we do not study the relationship between financial development and international tourist arrivals, the government could not know the actual way to wisely using financial development. Because of this, the government would not allocate financial sources on tourism infrastructure. The business in tourism sector would not get financing easily to improve their business. As a result, tourism sector cannot get a better improvement and the international tourist would not be interested to have a trip on our country. Over time, the international tourist arrivals of our country will decrease.

As a conclusion, we found that the tourist's arrivals are not moving along with the financial development in recent years. This situation is not same with our assumption which financial development is positively affect tourism. Therefore, this raises our curiosity on the nexus among financial development and tourism. As a result, we

conduct this research to estimate the character of financial development on affecting tourism as well as understanding on how to wisely use financial development to improve tourism.

1.3 Research Objective

To investigate the relationship between Financial Development (FD), Gross Domestic Product (GDP), Exchange Rate (ER) as well as Inflation and Tourist Arrivals (TA) in Malaysia.

1.4 Research Question

What are the relationship between Financial Development, Gross Domestic Product, Exchange Rate as well as Inflation and International Tourist Arrivals in Malaysia?

1.5 Hypothesis of study

H_0 : There is no relationship between FD, GDP, ER as well as Inflation and TA in Malaysia.

H_1 : There is relationship between FD, GDP, ER as well as Inflation and TA in Malaysia.

1.6 Significance of study

Nowadays, financial development plays an irreplaceable position for establishing a well economy cycle by improving finance power, infrastructure, and reputation and so on. Besides, it is a measurement to determine the financial ability of a country as well as could be the resource of the country to develop a particular industry. Recently, tourism becomes more important towards a country's economy. For example, tourism generates more job opportunities for the public. Moreover, GDP from tourism sector can be spent on advancing infrastructure and services such as new airports. Therefore, this research is proposed to disclose the importance of financial development towards the tourism industry in Malaysia. Apart from this, the variables such as GDP, Inflation and exchange rate are being control variables to assist for investigating the tourist arrivals in Malaysia.

This research could be a reference or indicator for the policymaker especially for the ministry of economic affairs and ministry of finance in Malaysia to decide a suitable policy and design the budgeting for boosting up the development of tourism industry in terms of the financial resources. Besides, our study can also be a reference to other

countries that do not grow their tourism successfully. Hence, consciousness about tourism extension and the significance of tourism in a country will be advanced for improving in the tourism sector as well. Furthermore, this study may catch the attention of other researchers to focus on the tourism topic.

1.7 Chapter Layout

As tourism sector is increasingly important in generating income of Malaysia while financial development is assumed that taking role in advancing tourism sector, thus the objective of conducting this study is to identify the influence of financial development towards the tourist arrivals in Malaysia. Apart from that, there are totally five chapters in this research. In Chapter Two, we review the literatures which are correlated with the variables in our study, including GDP, Inflation, exchange rate as well as financial development. Moreover, we also look into the literatures that investigate the relationship between those variables and tourist arrivals. In Chapter Three, it shows the methodologies that we used to investigate the influence of those variables on tourist arrivals. Other than that, the interpretation of our results is included in Chapter Four. Chapter Five describes the discussion, policy implication and conclusion of our study.

1.8 Conclusion

In Chapter One, it includes a briefly introduction, background of research, problem statement, study objective, research question, hypothesis of research as well as significance of study. In this study, GDP, exchange rate, Inflation and financial development are taken to investigate the influences on international tourism of Malaysia by taking period from year 1995 until year 2018 which is totally 24 years. In next chapter, we will review the literatures that are associated with our research.

CHAPTER 2: LITERATURE REVIEW

In Chapter 2, it includes discussion about previous literature review on financial development, GDP, exchange rate as well as inflation. Objective of this chapter is reviewing the relationship between those variables and tourist arrivals. From this chapter, we are able to understand deeply on the nexus among dependent variable and its determinants variables.

2.1 Review of Literature

Under this part, we will focus on discussing about the relationship between each independent variables and tourist arrival. There are four subdivisions in this part which are 1) financial development; 2) GDP; 3) exchange rate; 4) Inflation

2.1.1 Financial development and Tourism

Financial development is vital on economic area because it permits all transaction by extending credit to stimulate economic growth. In Choong and Chan (2011), financial development is described to those enhancement in term of number, quality and effectiveness of financial facilities. Besides, monetary aggregates such as M1, M2 and in certain cases M3 are usually set as the proxy of financial development. Nevertheless, we are using domestic private credit as

our proxy in this study. Private credit is a long-term loan to companies. It normally is for investment purpose which usually targeted on the high yielding corporate. Borrowers can make use of the loan to finance assets, boost up business developments and other business objectives. With financial development, the tourism infrastructures in Malaysia can be advanced a lot.

Based on Jovanović and Ilić (2016), the topic is the relationship between the accessible infrastructure and the attained stage of tourism development. It claims that tourism infrastructure is the core of tourism development which involves numerous facilities and necessary to reach the requirements and build-up satisfaction of the tourists when they travel at the country. There are four categories of tourism infrastructures which are Physical (hotels); Cultural (language and local food); Service (travel organisations) and Governance (Customs and immigration). Destination with lacking of nature beauties, accommodation, good quality of infrastructure cannot boost its tourism development and increase its tourist arrivals. The goals of that paper is to identify the nexus among tourism competitiveness of Southeast Europe (SEE) nations and competitive level of tourism infrastructure. Furthermore, it concludes that expansion on the quantity of accommodation like hotel rooms can boost the level of tourism competitiveness of the experimental group of nations. Therefore, we assumed that when financial development increase, tourism infrastructure is improved as well and thus increase tourist arrivals.

First of all, Garau-Vadell et al. (2016) make a research on the willingness of the tourists to support for tourism development during economic crisis and their perception towards the impact. The data was collected for year 2004 and 2016 to make comparisons for both the resorts in Spain which were Mallorca and Tenerife. Through investigation acquired from questionnaire, they found out that economic crisis would be the reason for the happening of variation in

perceptions. According to the fluctuations on the effect of consciousness and adhesion towards tourism, there are few hypothesis that has been formulated such as H1: the perception towards financial expenses towards tourism will decrease at the time of financial crisis. It is to be conclude that perception of the impact related to tourism is mostly to financial crisis. For the enhancement of economic evolution and the improvement on undeveloped areas, new law about tourism has been legalised for the case of Mallorca.

Next, Song and Lin (2009) make an estimation that the financial crisis that occur in year 2007 had negative impact towards the tourism either inbound or outbound and this research only applied to Asia country which is from year 2009 to 2014. Their investigation is based on ARDL model which used to determine the elasticity of the interval demand. Next, they also forecast the inbound tourism and outbound tourism to or from Asia based on current financial crisis as well as forecast the independent variables. It is then showed that economic crisis will react negatively towards the tourism which is also the tourist arrivals in Asia either inbound or outbound. However, it also stated that the demand will once again rebound from year 2010.

Based on the research of Dar and Mahta (2014), the paper mentioned credit assistance had positively impacted towards tourism development in Kashmir. The data were collected from the stakeholders from tourism industry through questionnaires with a sample size of 120. The data was also then being distributed into type of loan, purpose of loan, type of financing, grant of subsidy and level of satisfaction. Many respondents claimed that the loan assistance from financial institutions did not provide them with long gestation period as they need a longer time period to pay back the loan after they start to earn income. They also found that the respondents are almost neutral at the awareness and education regarding the loan assistance schemes. Due to that, this study also revealed that

all the respondents are not satisfied with the financing activities as there are no sufficient guidance and assistance been provided to the tourism industry.

Kumar (2014) found out that positive impact had existed among financial development and tourism on output per worker. Employee productivity is highly linked to economic growth as productivity had considered as an significant factors that will also contribute to the economic growth (Korkmaz & Korkmaz, 2017). The authors investigate the short-run and long-run effects for Vietnam from year 1980 to year 2010. Through his investigation, it figured out that tourism has a short-period impact while ICT and financial development has long-period effect on output per worker. Although the paper showed significant character on tourism and financial development to the economic growth in Vietnam, however their data on tourism receipts are small and inconsistent so he imputed the missing data with growth rate of visitor arrival. Not only that, the author also lack of some of the data which access to mobile phone and subscriptions. Overall, the results showed a positive relationship of tourism and on economic evolution of Vietnam.

Additionally, Shahbaz, Kumar, Ivanov & Loganathan (2016) has studied the relationship between the tourism demand and GDP with financial development and trade openness in Malaysia. The collected data are based on quarterly basis from 1975 to 2013. In long run, the elasticity coefficient of tourism demand is 0.13 while visitor arrivals is 0.10. Furthermore, it is 0.19 for trade openness and 0.09 for financial development. However, in short run, negative coefficient was obtained for tourism, 0.01 for financial development and 0.18 for trade openness. VECM Granger causality approach had proved bidirectional effect between tourism demand with output, trade openness and financial development.

Moreover, there was investigation has been done by Ridderstaat and Croes (2016) to examine the impact of money supply cycles on tourism demand cycles. They want to make a research whether there is any impact caused in their countries through money supply from tourist's origin countries. This investigation has been done to Aruba and Barbados. However, the money supply is come from United States, United Kingdom and Canada. They believe that money supply able to drives tourism demand cycles as compared to business cycle data. Through their research, they found out that there are both positive and negative cycles and it is more relevant for those islands which rely on tourism development. This is because the tourists from foreign country could enhance and improve their development of tourism. However, the money supply cycles on tourism is not constant at all time as it also depends on the development of the cycles. Not only that, there are some limitations to this study as they investigate with only two destinations which was Aruba and Barbados.

Ohlan (2017) had made an investigation in India regarding the relationship between the tourism and economic growth for the period of 1960 to 2014 in terms of both short run and long run effects. In this research, Bayer and Hanck (2013) test and ARDL modelling approaches which believe to provide uniform and reliable co-integration results. As such, it had showed that tourism, economic growth and financial development are consistently co-integrated. It has been proved when tourism tends to drive the economic growth there either in short run or long run. Other than that, observations also showed that there are significant relationships between financial development and tourism towards economic growth. This is due to the increasing in these two variables will directly enhancing the economic growth of India in long run. It is stated that a 10% increase in tourism earnings per capita will have a 1.9% increase in the GDP per capita as well. Meanwhile, Government of India should invest more in the tourism industry in order to enhance their economy in long run. It is

concluded that tourism, financial development and economic growth are co-integrated.

Katircioglu, Katircioğlu & Altinay (2017) had studied the intereactions between tourism growth and financial development in Turkey from year 1960 to 2015. The results revealed that there is a long-term relationship for the tourism development and financial development in Turkey. Financial development exerts a significant impact on touris in long-run frowth models as well as foreign direct investment and trade openness. Granger causality tests run under two models options which were with and without deterministic trend. Unidirectional causality has been found in the long-term peiord from tourism development to financial development based on the results of the Granger causality tests. Meanwhile, foreign direct investment and trade openness have been found significant. Due to that, in the economic long-term, financial sectors and tourism in Turkey reinforce each other.

Additionally, Granger causality relationship approach and variance decomposition had been done by Shakouri, Yazdi, Nategian & Shikhrezael (2017) to study whether economic growth promote tourists receipts. It is a panel analysis that tested for Asian countries from year 1995 to 2014 which included international tourism receipts, real GDP per capita growth, exchange rate, trade openness and financial development. The research had indicated that tourism related factors were signifantly benefited to the economic growth. Both long run relationships of tourism development and real GDP per capita are casually related. Not only that, the findings also proved that both economic growth and tourism receipts should be considered in analysis as as both provide precious information to the policymakers. Tourism strategies can be developed with the help of the interpretation in the causality test as it also helps to allocate limited resources and thus spur the economic growth and development of tourism. This

research had studied the causality related between economic growth with real GDP per capita growth, trade openness, exchange rate, financial development, and international tourism receipts.

Lastly, U & So (2019) also studied the impact of economic crisis towards tourism demand in Macao and Hong Kong from year 2000 to year 2018. Tourist demand was used as the proxy for tourist arrivals. They found out that different types of crisis will have a certain level of impact on tourism demand. They investigated that the subprime mortgage crisis that happened in year 2008 had caused the people to lose their jobs as the main source of income. When people do not have savings or extra income, this will lead to the decreasing of tourists for travelling. This also caused many peoples in different countries to lose their purchasing power. As to that, they mentioned that subprime mortgage crisis had negatively affect the tourism industry.

2.1.2 Gross Domestic Product and Tourism

Based on Vencovská (2014), it claims that GDP is a significant determinant of tourism. Moreover, GDP is usually used by the investigators as independent variables to examine tourism. By referring to Lim (1997) which has reviewed 100 printed tourism reports, it shows that GDP is being used for 84 studies among those studies. Furthermore, a lot of researchers like to make use of GDP as proxy for income. By taking Song, Li, Witt and Fei (2010) which investigates the main factors of demand for Hong Kong tourism as example, it uses real GDP as proxy. Therefore, we use GDP per capita as one of the key explanatory variables for Malaysia in our study. In addition, we found that there are several studies examine the relationship between GDP and tourist arrivals. The

viewpoints of the researchers are different. Most of the studies show that there is a significant and positive relationship between GDP and tourist arrival. However, only few studies claim that GDP is insignificant or negatively influence tourist arrivals

In most of the studies, tourism is assumed that playing functions in affecting economic evolution of a country. However, there is still insufficient proof claims that whether tourism-led economic growth or economic growth-led tourism. Firstly, tourism is assumed to be positively promote economic growth. This is because tourism can bring in more foreign exchange such as increasing of imports. Besides, tourism also generate more job opportunities for residents and thus increase household income. On the other hand, when economic growth of host country raises, tourism sector such as tourism goods and facilities could be improved as well. Therefore, it can be assumed that economic growth can improve tourism sector of host country. As a result, this eventually enlarge the quantity of tourist arrivals.

Therefore, in Kadir and Karim (2012), this research determines the extraordinary nexus between growth of economy and tourism in Malaysia. The method used in this study is panel time-series approach. The panel data set includes Malaysia's GDP growth and global tourism receipts of few ASEAN nations. Those nations are Thailand, Singapore, Philippines, Brunei as well as Indonesia. Moreover, the study period is eight years which is from 1998-2005. By looking at the outcome of panel Granger causality test, it figured out correlation betwixt global tourism receipts and real economic growth in Malaysia is strong. Furthermore, when real GDP is dependent variable in the equation, the coefficient of global tourism receipts is statistically significant. Conversely, when global tourism receipt is the dependent variable, the coefficient of real GDP takes turn to be statistically significant. This means that

short-run bidirectional causality is present between them. This study concludes that tourism-led economic growth hypothesis and economic growth-led tourism are verified in Malaysia.

Salleh, Othman and Ramachandran (2007) argues that GDP is an important independent variable for investigating the short-period and long-period elasticities of tourism factors. From this study, it uses bounds testing method advanced in the ARDL framework. The period taken by this study is from 1970 to 2004. From the result, Salleh et al. (2007) concludes that GDP is a significant granger cause to Malaysia's tourism by Singapore market (negative relationship), Japan market (negative relationship), Australia market (negative relationship) as well as Hong Kong (positive relationship) in the short run. In the long run, GDP is only not significant to Australia market. Besides, apart from Singapore market which has negative relationship, other markets have correct sign and elastic.

In Görmüş et al. (2010), it concludes that GDP takes a role in affecting tourism in Turkey. This study uses two-way random effect model as its estimation method. Moreover, the data set includes annual panel data which is 7-years data from 2000 to 2006 for 32 countries. In addition, this study concludes that Real GDP of sending countries have a positive sign on tourist arrivals in Turkey. This positive sign indicates that when Real GDP increase, international tourism demand in Turkey increase as well. From its result, it shows that tourism travel is inferior good as the GDP elasticities are less than one which are between 0.17 to 0.21.

Surugiu, Leitão and Surugiu (2011) argues that GDP per capita has a significant and positively related to tourism demand of Romania. Moreover, GDP per capita is also the most important determinants of international arrivals of Romania among other determinants in this study. The methods used of this study are FEM and the Tobit model. This study is using panel data by taking 23 European countries and the YEARS taken is between 1997 to 2008. From the result of FEM and Tobit model, both of the results show positive sign in GDP per capita and this positive sign means that GDP per capita is greatly correlated with tourism demand.

In Hanafiah, Harun and Jamaluddin (2011), it concludes that GDP has a significant and positive relationship with tourism in Malaysia. Moreover, the researchers use Gravity model to estimate the tourism demand. This is because small sample is used in this study. Furthermore, it is using a panel data set between Malaysia and the Asian nations with a period from 1997 to 2008. The investigators change the GDP per capita in tourist nations into logarithm modes with purpose of identifying the effect of income of tourist's original country on tourism demand. They also presume a positive sign on GDP according to their empirical literature. From the result, it shows that there is a positive sign in GDP. GDP with positive sign indicates that it is significant in determining tourism demand.

Borhan and Arsad (2016) argues that level of GDP is found to have a strong positive effect on the TA. ARDL had been used in this research. Besides, this research examines the tourism demand for Malaysia from six European nations which are the UK, France, Germany, the Netherlands, Denmark and Sweden. The period taken for data in this research is from quarter 1 of 1999 to quarter 3 of 2014. From its result, it shows that level of GDP (LGDP) has a strong positive impact on the TA by looking at the examined long-run coefficients of level of

GDP (LGDP) that varies between 0.35% and 8.55%. However, there are negative impact in the cases of Sweden and UK.

In Khandaker and Islam (2017), it concludes that GDP is insignificant to international tourism income. There are two methods used in this research which are correlation analyses and pooled OLS estimation. In this study, it uses nine independent variables which includes exchange rate. Furthermore, the data of exchange rate is collected from 2004 to 2013. Moreover, it also includes seven developed nations which are Australia, Germany, Japan, the UK, the USA, China as well as India. From the result, it shows a positive sign in GDP growth rate. This positive sign means that GDP is positively correlated with the international tourism income. However, as the p-value of GDP is 0.311 which is greater than 0.05 which would not reject H_0 , hence GDP is considered insignificant.

Theara (2017) argues that GDP is positively affect international tourist arrivals to Cambodian market. In this study, the method used by the researcher is Dynamic Gravity Approach. Furthermore, its data also covers 32 cross-sectional countries and the period taken of this study is 22 years which is from 1995 to 2015. From the result, it shows that as GDP per capital increase, international tourist arrivals to Cambodia will increase as well. In addition, GDP per capita of Cambodia and origin countries of tourists is positively affecting international tourist arrivals to Cambodia by looking at the results of Fixed-effect and Random-effect estimators. In addition, GDP per capita of host country and tourists' travel country is significant at 1% level.

In Soofi, Rafsanjani, and Zamanian (2018), it concludes that GDP per capita had positively impacted on tourist receipts of selected OIC countries. GLS method is used in this research to estimate the relationship between GDP per capita and tourist receipt. Besides, the panel data set was formed by 34 OIC nations and the period taken is 13 years from 2004 to 2016. From the study, it mentioned a positive mark in GDP per capita as expected which indicates that GDP per capita has a positive and important nexus with tourist receipts in selected OIC nations. As GDP per capita of the international tourists increase 1%, the tourist receipts in selected OIC countries increase 0.94% as well. The 0.94% means that the elasticity of the GDP is equal to 0.94 which specifies that the foreign tourists consider the trip to OIC countries is not luxury.

Husein and Kara (2020) argues that GDP of USA has a positively affected tourism receipts of Puerto Rico. In this study, the method used is nonlinear ARDL. Furthermore, the studied period is from 1970 to 2016. From the result, GDP per capita has a positive sign no matter it is positive change or negative change. As the p-values of both positive and negative changed GDP per capita is 0.00 that less than 0.05, so it means that GDP per capita is highly significant. Besides, the influence of 1% decrease in GDP per capita of USA on tourism earnings of Puerto Rico is more than 1% increase in the GDP per capita of USA. When GDP per capita of USA decrease 1%, Puerto Rico's tourism earnings will decrease 4.81%. Conversely, increasing 1% of GDP per capita of USA will cause increasing of 1.89% in Puerto Rico's tourism earnings.

In Puah, Jong and Arip (2019), it concludes that GDP of Sarawak positively affects tourism in Sarawak while GDP of tourist's original country is negatively affects tourism in Sarawak. In this research, an amplified gravity model is used to estimate the factors influencing tourism demand in Sarawak which including income level. Moreover, this paper is taking annual data within a period from

2010 to 2016. From the result, there is a positive sign in GDP of Sarawak specifies that there is a positive relationship among GDP of Sarawak as well as tourism demand in Sarawak. Therefore, tourist demand in Sarawak is influenced by economic performance in Sarawak. However, there is a negative sign in GDP of tourist's original country. This negative sign indicates that the tourists consider Sarawak as inferior tourism destination and they would like to have a trip on other luxury destinations.

2.1.3 Exchange Rate and Tourism

In order to determine tourist arrivals, exchange rate is commonly used. Based on Ahmed (2015), it defines exchange rate as a variable that can be applied to identify the amount of component of the currency of tourists' country with regard to the value of component of foreign currency. Therefore, exchange rate could be assumed as the exchange standing of both countries' currency. Furthermore, exchange rate keeps changing and influencing the tourist arrivals of one country. Nowadays, people can simply get the latest exchange rate whenever they want through mobile devices. This advancement of technology allows the tourist to alter their options easily on travelling's destination according to the variation of exchange rates.

In this study, the currencies involved are USD and MYR. When the value of foreign currency increases, it means that the tourist can exchange more MYR. This could cause the travelling cost in Malaysia become cheaper and lower down the expenditure of the tourists. This reduction in cost will attract more international tourists and so increasing in tourist arrivals. Thus, it can be assumed that there is a significant relationship between exchange rate and

tourist arrivals in this study. From those researches we found, most of their result show a significant nexus betwixt exchange rate and tourist arrivals. Nevertheless, few studies have different opinions.

Görmüş and Göçer (2010) had done a study on focused tourist arrivals and the determinants variables which includes GDP, competitive and relative prices, exchange rate, populations, trade values and distance, housing capacity and marketing outflow as well as the dummy variables. The dummies involve the economic disruption that happen at year 2001 in Turkish, Gulf War II and 911 attacks in year 2001. In this study, it stated that two-way REM is the finest for their approximation. The figures set includes yearly data of 32 countries as long as 7 years which contain of year 2000 until year 2006. This model had been activated since it used to benefit the estimation as the estimated coefficients can be inferred as bounciness. Next, the result show that the method is capable to match with the data set. For real exchange rate, the results showed there is significant but does not presented any clear signs in any of the tests.

Hanafiah and Harun (2010) had completed a study on analysed tourism demand as well as the determinants such as GNI, CPI, exchange rate, population, distance and financial crisis. They collect Tourism Malaysia's data set from year 1993 until year 2007 and focused on 7 countries. This study was using Gravity model as the methodology. The study stated that gravity model consisted the gravitational theory as a correspondence to simplify the flow of funds, trading amount, and move. They modified Gravity model to estimate tourist demand in Malaysia and depends on the variables that stated above. In order to estimate tourist arrivals, multiple regression techniques on panel data was attempted ground on the gravity model. The study stated that F-test was used so as to examine the relationship between tourist arrival and its determinants. The result showed that it is significant changes in tourism demand.

For exchange rate, the result showed tourist demand in Malaysia would fall 0.156% when there is 1% rise in Malaysia's exchange rate.

Kosnan and Ismail had done a study at year 2012 with tourism demand and its explanation variables. Those explanation variables were including income, tourist cost, population as well as exchange rate. They completed this study with panel data of 24 countries and crossing from year 1998 to 2009. Since gravity model could be used as it was appropriate to measure the nexus between trade sizes, relocation and principal flows. In the collaboration with the POLS model and REM model, the outcomes were able to provide proper emblem and level of significant. Based on the study, the result showed that it is significant changes in tourism demand with negative relationship. The result discloses that if there is 1% drop in Ringgit Malaysia then will rising 1.5% in tourism demand.

In the study that accomplished by Pavlic, Svilokos and Tolic, they aimed to measure the association among tourism demand and its independent variables. It involves exchange rate and economic growth and choose Croatia as their case study. They were taking panel quarterly data crossing from year 1996 until year 2013. In order to observe the relationship, they had run the unit root test, ADF test, PP test, Johansen co-integration test and Kwiatkowski–Phillips–Schmidt–Shin test. Different trial carried the different representative. The result was able to evidence there had long-run causation among tourism entrances and ER with a negative relationship and significant value of coefficient. On the other side, short run causality also being proved by the outcome of Wald test.

Furthermore, Samirkas and Samirkas had done a research project on tourism segment in year 2015. They set tourism demand as their dependent variable and exchange rate as their explanation variables. They collected data of Turkey since year 1985 until year 2013 for their case study. In order to observe the affiliation between tourism revenue and ER, Co-integration and Granger Causality test were being conducted. In Granger Causality test, both of them existed a causative relation as tourism revenue of each person can be a factor of exchange rate programme in Turkey. Besides that, their study result reveals there was no significant relationship among exchange rate of Euro from Germany as well as the exchange rate of USD from United States. Instead, there was a significant relationship on exchange rate of GBP from United Kingdom.

Borhan and Arsad (2016) had completed a study of tourism demand with the appropriate determinants such as exchange rate, GDP as well as CPI in substitute country of Malaysia. The data set of this study was form up with 16 years of quarterly data of six countries. In order to generate a root test for all the variables, ADF and KPSS are used in this study. For the variables relationship, the ARDL bound test is used behind the unrestricted error correction model (UECM). Long-period and short-period relationship were being tested in this test. From the ARDL bound test, the result was different for every country. For France and Sweden, the result presented a long-run significant positive influence to the tourism demand. Germany showed a positive result but not significant. Other than that, Denmark, Netherlands and United Kingdom showed that exchange rate were bringing long-run negative impression to tourism Malaysia.

Other than that, Khandaker and Islam had completed a research on tourism demand with its determinants which includes exchange rate, GDP, export of goods and more on in year 2017. The data of ER in this research was collected from year 2004 until year 2013. Linear regression model was being used in order to stable the investigation of panel data. Besides, from the least square model analysis we can saw that a upper exchange rate will giving an impact on the arriving worldwide tourism demand. In a nutshell, ER acting an important character in boosting tourism demand of a country. It was proving by the result of the tests with a higher exchange rate was adversely associated with global tourism demand.

Meo, Chowdhury, Shaikh, Ali and Sheikh had done a research project which involve the effect of ER towards tourism demand as well as oil rates and inflation. In this research, there include total six variables and one of the significant variable is exchange rate. They used Pakistan as their case study and the data had been taken from year 1980 until year 2015. NARDL had been used in the purpose of observing the co-integration among the TA and its determinants. Based on the approximation, if there was a rise in ER means the origin country's currency depreciation will positively affected on tourism demand. From those tests, the result shown that exchange rate and tourist arrivals had a long-run asymmetric nexus as the negative and positive module's coefficient size are not the equal.

Azhar, Kucoro and Sebayang (2018) had finished a research project that mainly focused on the influence of exchange rate towards tourism demand. They used Indonesia as their case study and collected the data since year 2004 until year 2016 by month. In the research, they used tourist arrival receipt as the proxy of tourism demand. In order to estimate the relationship among tourist arrivals and exchange rate, Vector Auto-regressive model and Granger Causality test

were being conducted. The result disclosed there was an insignificant coefficient of correlation and it was countercyclical due to the negative reaction of exchange rate after the shudder of tourism demand. Hence, it means the relationship between tourism demand and exchange rate was negative. Other than that, Granger Causality test specifies that the results was derived that the causality was happen betwixt these two variables.

In the study that done by Tung in year 2019, the relationship between tourism demand with its determinants variables. They used Vietnam as their case study and the monthly data that collected from the year 2006 to year 2018. In this study, foreign tourist arrival of Vietnam was set as the dependent variable and proxy of tourism demand. For estimation on the relationship among exchange rate and tourist arrivals of Vietnam, OLS method was being used in this study. Besides, Granger Causality test also being conducted to see whether there have casual nexus or no. From the stated result, it revealed that exchange rate was positively bringing influence to the dependent variable. For the granger causality test, it shown there is only one-way effect among exchange rate and tourist arrivals.

2.1.4 Inflation and Touirsm

In our study, we use inflation as independent variable to examine tourist arrivals as well. According to Rahim (2013), inflation happen when the prices of goods and service rise speedily and it reduces the customers' purchasing power. Besides, there are three categories of inflation which are Cost-push inflation, Demand-pull inflation as well as Monetary inflation. Firstly, cost-push inflation happens because of the rising of production cost such as labour cost forces

business to rise their selling prices to cover the cost. Secondly, Demand-pull inflation occurs when demand of goods and services more than production capacity. Lastly, monetary inflation is because money supply increase, more money is obtainable, spending and demand increase, thus cause price increase eventually.

In addition, there are two types of inflation rates as well which are predictable inflation and unpredicted inflation. Predictable inflation rate can be expressed as the outcome that economists and customers plan annually while unpredicted inflation is further than the expectation. The usually proxy used by the researchers for inflation is CPI. However, consumer price is taken as the measurement of inflation in our study. After reviewing the past studies about inflation and TA, we found that most of them are claiming there is a significant and negative nexus between inflation and TA. However, there is still some researches hold opinions that inflation is not a significant variable to determine TA.

According to Hanafiah, Zahari, Radzi and Othman (2007), the study focused on examine tourism demand in Malaysia with the explanatory variables such as GNI in terms of income, price, real exchange rate, inflation, distance, population as well as the financial crisis. The data was collected from year 1992 to year 2005. They referred the tourist arrivals from few countries which involved Indonesia, Hong Kong, Thailand, Australia, Taiwan as well as China. They used gravity model in their study so as to observe changes on all variables. Furthermore, CPI was usually being used to gauge inflation. From the result of the test, it shown that it is positive relationship among inflation and tourism demand. Their interpretation could be interpreted as if government willing to spend more funds on improvement of living conditions, then it will bring positive impact towards tourism Malaysia.

Nanthakumar, Ibrahim and Harun (2007) had completed a research on the impact of CPI towards tourism demand. The data was collected from year 1980 until year 2007. For the economic model, they innovated it to natural logarithm to simplify explanation of coefficient. Unit root tests also being tested to estimate the stability of all those variables. Besides, the cointegration tests was being tested in order to estimate the long-period nexus among CPI and tourism demand. The co-integration test include Johansen and Juselius cointegration test. Besides, granger causality test also being carry on so as to estimate the long-period causal relationship. As an economic indicators, it is not surprising to revealed that consumer price index can considered as a significant determinants that affecting tourism demand. In the result given in the study, it mentioned that causality was more ruling on the consumer price index.

Hanafiah and Harun (2010) completed a study on analysed the determinants of tourism demand. The determinants included GNI, CPI, ER, population, distance and financial crisis. The period covered in this study was from year 1993 until 2007. Besides, modified gravity model has applied to the research method. In this study, they expected the CPI will reduce the number of tourists. The result shows that there is a negative connection among inflation with tourism demand. This would be interpreted that any decrement in TA to Malaysia when there is an increase in consumer price index of Malaysia. If there was one percent increase in the CPI rate, the TA in Malaysia will reduce the by five point one six percent.

Aulia and Ayu (2013) argues that inflation is insignificantly and negatively influencing the quantity of medical tourists who are from North Sumatera and looking for medicinal therapy in Malaysia. Inflation in this research represents the buying ability of original country which is North Sumatera. Multiple regression technique is taken in the research methodology of this paper.

Furthermore, the collected data set in this paper is monthly data within a period of 12 years which are from 2000-2011. From the result, there is a negative sign in inflation which indicates that when inflation rise, the quantity of medical tourists will decrease. In addition, according to the result, it shows that inflation is not reactive to the quantity of medical tourists. By looking at the outcome from regression, inflation is not significant to influence medical tourists' quantity.

The same findings has been done by Yong (2014) towards 14 European countries from year 1988 to 2010. The methodology that has been included in this research are Feasible Generalized Least Squares method which can get the accurate estimation and Seemingly Uncorrelated Regression (SUR) method that allow to correct the bias in coefficient covariance. He conducted the research for the impact of innovation in tourism sector could be affected by the inflation of the countries. He also concluded that the increasing of costs of travelling could definitely reduce the number of tourists to travel to that country. It will not only reduce the number of international tourists but as well as local tourists. It is to be said that the innovation in tourism sector could significantly attract the tourists, but the high costs arise from inflation could affect it negatively. However, the inflation can be offset if there are sustainable development of innovation in the tourism sector.

According to Chua et al. (2018), they had make an investigation towards the tourism demand for 8 ASEAN countries which include Malaysia, Indonesia, Singapore, Thailand, Vietnam, Cambodia, Laos and Philippines. This research is based the data from year 1995 to 2015 which also indicate that they had conduct a panel data research. Through the research, they found that CPI is the major of the determinants that will significantly affect the tourism demand of these countries. This is because the consumer price index or inflation has a

negative relationship on tourism demand. When inflation rate is high, definitely this will cut down the number of tourists that willing to go for travelling. As the price for the products of services increase, this will decrease the purchasing power of the tourists, thus, it will affect the tourism sector.

According to the research that done by Meo, Chowdhury, Shaikh, Ali and Sheikh (2018), they focused the effect of determinants variables towards tourism demand in Pakistan. They collected the data from year 1980 until year 2015. CPI had been set to the proxy of inflation in their research. Besides, the study using NARDL model and also non-linear cointegration methodology to examine the long-period or short-period connection and also asymmetric effect towards tourism demand. The results shown that there was the presence of long-run effect from inflation to tourism arrivals. From the research, it revealed that the decrement and increment of inflation was bringing negative effect to tourist arrivals. Their explanation on this situation was the inflation was directly connected with the purchasing ability. This is due to the increment in inflation will lower down the tourist's purchasing ability. Hence, they will not travel to the costly place.

From Motsatsi (2018), it shows that inflation rate is negatively and significantly affecting the number of tourist's arrivals in Southern Africa Development Community (SADC) county. The researcher uses Generalised Least Squares (GLS) estimation as the method in this study. Furthermore, panel data had been conducted in this paper. The cross-sectional data includes 12 SADC nations while the annual time series data for each nation is within 1997-2015 which is 19 years. In this research, the researcher only takes 12 SADC nations into consideration is because insufficient of data. From the outcome of this study, the researcher discovers that there is a negative sign on inflation. This negative sign indicates that tourist's arrival is negatively correlated to inflation. In

addition, the p-value of inflation is 0.0000 which lower than 0.05. Therefore, it represents that inflation is statistically significant in influencing the tourist's arrivals.

In Soofi, Rafsanjani, & Zamanian (2018), a research was completed to examine the influences that making impact on tourism demand in certain OIC countries on period of 2004 to 2016. The financial variables that being test in this paper are TA, GDP, ER, population, trade openness and CPI in terms of inflation. GLS method has applied to the research model. The result specifies that the inflation variable has positively affect tourism demand on those particular countries, and it was almost zero value, but has little meaning in interpreting TA. Hence, it can be said that the TA to OIC countries is not too sensitive to the fluctuations in inflation and the function of tourism demand, because the relationship with costs is not flexible.

Sulasmiyati (2019) investigated on the impact of inflation towards tourism of Indonesia in terms of number of tourists that travel to Indonesia from year 2010 to 2018. In this research, quantitative analytical method has been used. Through this research, she found out that when the price increases, it will directly impact the tourist arrivals for Indonesia negatively. This is because the prices of the goods tend to be higher compared to the previous time. Thus, it decresing the number of the tourists that travel to Indonesia. As to that, she also mentioned that the government should focus the tourism industry by increasing the national income. Other than enhance the imfrastructure and facilities for the tourist, she also emphasizes on the convenience of business in the tourism industry. In fact, quantitative and qualitative policies should be carry out to control the inflation.

2.2 Research Gap

From previous studies, we found that financial development variable is not used as more as other variables such as income variables by the researchers to determine tourist's arrivals. In other words, there are only few studies discuss on investigating the effect of financial development on tourist's arrivals. Hence, we would like to use financial development as our independent variable to determine the tourist's arrivals. The reason of this decision is because we believe when a country has strong financial development, it can improve the tourism infrastructure. Thus, by having advanced tourism infrastructure, people will become more interested to have a trip on that country. Besides, in the few studies, those researchers usually use money supply as the proxy of financial development such as Ridderstaat et al. (2016). Instead of following those researchers, we make decision to use private credit as the proxy of financial development in our research. This is because private credit can provide funds to the private organizations especially those in tourism sector. The organizations can use the funds to improve their infrastructure and make advancement on their business.

2.3 Conclusion

To sum it up, the outcomes of past studies from previous researches are different. Most of the researches show there is a significant relationship between the independent variables (income, exchange rate, inflation and financial development) and tourist's arrivals. However, everything has two sides. From the researches we have studied, there are few studies claim that the nexus among explanatory variables (GDP, exchange rate, inflation and financial development) and tourist's arrivals is not significant. Due to this situation, we would like to further estimate the nexus between dependent variables and its determinants. In next chapter, we will make discussion on the research methodology.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The research approach performs to solve the research question systematically. It is a process of how to conduct research and examine the concepts or theories in a particular field of research. Hence, in Chapter 3, we will discuss in details of the research methodology used in this study to make the project complete and working well. This chapter is divided into five different research stages, in more detail. In this research the first stage involves a description of the data collection process. In the first stage, it will explain how to analyze the collected data. The second stage includes model specification, which is the process of determining which variables to include and excluding them from the regression equation.

The expected relationship has discussed in the third stage while next stage is an analytical approach, followed by the final section presenting a diagnostic-checking discourse. The unit root test has been used in analytical method of data analysis to examine whether financial variables obey random walks that included the Augmented Dickey-Fuller Test (ADF) and the Phillips-Perron Test (PP). After that, an Autoregressive Distributed Lag (ARDL) long run and the bound test has been applied for this research to investigate the long term relationships in tourism model. If the equation is co-integration, an Error Correction Model (ECM) could be formed to estimate the short-run relationship.

The reason that we choose ARDL method is due to the sample size data used in this research is small, which is 19 observations. There are few studies have applied ARDL method with a sample size of not more than 30 observations (Halicioglu & Ferda, 2008; au-Oskooee & Ng, 1970). After empirical methodology, there is a procedure to analyze the data of this study. Some econometrics issues such as multicollinearity, heteroscedasticity, autocorrelation, Ramsey reset test and normality test will be studied to enhance the accuracy of the tourism model.

3.2 Data collection

Data collection process is the first stage of any field of research. It is done to obtain an appropriate data to address its study's research goals. Based on our analysis, we wish to examine how the tourism model is affected by independent variables which included GDP, exchange rate, inflation and financial growth.

Quantitative analysis deals with data that are numerical or can be translated into numbers, which is called statistical methodology. Statistical techniques are related to the analysis, explanation and performance of numerical data. For this quantitative analysis, the secondary data were collected to analyse the relationship between independent variables and tourist arrival. The reason that we choose to collect secondary data is that it is a larger and higher quality database. Besides, compared with primary data, secondary data is easier to access since it is offered on different platforms that researchers can access.

Table 3.1: Data Collection

Variables	Measurement	Data sources
Tourism (TA)	International Tourist Arrival to Malaysia	World Bank
Financial development (FD)	Domestic credit to the private sector	World Bank
Gross Domestic Product (GDP)	Gross Domestic Product per capita (constant LCU)	World Bank
Exchange rate (ER)	Home currency (MYR) against Foreign currency (USD)	World Bank
Inflation(CP)	Consumer Prices	World Bank

This research used the annual data of tourism, GDP, exchange rate, inflation and financial development from 1995 until 2018 which total of 24 years. Tourism is proxy by International tourist arrival to Malaysia and it is collected from World Bank Group. Domestic private-sector credit is also collected from World Bank Group. Domestic credit to private sector acts as a measurement of financial development as it refers to the financial firm providing financial resources to the private companies through loans, non-equity securities purchases, and commercial credit and other receivables. Hence, the private sector able to develop tourism sector by using the funds from the financial company.

GDP per capita is collected from the database of the World Bank Group with constant local currency. Since GDP in current series are affected by the price inflation while constant series are adjusted for the effects of price inflation, so GDP in constant series used as a proxy for income ("What is the difference between current and constant data?", n.d.). The exchange rate that measured Malaysia currency against USD currency

exchange rate that collected from the World Bank Group. Malaysia's consumer price, which used to measure Malaysia's inflation, is collected with an annual percentage from World Bank Group database.

3.3 Research Framework

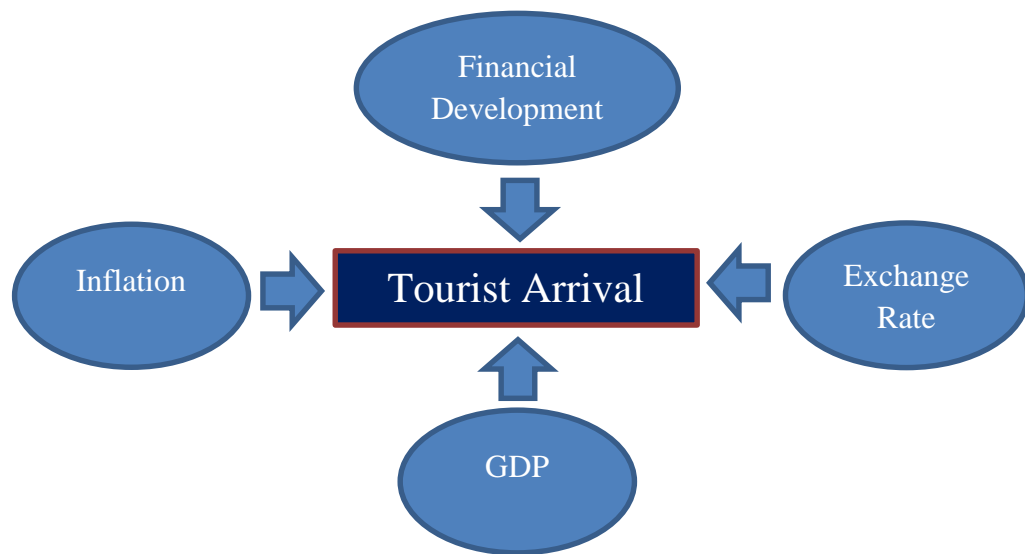


Figure 3.3: Research Framework

The diagram above shows that GDP, Exchange Rate, financial development, and inflation are independent variables for this study while Tourist Arrival is the dependent variable to be tested in this study.

3.4 Model specification

As refer to literature review at above, an economic model as to be formed to examine the nexus between tourist arrival and GDP, exchange rate, inflation, and financial development:

The economic model specified as below:

$$\text{Tourist Arrival} = f(\text{FD}, \text{GDP}, \text{ER}, \text{CP}) \text{--equation (1)}$$

The different measurements for each variable caused various types of functional relationships in the economic model between the variable. That could not form a linear regression model in the presence of nonlinear relationship in the variable. As such, the natural logarithmic method is used to address situations where there is a non-linear relationship between the independent and dependent variables, and unit measurement is standardized. In addition, logarithmic transformation converts a extremely skewed variable to one that is roughly ordinary in order to reduce the effect of the outlier in the observation. (Benoit, 2011).

So, an economic model from equation (1) has been modified into a log-log econometric model as below:

$$\ln TA_t = \beta_0 + \beta_1 \ln FD_t + \beta_2 \ln GDP_t + \beta_3 \ln ER_t + \beta_4 \ln CP_t + \varepsilon_t \text{--equation (2)}$$

Where:

$\ln TA_t$ - Logarithmic of tourist arrival of international tourist to Malaysia in year t;

$\ln FD_t$ - Logarithmic of the financial development (domestic credit) in Malaysia in year t;

$\ln GDP_t$ - Logarithmic of the GDP per capita of Malaysia in the year t;

$\ln ER_t$ - Logarithmic of the exchange rate of USD against MYR in year t;

$\ln CP_t$ - Logarithmic of the consumer price in Malaysia for an international tourist in year t;

ε_t - Error term in year t.

3.5 Expected sign

3.5.1 Financial Development and Tourist Arrivals

We expect there is a positive sign on LFD in the equation. So, we assume that there is a positive relationship between these two variables. When financial development increase, it means that there are more domestic private credit can be utilized on improving tourism infrastructure. With advanced tourism infrastructure, tourist will more interest to have a trip in Malaysia. This would cause tourist arrivals of Malaysia increase, holding other variables constant.

3.5.2 GDP and Tourist Arrivals

We expect there is a positive sign on LGDP in the equation. Hence, we assume that there is a positive relationship between these two variables. As GDP of host country increase, this means that they have more disposable income. This would cause the tourist arrivals of Malaysia increase as well, holding other variables constant.

3.5.3 Exchange rate and Tourist Arrivals

We expect there is a negative sign on LER in the equation. Therefore, we assume that there is a negative relationship between these two variables. When exchange rate of Malaysia decrease, this reduction indicates that the tourist can exchange more MYR for their trip. This would cause the tourist arrivals of Malaysia will increase, holding other variables constant.

3.5.4 Inflation and Tourist Arrivals

We expect there is a negative sign on LCP in the equation. Thus, we assume that there is a negative relationship between these two variables. As inflation of Malaysia increase, price of goods and services increase which indicates that the travelling cost increase as well, this will cause tourist arrivals of Malaysia decrease, holding other variables constant.

3.6 Empirical Methodology

To review the model, unit-roots test, ARDL, long run and bound test and error correction model (ECM) will be discussed in this part.

3.6.1 Unit Root Test

A unit root is a random trend in time series and it is a universal process to determine whether the time series variables follow random walks (Stephanie, 2019). If a time series' statistical properties do not change over time, then the time series is stationary. This could also be said that if the series does not consist a unit root, its properties are stationary and thus show a mean reversal as it fluctuates around a long-term mean constant. If the series has a unit root, though, it means that the time series is not stationary. It described as non-stationary processes and tend to not return to long-term deterministic paths. Non-stationary series are continually influenced by unintended shocks.

According to the Peasaran et al. (2002) state that to adhere with the underlying principles of the ARDL boundary checking approach to cointegration, the order of integration of each of the variables has to be in $I(0)$ or $I(1)$. As an example, if the order is greater than one variable $I(2)$, then the essential boundaries are invalid. For this reason, it is important to check the unit root before moving to the estimation stage to ensure that all variables obey the fundamental assumptions of the ARDL bound testing method of the co-integration method.

3.6.1.1 Augmented Dickey-Fuller Test (ADF)

The Dickey-Fuller Augmented Test (ADF) is one of the unit root tests that can be used to check whether the series is stationary or not. It also is one of the most commonly used statistical tests and is intended for both more complicated and a broader range of time series models.

As follows, an Augmented Dickey-Fuller (ADF) model could be discussed (Shrestha, & Bhatta, 2018):

$$\Delta y_t = \mu + \delta y_{t-1} + \sum_{i=1}^k \beta_i \Delta y_{t-i} + e_t$$

where,

$$\delta = \alpha - 1$$

$$\Delta y_t = \text{First difference of } y_t$$

$$\alpha = \text{coefficient of } y_{t-1}$$

and, the hypothesis of the ADF is developed :

H_0 : A unit root in the series.

H_1 : No unit root in the series.

The purposes of developing the hypothesis of ADF is to estimates the variable will stationary on the level (intercept, or intercept and trend), or stationary on the first different with (intercept, or intercept and trend). We able to reject H_0 if the p-value of the variable is less than the significance level which is 0.01, 0.05 and 0.10. Otherwise, do not reject the H_0 .

3.6.1.2 Phillips-Perron Test (PP)

The Phillips-Perron (PP) test is an enhancement on the Dickey-Fuller test, which tries to fix the autocorrelation and heteroscedasticity in statistics. The root unit PP test is identical to the ADF test, the key difference being how each test handles the serial correlation. PP unit root does not need any level of serial correlation as is a non-parametric test and thereby allow a wide range of time series models that are consist of unit-roots.

Besides, the Phillips-Perron test is a method to have significant advantages once the average components in the time series are going to move, and it offers an alternative to the ADF test. (Philips, &Perron, 1988).

$$\Delta y = \pi y_{t-1} + \beta_i D_{t-i} + e_t$$

Where, e_t is the zero-order with zero means, D_{t-1} is a deterministic trend component.

The Phillips-Perron (PP) test null and alternate hypothesis is the same as the ADF test as follows:

H_0 : A unit root for the series.

H_1 : No unit root for the series.

The hypothesis of the PP test also involved in the level with (intercept, intercept and trend) and the first difference with (intercept, intercept and trend). The decision rule of the PP test same as ADF test, reject H_0 if the p-value is less the

significant level of 1%, 5% and 10%. In the end, if all the variable is significant either in the level or first different form, we could proceed to the next stage.

3.6.2 Autoregressive Distributed Lag (ARDL) Model

Autoregressive Distributed Lag (ARDL) models have been used to evaluate dynamic relationships with time-series data in a single-equation. ARDL models can separate into two part which is the autoregressive part and the distributed lag part. Autoregressive allow the current value of the dependent variable to follow by its past value. The distributed lag part means the current and past values of additional explanatory variables.

According to the Nkoro and Uko. (2016) found that recent developments in econometrics have shown that, at times, most time series is not stationary, as conventionally assumed. As a result, different time series may not show the same characteristics. As a result, it is possible to see certain time series that display the function of diverging away from their mean over time, while others may converge to their mean over time.

Thus, the cointegration of the ARDL being a solution to solve this issue of non-stationary and restriction of the lag structure in a model as it enables to detect the appearance of a consistent state of equilibrium between variable. Besides, The ARDL model is a model based on ordinary least squares (OLS) and is suitable for non-stationary time series and time series with mixed orders of integration. When analysing an economic scenario, it plays an important role since changes in any economic variable may bring changes in other economic

variables. This change will not be reflected immediately but will be distributed in the future.

Narayan (2004) conclude that the ARDL approach to checking the presence of a relationship between variables across levels and which applies to irrespective of a variable whether those are merely $I(0)$, or $I(1)$, or mutually cointegrated. If the presence of mutually cointegrated between the variable, it can estimate the long-run and short-run elasticity by reparametrized into the Error Correction model.

Moreover, the present study aims to investigate the short-run and long-run relationship for the tourism model. No doubt to say, ADRL method is a method that suitable for us to analyze the present study as it is suited to small sample sizes, free from the residual correlation and enable to identify the integrated vector.(Narayan ,2004;Nkoro & Uko,2016).

3.7 ARDL Bound Test

ARDL bound test was developed by Pesaran and Shin (1998) and Pesaran et al . (2001) to investigate the importance of the variable's lag level in the univariate error correction system. This restricting method is an extension of modeling of ARDL (Omoniyi & Olawale, 2015). A lot of researchers agree it has advantages over traditional studies of cointegration. One of the advantages is that the ARDL bound test does not need to combine all study variables in the same order as it is ideal for a combination of stationary and non-stationary time series. Furthermore, in the case of small and restricted sample data, the ARDL test is much more efficient compared with other

methods. An unbiased estimation of the long-run model can be obtained by applying the ARDL bound test.

$$\begin{aligned}\Delta LTA_t = & c + \beta_0 LTA_{t-1} + \beta_1 LGDP_{t-1} + \beta_2 LER_{t-1} + \beta_3 LCP_{t-1} + \beta_4 LFD_{t-1} \\ & + \sum_{i=1}^p \varphi_0 LTA_{t-i} + \sum_{i=0}^q \varphi_1 LGDP_{t-i} + \sum_{i=0}^r \varphi_2 LER_{t-i} + \sum_{i=0}^s \varphi_3 LCP_{t-i} \\ & + \sum_{i=0}^t \varphi_4 LFD_{t-i} + \varepsilon_t\end{aligned}$$

The hypothesis of ARDL bound test is stated as follows:

H_0 : No cointegration.

H_1 : Cointegration.

For the bound test, it is based on F-statistics compared with critical value. The critical value is computed by Pesaran et al. (2001) or Narayan (2005). The critical value computed by Pesaran et al. (2001) is not suitable for small samples size, therefore Narayan (2005) critical value must be used.

When the value of the test statistic is greater than the critical upper bound, the null hypothesis will be rejected. It means that there is cointegration occurs between the series. In contrast, the null hypothesis will be accepted if the value of the test statistic is smaller than the critical lower bound. However, the cointegration test is considered inconclusive when the value of the test statistic falls between the critical upper bound and critical lower bound. As the cointegration occurs, a reparameterized result will give the short-run dynamics and long run relationship of the considered variables

3.8 Error Correction Model (ECM)

Error correction model (ECM) is a short-run model and can be derived from ARDL via a simple linear transformation. The ECM combines the short-run dynamics with the long-run equilibrium without losing long-run insight to avoid problems such as the spurious relationship that emerges from non-stationary time series data. Moreover, error correction model (ECM) is a standard method for modelling time series equations. It is multiplied by the time series model, which can estimate the speed at which the dependent variable returns to equilibrium after the independent variable alterations. The equation can be specified as below:

$$\Delta Y_t = a_0 + b_1 \Delta X_t - \pi \hat{u}_{t-1} + e_t$$

Where,

a = constant term

b_1 = short-run coefficient

\hat{u}_{t-1} = error correction term

π = coefficient of the estimated lagged residual of equation (adjustment effect)

e_t = white noise error term

The error correction model (ECM) has a few advantages. The advantages of this model is that it provides short-term dynamics of the co-integrated variables to their long-term equilibrium values (Keele & De Boef, 2004). The error correction model (ECM) can also handle non-stationary variables and distinguish both the long-term relationship and the short-run relationship. If there is a cointegration relationship, the error correction model (ECM) is formulated based on the first difference, which can usually mitigate the trend of the variables involved and solve the false regression problem.

3.9 Diagnostic checking

Diagnostic checking which included multicollinearity, heteroscedasticity, autocorrelation, normality and model specification error will be discussed in this part. The purpose of diagnostic checking is to detect econometrics problems.

3.9.1 Multicollinearity

In the multiple regression model, multicollinearity typically occurs when there is a very strong correlation or interrelated condition between independent variables. This problems might cause by the inappropriate use of dummy variables, for instance, a same or similar variable is included in the model. Multicollinearity can usually result in greater confidence intervals and accurate probability (P) values for independent variables. It will cause a misleading result in the t-test and F-test (Stephanie, 2015). Multicollinearity can be detected with the help of tolerance and its reciprocal, called a variance inflation factor (VIF) and tolerance level (TOL). In particular, VIF and TOL are calculated by using the equation as below:

$$VIF = \frac{1}{1-R_j^2}$$

$$TOL = \frac{1}{VIF}$$

The hypothesis of the multicollinearity test is stated as below:

H_0 : No multicollinearity problem in the model.

H_1 : A multicollinearity problem in the model.

The value of 1 indicates that this independent variable does not correlate, while the value of 1 and 5 indicates a moderate correlation, which is not adequate to ensure corrective action. The value which is greater than 5 is a high correlation. The value of VIF above 10 and the value of R-squares above 0.90 is usually highly correlated and cause for concern. If VIF's inversely proportional relationship, the tolerance value (TOL) is 0 because of the higher the degree of multicollinearity of that variable with the other regressions, and otherwise. A lower TOL value implies a high correlation between one of the variables and the rest of the independent variables.

The problem of multicollinearity can be solved with the ridge regression. Ridge regression is a multiple regression data analysis method that suffers from multicollinearity. The least-squares estimation is objective when multicollinearity happens, but their variation is high and they can be far from the actual value. By applying the regression estimate to a certain degree of bias, ridge regression will reduce the standard error. A more accurate estimate will be given for the net impact.

3.9.2 Heteroscedasticity

The concept of heteroscedasticity is the opposite of the homoscedasticity. Heteroscedasticity is unequal dispersion. In regression analysis, heteroscedasticity is related to residual or error terms and system variations in which the residual distribution is within the range of measurements. The homoscedasticity is the case where a variable's variation within the range of values predicting the second variable is not equal (Taylor, 2013). The model includes a few ways to detect heteroscedasticity.

In econometrics, the White test is a common test that first allows one or more of our independent variables to function in this heteroscedasticity process. This is similar to the Breusch-Pagan test and the key difference is that it does not have cross terms or initial squared variables in its auxiliary regression (Stephanie, 2017). In addition, other tests were designed to detect heteroscedasticity existences such as the Autoregressive Conditional Heteroscedasticity (ARCH) test, Park test, and the Glesjer test. The hypothesis of heteroscedasticity is stated as below:

H_0 : Homoscedasticity in the error term

H_1 : Heteroscedasticity in the error term

After setting the hypothesis, test statistic must be generated. The test statistic for Autoregressive Conditional Heteroscedasticity (ARCH) test is refer to the F statistic on the squared residuals in the regression. Reject null hypothesis if the measured test statistical value is greater than the critical value at the specified sense point. The critical values are adapted from the Table of Chi-squared. The decision-making process is based on a comparison of critical values and the value of the test results and then the conclusion is drawn.

One way of solving the problem of heteroscedasticity is to redefine the variables. If the model is a cross-sectional model with large sample size differences, researchers may find various ways to define models that. The effects of size differences. Other than that, researchers can change the model to the rates and per capita values by using the raw measure. Naturally, this kind of model answers somewhat differently with determining this approach is appropriate is suitable for both data and result (Frost, 2019).

3.9.3 Autocorrelation

Autocorrelation could also be called serial correlation, since it tests the relationship between a variable's current value and its past value. The autocorrelation is a characteristic of data in which the interrelationship between the values of the common variables is based on the associated objects. Autocorrelation normally occurs unexpectedly when the data is adapted from the same sources instead of adapted randomly. There are 2 types of correlation, which are positive serial correlation and negative serial correlation (Bock, 2019). The +1 autocorrelation is a perfect positive correlation while the -1 autocorrelation is a perfect negative correlation. Autocorrelation tests linear relationships; while the autocorrelation is small, the time series and its lag version may have a nonlinear relationship.

Statistical tests are needed to rule out the possibility of sampling errors leading to autocorrelation. One of the main statistical test is called the Durbin Watson test. The Durbin-Waston test is based on the assumption that the regression model errors are created by an autoregressive first order process that is observed at equally spaced times. If there are omitted observations, the observations are excluded from the calculations and those non-missing observations are used. There are two forms of autocorrelation that included either pure or unpure. Only if the autocorrelation is pure, the researchers will transform the autocorrelation into the original model that does not exist. The Durbin Watson test hypothesis is set out as below:

H_0 : First-order correlation absence.

H_1 : First-order correlation presence.

After that, the test statistic will be generated by using a formula which is the sum of difference squared divide by the sum on errors squared. The decision rule is if $d < d_L$ reject H_0 , if $d > d_U$ do not reject H_0 , if $d_L < d < d_U$ test is inconclusive. The critical values of the d_L and d_U are adapted from the Durbin-Watson Table. The decision is based on a comparison of the critical value with the test statistic value and then a conclusion.

In addition, the other method to detect autocorrelation is Breusch-Godfrey serial correlation Lagrange Multiplier (LM) test. It is a test of the error autocorrelation in the regression model. It uses the model residuals considered in the regression analysis and derives test statistic from it. The hypothesis of the Lagrange Multiplier (LM) test is stated as below:

H_0 : No Autocorrelation problem in the model

H_1 : An autocorrelation problem in the model

The decision rule is to reject H_0 when the test statistic is larger than the critical value, otherwise do not reject. The test statistic value is computed using $(n-p)R^2$ while the critical value is then computed using the formula of $X^2_{\alpha, p}$. After that, the decision making is then computed based on the test statistic and the critical value completed previously.

The additional independent variable is usually auto correlated in the regression analysis because one or more important predictors have been excluded from the analysis. Hence, researchers can produce new variables to resolve the problem of autocorrelation. The variables must generate using the change of percentage from time to time and deteriorate those new variables. Besides, transform the data in the variables is one of the methods to overcome the autocorrelation problem. This method is known as first differences approach. By using this method, all values of X are subtracted from the subsequent period values of X

and the difference becomes the new X variable. To convert the Y variable, the process used is still the same. Then use the new X and Y variables to enumerate the regression analysis to calculate the new model.

3.9.4 Normality Test

The normality test is a statistical tool used to evaluate whether a sample or other set of data conforms to a typical standard distribution. Many statistical functions require normal or near-normal distribution. Normal tests can be performed mathematically or graphically. It commands performs hypothesis tests to examine whether or not the observations follow a normal distribution. If the variables are normally distributed, parametric statistics can be used based on these assumptions. For small sample sizes, the normality test has little ability to reject the null hypothesis, so small samples most often pass the normality test (Ghasemi & Zahediasl, 2012).

Jarque–Bera Test (JB test) is one of the tests for normality. It is typically used for large data sets, and when the sample is high, certain normality tests are inaccurate. This normalization is based on normality since $S=0$ and $K=3$ for normal distribution and their asymptotic variances are $6/n$ and $24/n$ respectively. Therefore, under normality, the Jarque-Bera test statistic follows also a chi-squared distribution with two degrees of freedom. $JB = n[\frac{S^2}{6} + \frac{k^2}{24}]$, where the sample size is n , the skewness is s and the kurtosis is k . The Jarque-Bera test hypothesis is set out as below:

H_0 : Error terms are normally distributed in the model.

H_1 : Error terms are not normally distributed in the model.

A substantially higher value of JB than the critical value at a significant level of 1 %, 5% or 10% contributes to the rejection of the presumption of normality. In addition, this test can also use the method of comparing p-value with the significance level. If the p-value is less than or equal to the significance level, then decide to reject the null hypothesis and conclude that the data does not follow a normal distribution. In contrast, if the p-value is greater than the significance level, then the null hypothesis cannot be rejected. It is always a good idea to check the JB test with p values as if a small p-value and a large chi-square value in the test mean that we can reject the H0 of the data's normal distribution.

3.10 Conclusion

As the end of this chapter, the ARDL method will be used to analyse all the variable data from 1995 to 2018 to determine the short-run and long-run impact in the model of tourism. Further results of the study will appear in Chapter 4.

CHAPTER 4: DATA ANALYSIS

4.1 Introduction

In this chapter, it presented all the findings of the data outlined in chapter 3. The empirical result will be included in this chapter are the unit root test, ARDL bound test, error correction model (ECM) and the diagnostic checking. All the empirical findings have been captured in a structured table form to illustrate clearly the relationship between the tourist arrival and its independent variables. These empirical results enable us to discuss the short-run and long-run relationship in the tourism model. Moreover, the findings will be a reference to us in discuss how financial development influence the tourism of Malaysia for the future in chapter 5.

4.2 Unit Root Test

Table 4.2.1 Result of Unit Root Test (ADF)

Augmented Dickey-Fuller (ADF)				
Variables	Level		First Difference	
	Intercept	Intercept and trend	Intercept	Intercept and trend
LTA	-1.116755 (0)	0.254654 (4)	-4.429158*** (0)	-6.550971*** (3)

LFD	-1.127960 (0)	-1.223231 (0)	-3.748408** (0)	-3.768884** (0)
LGDP	0.321928 (0)	-2.435985 (0)	-5.429452*** (0)	-5.728380** (0)
LER	-3.504040** (1)	-3.277392* (1)	-3.543044** (0)	-3.569154* (0)
LCP	-4.640543*** (0)	-4.643247*** (0)	-5.729453*** (1)	-5.531288*** (1)

Note: ***, **, and* denote significant at 1%, 5%, and 10% significance levels.

Source: Eview output

Augmented Dickey-Fuller (ADF)

Based on the table 4.2.1 above, it shows the T-statistic of each variable in the ADF test. From the T-statistic of each variable, we could conclude that the dependent variable (Tourist Arrival), independent (GDP, Financial Development) are stationary at the first difference with the 1% and 5% significant level respectively. Meanwhile, the independent variable (Exchange Rate and Consumer Prices) are integrated at level from by using the ADF test with 1%, 5% and 10% significant level respectively.

Table 4.2.2 Phillips-Perron (PP) test

Phillips-Perron (PP) test				
Variables	Level		First Difference	
	Intercept	Intercept and trend	Intercept	Intercept and trend
LTA	-1.110939 (2)	-1.377112 (0)	-4.441006*** (3)	-5.202910*** (8)

LFD	-1.378521 (2)	-1.586141 (2)	-3.74808** (6)	-3.8772526** (3)
LGDP	1.754899 (15)	-1.910355 (10)	-5.713554*** (6)	-12.65268*** (21)
LER	-2.41193 (0)	-2.199713 (0)	-3.543044** (0)	-3.5691454* (0)
LCP	-4.633814*** (1)	-4.639794*** (1)	-18.09909*** (21)	-17.53858*** (21)

Note: ***, **, and* denote significant at 1%, 5%, and 10% significance levels.

Source: Eview output

Phillips-Perron (PP) test

Table 4.2.2 indicated the T-statistic of the Phillips-Perron Test. Based on the outcome, it shows that the dependent variable (tourist arrival), and independent variable (GDP, Exchange Rate, Financial Development) are stationary at the first difference with 1%,5% and 10% significant level respectively. Meanwhile, the consumer price is integrated at level at the 5% significant level.

4.3 Autoregressive Distributed Lag (ARDL)

As the result show that from the ADF test and the PP test, the variables in the equation are integrated at the level and first difference. The ARDL method has been selected for examined the short-run and long-run elasticity in the equation. Thus, an ARDL long run form and the bound test has been carried out to ensure that it is a long-run relationship is present.

Table 4.3.1. Result of ARDL Long Run Form and Bound Test

Bound Test for cointegration						
Critical value bounds of the F-Statitisc						
	90% level		95% level		99%level	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
N=22	2.2	3.09	2.56	3.49	3.29	4.37
K=4						
F-statisic						
(3.135702)						
ARDL Long Run Form						

Variables	Coefficients	Probability
C	0.256380	0.9280
LFD	-1.259189	0.0019***
LGDP	2.398704	0.0000****
LER	-1.679197	0.0084***
LCP	-0.154578	0.1364
R squared	0.980297	
Adjusted R-squared	0.954026	

Note: ***, **, and* denote significant at 1%, 5%, and 10% significance levels.

Source: Eview output

Based on the result above, there is present the cointegrating relationship among the variables. Therefore, a long-run and short-run relationship could be determined. From the result of the ARDL Long Run Form, the financial development, GDP, and exchange rate has significant impact toward the tourism arrival in long-run.

4.3.1 Long-Run Elasticity

Based on the result in table 4.3.1, we are able to interpret the long-run elasticity of the tourism model as follows:

$$\ln TA_t = 0.256380 - 1.259189 \ln FD_t^{***} + 2.398704 \ln GDP_t^{**} \\ * -1.679197 \ln ER_t^{***} - 0.154578 \ln CP_t$$

$$\beta_0 = 0.256380$$

The coefficient of β_0 shown that at least 0.2564% of the international tourist arrive Malaysia will not be affected by all the independent variables.

$$\beta_1 = -1.259189$$

When the financial development of Malaysia increased by 1%, on average, international tourist arrivals in Malaysia will decrease by 1.2592%, ceteris paribus. The result has proven that financial development has a significant long-run relationship at the 1% significant level

$$\beta_2 = 2.398704$$

When the GDP of Malaysia increased by 1%, on average, international tourist arrivals in Malaysia will increase by 2.3987%, ceteris paribus. The result has proven that the GDP has a significant long-run relationship with the dependent variable at the 1% significant level.

$$\beta_3 = -1.679197$$

When the exchange rate of MYR against USD appreciated by 1%, on average, international tourist arrivals in Malaysia will decrease by 1.6792%, ceteris paribus. The result has proven that the exchange rate has a significant long-run relationship at the 5% significant level.

$$\beta_4 = -0.154578$$

When the inflation (consumer price) of Malaysia increased by 1%, on average, international tourist arrivals in Malaysia will decreases by 0.1545%, *ceteris paribus*.

4.4 Error Correction Model

As refer to the result of the bound test result from the Eview output, the F-Statistic of the bound test (3.135702) is greater than the upper bound (3.09) at the 10% significant level. Thus, it is present the cointegration among the variable and an error correction model could be formed to determine the short-run elasticity.

Table 4.4 Result of Error Correction Regression

Variable	Coefficient	Probability
D(LFD)	-1.725073	0.0043***
D(LFD(-1))	-3.466569	0.0057***
D(LGDP)	0.977905	0.2042
D(LGDP(-1))	-3.926213	0.0047***
D(LER)	-0.266808	0.4940
D(LCP)	-0.090993	0.0397**
D(LCP(-1))	-0.114936	0.0348**

CointEq(-1)	-1.085637	0.0004***
R-squared	0.778070	
Adjusted R-squared	0.667105	

Note: ***, **, and* denote significant at 1%, 5%, and 10% significance levels.

Source: Eview output

4.4.1 Short Run Elasticity

The short-run elasticity of the model introduced with the significant lag which has been figure out in table 4.3. In other words, the short-run elasticities are just added significant coefficient of the lag variable. The sum of the coefficient of the financial development in lag zero and lag one, it (-5.1917%) shows that financial development has negative impact on tourist arrival in short-run at the significant level of 5%.

Next, the negative coefficient of the GDP (-3.9261%) indicated the negative impact of the GDP towards the tourist arrival in the short-run at the significant level of 1% and it variate from our expected. The short-run elasticity of exchange rate shows that it is not shor-run relationship between the exchange rate (MYR/USD) and the tourist arrival.

For the inflation (consumer prices), the short-run elasticities is -0.2059%.It is shows a negative relationship between the inflation and the tourist arrival. It is

means that the inflation of the Malaysia increased by 1%, the number of tourist arrival decreased by 0.2059%.

Lastly, the error term coefficient in the LTA equation is statistically significant and negative based on standard t-testing which means that the error term EC_{t-1} contributes to explain the changes in tourist arrival.

4.5 Diagnostic Checking

4.5.1 Multicollinearity

To test for multicollinearity problem, correlations between pairs of coefficients, VIF and TOL have been used in this research. Table 4.4.1.1 shows the result of the correlation matrix.

Table 4.5.1.1: The correlation between pairs of coefficients

	LGDP	LFD	LER	LCP
LGDP	1.000000	-0.466893	0.310690	-0.147798
LFD	-0.466893	1.000000	-0.090040	0.119866
LER	0.310690	-0.090040	1.000000	-0.240898
LCP	-0.147798	0.119866	-0.240898	1.000000

Source: E-views output

According to the table above, the gross domestic product and financial development have a moderate negative correlation at -0.466893 between each other. While consumer price has a weak positive correlation with financial development at 0.1199866. For the consumer prices and exchange rate, they are negatively correlated at a weak level which is -0.240898. Besides, there is a positive correlation between exchange rate and gross domestic product at 0.310690 which is considered as a weak level. The exchange rate and financial development is relatively low and show negatively correlated at -0.090040 between each other.

Table 4.5.1.2: Multicollinearity test: VIF and TOL

Exogenous variable treated as an endogenous variable	$VIF = \frac{1}{1-R^2}$	$TOL = \frac{1}{VIF}$
LFD	1.05360	0.94912
LGDP	1.09299	0.91492
LER	1.02024	0.98016
LCP	1.00478	0.99524

Source: E-views output

The value of VIF has been shown in table 4.5.1.2. Due to all the value of VIF for the gross domestic product, financial development, exchange rate and consumer prices are not more than 10, so the model might not consist of a multicollinearity problem. Other than VIF, the value of TOL for all variables is calculated. All values of TOL calculated are fall between 0.9 until 1.0. Since all the values of TOL are not more than 0.2, therefore there is no multicollinearity problem for all variables in this model. In short, we do not reject the null hypothesis since it is a low correlation between independent variables in the multiple regression model.

4.5.2 Heteroscedasticity

ARCH testing is applied in this research to test the heteroscedasticity. The null hypothesis represents the variances of error terms are equal while the alternative hypothesis represents the variances of error terms are not equal.

Table 4.5.2.1: Heteroscedasticity: ARCH test

Diagnostic checking	P-value
ARCH test	0.6488

Source: E-views output

According to the result in Table 4.4.2.1, we do not reject the null hypothesis because the probability value which is 0.6488 is greater than the significance level of 10%, 5% and 1%. This means that the variances for the error terms in the model are equal.

4.5.3 Autocorrelation

The method to detect autocorrelation in this research is the Breusch-Godfrey serial correlation Lagrange Multiplier (LM) test. The null hypothesis is set as there is no autocorrelation problem in the model. In contrast, an alternative hypothesis is the autocorrelation problem exists in the model.

Table 4.5.3.1: Autocorrelation: LM test

Diagnostic checking	P-value
LM test	0.0619

Source: E-views output

Based on the result above, we do not reject the null hypothesis due to the probability value which is 0.0619 is greater than the significant level of 5% and 1%. There is no autocorrelation problem in the model. Hence, it means that components of random errors, or the disturbances are generated autonomously and identically.

4.5.4 Normality test

To examine whether or not the observations follow a normal distribution, Jarque-Bera Test (JB test) is applied in this research. The null hypothesis is the error terms are normally distributed while the alternative hypothesis is the error terms are not normally distributed in the model.

4.5.4.1: Normality test: Jarque-Bera test

Diagnostic checking	P-value
Jarque-Bera test	0.157664

Source: E-views output

According to the result in table 4.4.4.1, the probability value of the Jarque-Bera test is 0.157664, which is greater than the significant level of 10%, 5% and 1%. Therefore, we do not reject the null hypothesis. In other words, the error term in the ARDL regression model is normally distributed, which means that the results of other diagnostic tests should be valid and credible.

4.6 Conclusion

In a nutshell, we can concluded that all the independent variables are significant (except for the exchange rate) in the model in short-run. In the long-run, all the independent variables are significant (except the consumer prices). On another hand, the model is free from econometric problems which are multicollinearity, heteroscedasticity, autocorrelation and it is a normal distribution. We will discuss the overall conclusions, limitations and recommendations of this study in the next chapter.

CHAPTER 5: CONCLUSION

5.1 Introduction

This research primarily focuses on the nexus between international tourist arrival to Malaysia with four explanatory variables which involved exchange rate, GDP, consumer prices and financial development from the year 1995 to 2018. In this chapter, we will summarize everything from the previous chapter. Firstly, table results will be provided to discuss the sum-up of statistical analysis. After that, the major findings of all the tests conducted in Chapter 4 will be discussed. Besides, this chapter will also discuss the implications of this study and its limitations and suggestions for future researcher. Lastly, the content of whole study will be summarized.

5.2 Summary of Statistical Analysis

Table 5.2.1: Summary of Major Findings

Dependent variable	Independent variable	Unit Root Test	Findings
Tourist Arrival	GDP	I(1)	Significant at 1%
Tourist Arrival	Exchange rate	I(1)	Significant at 1%
Tourist Arrival	Inflation	I(0)	Significant at 1%

Tourist Arrival	Financial development	I(1)	Significant at 1%
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Source: Developed for the research

From the table above, the nexus between tourist arrival with its determinants which included GDP, exchange rate, inflation and financial development has been shown. The result of unit root test mentioned that all determinants do not suffer in stationary problem. This means that all the independent variables fluctuate around a constant long term mean. Besides, the long-run nexus between tourist arrival and its determinants which are financial development, GDP, exchange rate and inflation are significant at 1%.

Table 5.2.2: Summary of Long-Run Relationship

Dependent variable	Independent variable	Expected sign	Actual sign	Consistency
Tourist Arrival	GDP	Positive	Positive	Consistent
Tourist Arrival	Exchange rate	Negative	Negative	Consistent
Tourist Arrival	Inflation	Negative	Negative	Consistent
Tourist Arrival	Financial development	Positive	Negative	Inconsistent

Source: Developed for the research

Expected sign and the actual sign of the independent variables have shown in Table 5.1.2. Except for financial development, all the actual sign of explanatory variables are matching with expected sign. Financial development is expected to have a positive relationship with tourist arrival. However, the result

mentioned there is a negative relationship between financial development and tourist arrival.

Table 5.2.3: Summary of Short Run Relationship

Dependent variable	Independent variable	Autoregressive Distributed Lag (ARDL)
Tourist Arrival	GDP	Significant at 1%
Tourist Arrival	Exchange rate	Insignificant
Tourist Arrival	Inflation	Significant at 5%
Tourist Arrival	Financial development	Significant at 1% and 5%

Source: Developed for the research

By referring to the table above, it presents that short-run relationship had existed between tourist arrival and three independent variables which included GDP, inflation and financial development. GDP and financial development have a significant relationship with tourist arrival at 1% while inflation and financial development have a significant relationship with tourist arrival at 5%. However, there is an insignificant short-run relationship between tourist arrival and exchange rate.

Table 5.2.4: Summary of Diagnostic Checking Result

Econometric problems	Methods	Results
Multicollinearity	Variance Inflation Factor (VIF)	No multicollinearity
Heteroscedasticity	ARCH Test	No heteroscedasticity
Autocorrelation	Breusch-Godfrey Serial Correlation LM Test	No autocorrelation
Normality Test	Jarque-Bera (JB) Test	Model is normally distributed

Source: Developed for the research

According to the table above, the result shows that the model does not suffer in any econometric problem such as multicollinearity, heteroscedasticity and autocorrelation. Besides, the model and the data set conforms to a standard normal distribution.

5.3 Discussion of Major Findings

In this research, unit root test has been applied to determine whether the time series variables follow random walks. According to the result, all the independent variables are stationary at first difference and some of them are integrated at level form. The unit root must be checked to ensure that all variables follow the basic assumptions of the ARDL bound test method of the cointegration method. ARDL bound test has been chosen as the best model to analyze the determinants of tourist arrival. It is used to examine the long-run nexus between tourist arrival and its determinants which included

income (Gross Domestic Product per capita), exchange rate in MYR/USD, inflation (consumer price) and financial development (domestic credit to the private sector). Based on the result, all the independent variables have a significant long-run relationship with tourist arrival excluding inflation variable. GDP, exchange rate and financial development significantly affect the tourist arrive at a significant level of 1%. However, tourist arrivals and inflation formed insignificant relationship.

In addition, an error correction model has been developed. Short-run relationship existed betwixt tourist arrivals with GDP, inflation and financial development. It means tourist arrivals and exchange rate formed insignificant short-run relationship. Financial development are significantly affecting the tourist arrival in the short run relationship at the significance level of 1%. Besides, inflation and financial development are significantly affecting the tourist arrival at 5%.

Besides, we also concerned about the relationship between international tourist arrivals and its explanatory variables. Most of the variables are consistent with our expected sign and there are one variable is not the same as the actual sign. Firstly, the actual relationship of GDP is consistent with the expected relationship. The existence of positive nexus happen betwixt GDP and international tourist arrival in Malaysia. This means that if there is an increment in the GDP, the amount of international tourist arrival in Malaysia will increase as well. Besides, some of the previous studies also had the same result with this statement. This is similar with the research that completed by Görmüş et al. (2010); Surugiu, Leitão and Surugiu (2011); Hanafiah, Harun and Jamaluddin (2011); Borhan and Arsad (2016). In most of the research, they mentioned that the tourism sector can be bringing a very huge effect on the economic growth of a country. For examples, if the tourism sector is improved, there are some advantages will be taking out such as job opportunities increase and increment on business trading. Hence, the economic advance of the host country will be promoted. When the economic

growth of the origin nations is improved, some related facilities will be developed as well. So that increase in GDP will improve tourism.

Besides, the expected sign of the exchange rate is consistent with the actual sign. The existence of negative relationship happen among international tourist arrivals and exchange rate. It shows that depreciate on terminus's currency value and appreciates on the host's currency value will create an unfavourable exchange rate for the tourist. In our result, it mentioned that decrease in the exchange rate will lead to an increase in the number of tourist arrivals. A high exchange rate of money can be a high cost of travel. This may lead to an insufficient budget amount. Other than that, this will affect the trading which involved export and import. If the value of the currency is getting lower, the import will decrease and export will increase. A low value of the currency is not a good view of a country. So the government should monitor the trading to make sure the balance between import and export. The government had to avoid any trade surplus and trade deficit as far as possible since it had its disadvantages as well.

Thirdly, the results mentioned that the actual sign of inflation is consistent with our expected sign. It showed that there is a negative relationship between international tourist arrivals in Malaysia and inflation. In this research, we used consumer price as our proxy. Consumer price could directly bring effect towards tourism demand of a country. Based on the theory, high consumer price will lead to an inflation of a country. Inflation will immediately influence the entire market. When the consumer price increasing in large portion, this will increase the travel cost of a tourist. A good economic condition deserves a high standard of living styles. Instead, if too much effort on developing process, will lead to adverse effect. Nowadays, the budget trip was very common around the world. If the consumer price is too high for the budget traveller, so the country will lose in this area. Government need to set a benchmark on defined a high standard of living styles.

Last but not least, the focus explanatory variable in this research is financial development. We used domestic credit to the private sector as the proxy of financial development is because private credit can help to develop business in any sector. By referring to the results in the previous chapter, it revealed that the actual nexus between financial development and international tourist arrival was contrary to the expected sign. There is a negative relationship between financial development and international tourist arrival. In a theoretical view, increase in financial development will raise the number of tourist arrivals in Malaysia. This is because financial development can help the certain industry to expand their business which including the tourism sector or improving infrastructure. More events and activities will come once the financial development being improved and this will absorb more tourist to travel in our country. But the result of our research was different from the theory. This is due to domestic credit does not directly flow into the tourism industry.

5.4 Policy Implications

A good policy implication of government in the country will bring a good impact on their economy, reputation of the country, and so on. As discussed in the previous chapter revealed that tourism makes a large contribution to the country in the aspect of the income, job opportunity, infrastructure development and so on. Based on our findings, we will like to suggest some way to the policymakers to improve our country's tourism development. Hence, we hope that the suggested policy could help the tourism of Malaysia keep going for improvement in long-term.

Firstly, the relationship of the Gross Domestic Product (GDP) in the tourism model has been proven that is the GDP is a positive relationship with international tourist arrivals.

The findings indicate that the GDP growth of Malaysia increases will attract more tourist's arrival from another country. By knowing the relationship between the GDP and tourist arrival, the government is necessary to ensure the GDP growth is a good trend. Government is needed to take seriously on the fiscal policy to improve the GDP growth. Fiscal policy refers to the patterns of government taxing and spending that are intended to stimulate or support the economy. For example, bailout, the government can loan to some important companies to help their expansion and there will increase the national economy indirectly.

Moreover, deregulation on business activity also will be one of the ways to increases the GDP growth. The deregulation will help the entrepreneurs to carry out the business more easily and reduce the cost of capital. However, the government need to ensure that the fairness and transparency of the market still consist after implied the deregulation. This is credible for develop tourism industry when the economic growth is sustainable. Sustainable economic growth can represent the profitability and the production of the company are continue for growing which means the company have the ability and resources to develop and improve their business's product and services especially in the tourism industry.

Besides, the happening of negative relationship amongst exchange rate and international tourist arrivals had stated in our empirical result. When the exchange rate of Malaysia appreciate, the travelling cost of international tourists will increase. Hence, a stable and favourable exchange rate can attract more international tourist. To keep the exchange rate is stable, monetary policy can be used to control the exchange rate by adjusting the interest rate and the money supply.

In the short-run, the inflation level has a significant impact on tourist arrival. In other words, any policy implied on affecting the price level could have an immediate effect

on tourism. Based on our findings on the relationship between inflation and tourist arrival, we suggest that governments can formulate more preferential tax policies to the tourism companies and also the tourist in order to attract they travel to Malaysia and spending more. As a good example of the preferential tax policies implied is on the duty-free shop in Pulau Langkawi.

Furthermore, the relationship between international tourist arrivals and financial development is negative. It means that the increase in financial development is not as expected that will increase the tourists demand. Instead, tourist demand will decrease. If financial development being improved, more facilities, services, business and more will be improved. Thus, it will attract a substantial amount of tourist arrivals. In this situation, this may because of the allocation of financial resources of the financial intermediates is not enough to bring positive impact towards tourism sector in Malaysia, even the data that we obtained showed an upward movement on financial development. Besides, the government had implemented some special financial support to only the tourism sector but most of the business companies do not notice it. So here had some recommendations to the related financial institution which they could try to promote the implementation more broadly. The announcement can make it on social media and official website. Other than that, they should give more focus on financial support towards the tourism sector. The tourism industry is one of the important contributors to the GDP of Malaysia. So more funds support should be an offer to the tourism industry in the long run.

5.5 Limitations and Recommendations of Research

There are few limitations had been faced when shepherding in this research. Due to these limitations, we would also want to suggest some recommendations that future researchers or public can refer to future research or problem-solving.

Firstly, the lack of data sources is one of the limitations that we faced when we conducting this study. We collected the data for international tourist arrivals of Malaysia from the year 1995 until the year 2018 to estimate the result of this research. Due to limited data sources, we are unable to collect enough period of adequate data to examine the relationship between dependent and independent variables seamlessly. The sample size of this research was too small to get an adequate result. Large sample size will able to take out a more stable estimation on all the research. Thus, we had some suggestions for future researches. For those researches who interest in this topic, we suggest that they should acquire a large size of data so that a stable result will be obtained from the test.

Besides, we used domestic credit to the private sector as the proxy of financial development. The examined relationship between tourism demand and financial development was negative in this research. Although the results state that it formed a negative nexus, but it still a significant variable to tourism demand. Financial support from financial intermediates towards the tourism sector can be a major factor in the improvement or development of a country's tourism sector. We believed that financial supports that provided by financial intermediates towards the tourism sector from the previous years still not enough to improve it but the potential is still there. Hence, we suggest the future researcher who interested in this topic to focus on other types of credit as well. For examples, they can try to focus on the credit that flow into the potential developed area which involved rural and urban area.

Appendices

Appendix 4.3 Empirical Result of ARDL

Dependent Variable: LTA
 Method: ARDL
 Date: 07/27/20 Time: 21:05
 Sample (adjusted): 1997 2018
 Included observations: 22 after adjustments
 Maximum dependent lags: 2 (Automatic selection)
 Model selection method: Akaike info criterion (AIC)
 Dynamic regressors (2 lags, automatic): LGDP LFD LER LCP
 Fixed regressors: C
 Number of models evaluated: 162
 Selected Model: ARDL(1, 2, 2, 1, 2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LTA(-1)	-0.085637	0.307530	-0.278467	0.7869
LGDP	0.977905	1.190598	0.821356	0.4327
LGDP(-1)	-2.299996	1.822490	-1.262007	0.2387
LGDP(-2)	3.926213	1.346824	2.915165	0.0172
LFD	-1.725073	1.420105	-1.214750	0.2554
LFD(-1)	-3.108518	2.348569	-1.323580	0.2183
LFD(-2)	3.466569	1.301439	2.663644	0.0259
LER	-0.266808	0.589930	-0.452270	0.6618
LER(-1)	-1.556191	0.796340	-1.954179	0.0824
LCP	-0.090993	0.082522	-1.102650	0.2988
LCP(-1)	-0.191758	0.111748	-1.715984	0.1203
LCP(-2)	0.114936	0.073725	1.558993	0.1534
C	0.278336	3.000795	0.092754	0.9281
R-squared	0.980297	Mean dependent var	16.65082	
Adjusted R-squared	0.954026	S.D. dependent var	0.500481	
S.E. of regression	0.107311	Akaike info criterion	-1.338172	
Sum squared resid	0.103641	Schwarz criterion	-0.693465	
Log likelihood	27.71989	Hannan-Quinn criter.	-1.186298	
F-statistic	37.31500	Durbin-Watson stat	2.231850	
Prob(F-statistic)	0.000004			

*Note: p-values and any subsequent tests do not account for model selection.

Appendix 4.3.1 Long Run Form and Bounds Test

ARDL Long Run Form and Bounds Test
 Dependent Variable: D(LTA)
 Selected Model: ARDL(1, 2, 2, 1, 2)
 Case 2: Restricted Constant and No Trend
 Date: 07/27/20 Time: 21:07
 Sample: 1995 2018
 Included observations: 22

Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.278336	3.000795	0.092754	0.9281
LTA(-1)*	-1.085637	0.307530	-3.530185	0.0064
LGDP(-1)	2.604122	0.749835	3.472928	0.0070
LFD(-1)	-1.367022	0.514694	-2.655989	0.0262
LER(-1)	-1.822998	0.627697	-2.904263	0.0175
LCP(-1)	-0.167815	0.119984	-1.398644	0.1954
D(LGDP)	0.977905	1.190598	0.821356	0.4327
D(LGDP(-1))	-3.926213	1.346824	-2.915165	0.0172
D(LFD)	-1.725073	1.420105	-1.214750	0.2554
D(LFD(-1))	-3.466569	1.301439	-2.663644	0.0259
D(LER)	-0.266808	0.589930	-0.452270	0.6618
D(LCP)	-0.090993	0.082522	-1.102650	0.2988
D(LCP(-1))	-0.114936	0.073725	-1.558993	0.1534

* p-value incompatible with t-Bounds distribution.

Levels Equation Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LGDP	2.398704	0.215051	11.15412	0.0000
LFD	-1.259189	0.291816	-4.315008	0.0019
LER	-1.679197	0.499606	-3.361040	0.0084
LCP	-0.154578	0.094519	-1.635419	0.1364
C	0.256380	2.760063	0.092889	0.9280

$$EC = LTA - (2.3987*LGDP - 1.2592*LFD - 1.6792*LER - 0.1546*LCP + 0.2564)$$

F-Bounds Test Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
Asymptotic: n=1000				
F-statistic	3.135702	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Actual Sample Size	22	Finite Sample: n=35		
		10%	2.46	3.46
		5%	2.947	4.088
		1%	4.093	5.532
		Finite Sample: n=30		
		10%	2.525	3.56
		5%	3.058	4.223
		1%	4.28	5.84

Appendix 4.4 Error Correction Result

ARDL Error Correction Regression
 Dependent Variable: D(LTA)
 Selected Model: ARDL(1, 2, 2, 1, 2)
 Case 2: Restricted Constant and No Trend
 Date: 07/27/20 Time: 21:09
 Sample: 1995 2018
 Included observations: 22

ECM Regression Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LGDP)	0.977905	0.714388	1.368871	0.2042
D(LGDP(-1))	-3.926213	1.054191	-3.724384	0.0047
D(LFD)	-1.725073	0.733042	-2.353309	0.0431
D(LFD(-1))	-3.466569	0.962247	-3.602578	0.0057
D(LER)	-0.266808	0.374263	-0.712888	0.4940
D(LCP)	-0.090993	0.037874	-2.402530	0.0397
D(LCP(-1))	-0.114936	0.046288	-2.483048	0.0348
CointEq(-1)*	-1.085637	0.200678	-5.409857	0.0004
R-squared	0.778070	Mean dependent var		0.058463
Adjusted R-squared	0.667105	S.D. dependent var		0.149124
S.E. of regression	0.086040	Akaike info criterion		-1.792717
Sum squared resid	0.103641	Schwarz criterion		-1.395975
Log likelihood	27.71989	Hannan-Quinn criter.		-1.699257
Durbin-Watson stat	2.231850			

* p-value incompatible with t-Bounds distribution.

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	3.135702	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Diagnostic Checking

Appendix 4.5.1 Multicollinearity Correlations

	LGDP	LFD	LER	LCP
LGDP	1.000000	-0.466893	0.310690	-0.147798
LFD	-0.466893	1.000000	-0.090040	0.119866
LER	0.310690	-0.090040	1.000000	-0.240898
LCP	-0.147798	0.119866	-0.240898	1.000000

Dependent Variable: LCP
Method: Least Squares
Date: 07/25/20 Time: 04:11
Sample: 1995 2018
Included observations: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LER	-0.821284	0.846442	-0.970278	0.3435
LFD	0.334312	1.014589	0.329505	0.7452
LGDP	-0.111275	0.685164	-0.162407	0.8726
C	1.358967	10.06456	0.135025	0.8939
R-squared	0.068977	Mean dependent var		0.788794
Adjusted R-squared	-0.070676	S.D. dependent var		0.544662
S.E. of regression	0.563581	Akaike info criterion		1.842001
Sum squared resid	6.352472	Schwarz criterion		2.038343
Log likelihood	-18.10401	Hannan-Quinn criter.		1.894090
F-statistic	0.493916	Durbin-Watson stat		2.187230
Prob(F-statistic)	0.690552			

Dependent Variable: LER
Method: Least Squares
Date: 07/25/20 Time: 04:12
Sample: 1995 2018
Included observations: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCP	-0.054738	0.056415	-0.970278	0.3435
LFD	0.093231	0.261814	0.356098	0.7255
LGDP	0.229723	0.169385	1.356217	0.1901
C	-1.523045	2.577109	-0.590990	0.5611

R-squared	0.140841	Mean dependent var	1.248785
Adjusted R-squared	0.011967	S.D. dependent var	0.146376
S.E. of regression	0.145498	Akaike info criterion	-0.866302
Sum squared resid	0.423391	Schwarz criterion	-0.669960
Log likelihood	14.39563	Hannan-Quinn criter.	-0.814213
F-statistic	1.092862	Durbin-Watson stat	0.580621
Prob(F-statistic)	0.375059		

Dependent Variable: LFD
Method: Least Squares
Date: 07/25/20 Time: 04:13
Sample: 1995 2018
Included observations: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LER	0.067577	0.189772	0.356098	0.7255
LCP	0.016151	0.049015	0.329505	0.7452
LGDP	-0.309624	0.133850	-2.313219	0.0315
C	7.888108	1.336765	5.900892	0.0000

R-squared	0.225544	Mean dependent var	4.793478
Adjusted R-squared	0.109376	S.D. dependent var	0.131259
S.E. of regression	0.123873	Akaike info criterion	-1.188114
Sum squared resid	0.306889	Schwarz criterion	-0.991771
Log likelihood	18.25736	Hannan-Quinn criter.	-1.136024
F-statistic	1.941529	Durbin-Watson stat	0.343395
Prob(F-statistic)	0.155417		

Dependent Variable: LGDP
 Method: Least Squares
 Date: 07/25/20 Time: 04:13
 Sample: 1995 2018
 Included observations: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LFD	-0.681718	0.294705	-2.313219	0.0315
LER	0.366619	0.270324	1.356217	0.1901
LCP	-0.011836	0.072879	-0.162407	0.8726
C	13.12782	1.472198	8.917158	0.0000
R-squared	0.291687	Mean dependent var	10.30852	
Adjusted R-squared	0.185440	S.D. dependent var	0.203657	
S.E. of regression	0.183806	Akaike info criterion	-0.398855	
Sum squared resid	0.675696	Schwarz criterion	-0.202513	
Log likelihood	8.786262	Hannan-Quinn criter.	-0.346766	
F-statistic	2.745364	Durbin-Watson stat	0.157256	
Prob(F-statistic)	0.069967			

Appendix 4.5.2 Heteroscedasticity

Heteroskedasticity Test: ARCH

F-statistic	0.384414	Prob. F(2,17)	0.6866
Obs*R-squared	0.865366	Prob. Chi-Square(2)	0.6488

Test Equation:

Dependent Variable: RESID^2
 Method: Least Squares
 Date: 07/27/20 Time: 21:11
 Sample (adjusted): 1999 2018
 Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.006199	0.002571	2.410609	0.0275
RESID^2(-1)	-0.210761	0.241616	-0.872299	0.3952
RESID^2(-2)	-0.016092	0.241428	-0.066654	0.9476
R-squared	0.043268	Mean dependent var	0.005133	
Adjusted R-squared	-0.069288	S.D. dependent var	0.008190	
S.E. of regression	0.008469	Akaike info criterion	-6.567293	
Sum squared resid	0.001219	Schwarz criterion	-6.417933	
Log likelihood	68.67293	Hannan-Quinn criter.	-6.538136	
F-statistic	0.384414	Durbin-Watson stat	2.015409	

Prob(F-statistic) 0.686620

Appendix 4.5.3 Autocorrelation

Breusch-Godfrey Serial Correlation LM Test:

Null hypothesis: No serial correlation at up to 2 lags

F-statistic	1.184867	Prob. F(2,7)	0.3604
Obs*R-squared	5.564101	Prob. Chi-Square(2)	0.0619

Test Equation:

Dependent Variable: RESID

Method: ARDL

Date: 07/27/20 Time: 21:12

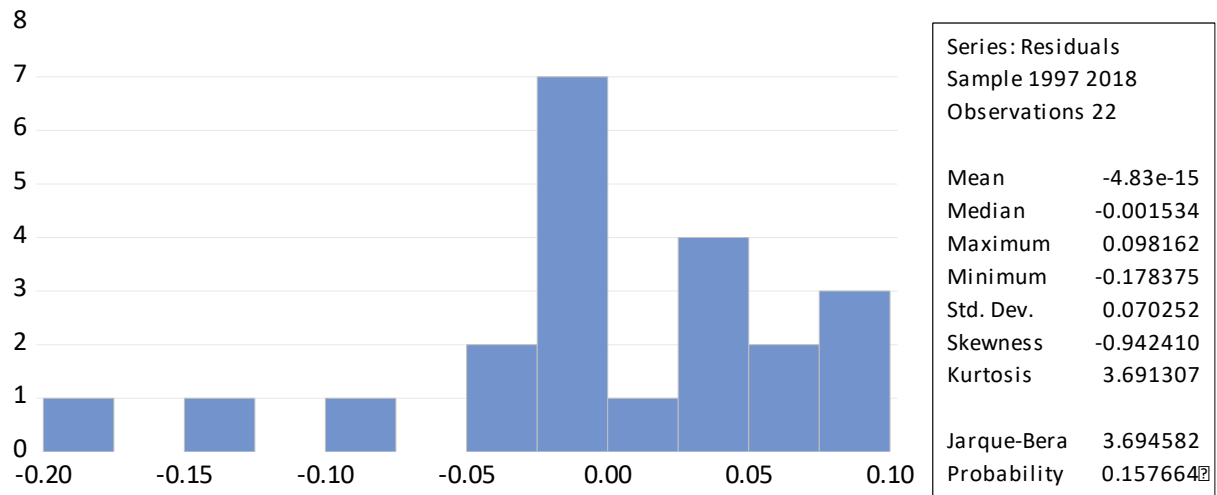
Sample: 1997 2018

Included observations: 22

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LTA(-1)	0.380422	0.446942	0.851167	0.4228
LGDP	-0.464761	1.205333	-0.385587	0.7113
LGDP(-1)	0.718440	1.847227	0.388929	0.7089
LGDP(-2)	-1.031788	1.539554	-0.670186	0.5242
LFD	0.171351	1.396714	0.122682	0.9058
LFD(-1)	0.874818	2.454458	0.356420	0.7320
LFD(-2)	-0.499742	1.374199	-0.363661	0.7268
LER	-0.202958	0.593157	-0.342165	0.7423
LER(-1)	0.621085	0.907653	0.684276	0.5158
LCP	0.065877	0.098321	0.670026	0.5243
LCP(-1)	0.096166	0.129133	0.744701	0.4807
LCP(-2)	0.010554	0.072711	0.145143	0.8887
C	-1.577155	3.121489	-0.505257	0.6289
RESID(-1)	-0.757465	0.636974	-1.189162	0.2731
RESID(-2)	-0.527400	0.434265	-1.214467	0.2639
R-squared	0.252914	Mean dependent var	-4.83E-15	
Adjusted R-squared	-1.241259	S.D. dependent var	0.070252	
S.E. of regression	0.105172	Akaike info criterion	-1.447928	
Sum squared resid	0.077429	Schwarz criterion	-0.704036	
Log likelihood	30.92721	Hannan-Quinn criter.	-1.272690	
F-statistic	0.169267	Durbin-Watson stat	2.481628	
Prob(F-statistic)	0.997598			

Appendix 4.5.4 Normality Test



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