



Faculty of Economics and Business

FACTORS THAT AFFECT SHADOW ECONOMY IN MALAYSIA

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FACTORS THAT AFFECT SHADOW ECONOMY IN MALAYSIA

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This project is submitted in partial fulfillment of
the requirements for the degree of Bachelor of Economics with Honours
(Industrial Economics)

Faculty of Economics and Business
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2015

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Final Year Project Report

Masters

PhD

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ABSTRACT

FACTORS THAT AFFECT SHADOW ECONOMY IN MALAYSIA

By

Lee Ding Ke

The objective of this paper is to investigate the interaction between shadow economy and economic growth, tax rate and poverty in Malaysia from 1973 to 2008. The econometrics methods of unit root tests, Johansen and Juselius Cointegration tests, granger causality based on the Vector Error Correction Model (VECM) framework, variance decomposition and generalized impulse response are applied in this study. The overall findings show that there is unidirectional impact of real gross domestic product (LRGDP), average tax rate (ATR) and poverty (GINI) on shadow economy (SHADOW) in the long run. In short-run, there is unidirectional granger causality running from shadow economy to average tax rate in Malaysia.

ABSTRAK

FAKTOR-FAKTOR YANG MEMPENGARUHI EKONOMI BAYANGAN DI MALAYSIA

Oleh

Lee Ding Ke

Objektif kajian ini adalah untuk mengkaji hubungan antara ekonomi bayangan, pertumbuhan ekonomi, kadar kemiskinan dan kadar cukai purata di Malaysia dari tahun 1973 hingga 2008. Pengajian untuk kepegunan, ujian unit akar, ujian kopingamiran, ujian penyebab Granger yang berdasarkan Vektor Ralat Pembetulan Model, varians penguraian and tindak balas impuls umum telah diaplikasikan. Kesimpulan utama adalah wujudnya perhubungan jangka masa panjang antara pertumbuhan ekonomi, kadar kemiskinan dan kadar cukai purata terhadap ekonomi bayangan di Malaysia. Bagi jangka masa pendek, keputusan kajian menunjukkan adalah wujudnya satu hala hubungan secara langsung dari ekonomi bayangan ke kadar cukai purata di Malaysia.

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Subsequently, I am grateful to my family members, friends and seniors for the moral support, encouragement and continuous sharing of knowledge towards the completion of this project. I wish to express my words of appreciation to those that share their knowledge and opinions with me.

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Table of Contents

LIST OF TABLES	x
LIST OF FIGURES	xi
CHAPTER ONE: INTRODUCTION	1
1.1 Introduction	1
1.2 Background of Study	3
1.2.1 Types of Shadow Economy Activities	3
1.2.2 Shadow Economy in Developed and Developing Countries.....	5
1.2.3 Trend of Shadow Economy in Malaysia	10
1.2.4 Illicit Trading case in Malaysia.....	12
1.3 Motivation of the Study	14
1.4 Problem Statement	15
1.5 Objectives of Study.....	17
1.5.1 General Objective	17
1.5.2 Specific Objectives.....	17
1.6 Significant of the Study.....	17
1.7 Organization of the Study	18

CHAPTER TWO: LITERATURE REVIEW	20
2.1 Introduction	20
2.2 Literature Review	21
2.3 Concluding Remark	32
CHAPTER THREE: METHODOLOGY	34
3.1 Introduction	34
3.2 Conceptual Framework	34
3.3 Data Description	37
3.4 Methodology	38
3.4.1 Unit Root Test	38
3.4.2 Johansen Juselius Cointegration Test	40
3.4.3 Vector Error Correction Model (VECM)	42
3.4.4 Granger Causality	43
3.4.5 Variance Decompositions and Impulse Response Analysis	44
CHAPTER FOUR: DATA ANALYSIS	46
4.1 Introduction	46
4.2 Unit Root and Stationarity Tests	47
4.3 Cointegration Test	49

4.4 Normalization of Cointegrating Equation	51
4.5 Vector Error Correction Model (VECM) Test	52
4.5.1 Short Run and Long Run Causality Direction	55
4.6 Dynamic Analysis: Variance Decompositions (VDCs) Results	56
4.7 Dynamic Analysis: Generalized Impulse Response Function (GIRFs).....	58
4.8 Discussion	61
CHAPTER FIVE: CONCLUSION AND RECOMMENDATION	65
5.1 Introduction	65
5.2 Limitations	66
5.3 Policy Recommendations.....	67
5.4 Recommendations for Future Research	69
REFERENCES	70
APPENDIX	

LIST OF TABLES

Table 1.1 Taxonomy Types of Shadow Economy Activities	5
Table 1.2 Ranking of Developed Countries according to the size of Shadow Economy	7
Table 1.3 Ranking of Developing Countries according to the size of Shadow Economy.....	8
Table 4.1 Unit Root and Stationarity Tests.....	47
Table 4.2 Johansen and Juselius Cointegration Test	49
Table 4.3 Normalization the Cointegrating Vector	51
Table 4.4 Granger Causality Test based on Vector Error Correction Model	53
Table 4.5 Variance Decomposition	56

List of Figures

Figure 1.1 The level of Shadow Economy in the World	6
Figure 1.2 Trend of Shadow Economy Malaysia from 1970 till 2008	11
Figure 3.1 The Impact of Real Gross Domestic Product, Average Tax Rate and Poverty toward Shadow Economy.....	36
Figure 4.1 Short run causality direction	55
Figure 4.2 Long Run causality direction	55
Figure 4.3 Generalized Impulse Response Function	59

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The tremendous economic impact that is driving force and trend in world market today which is refer as shadow economy. Shadow economy, sometimes referred as informal, underground, hidden, black, gray, illegal, parallel and clandestine that not included or avoids the purview of government accounting (Fleming, Roman & Farrell, 2000). Some illegal or illicit activities, such as drug dealing and trade in stolen goods definitely have conscious efforts to avoid discovery by state. However, Ihrig and Moe (2004) some activities are legal but may is consists of some illicit components which produce legal goods without comply with government regulations such as unreported income from self-employment and unreported work for legal goods and services. Unfortunately, the accurate information of shadow economy is very difficult to get, due to all individual that involved do not wish those activities overt to public.

In IMF paper of Schneider and Enste (2002) pointed out that developing, transition and OECD country contribute the shadow economy from year 1988 till 2000 are achieved at 35-44%, 21-30% and 14-16% of official economy respectively. An increasing trend in the size of shadow economy and contribute larger shadow economy as percent of official GDP from 1988 till 2000 in many countries, particularly in

developing country (Schneider & Enste, 2002). In contrary view, the increase in the size of shadow economy have been bring positive or negative impacts toward economic development of a country (Schneider, Braithwaite & Reinhard, 2001). Some researchers argued that an increasing trend in shadow economy may push up the economic growth and development of a country. Due to shadow or hidden economy increase, the tax revenue collected will decrease and thus influence production capacity, public spending, and government revenue. In contrary, the income earned in informal economy may suppress economic growth and increase circulation of money supply in market to overwhelm the economic growth.

The relationship between poverty and shadow economy are normally used to investigate more research on low income country such as developing and transition countries than developed countries such as OECD countries (Elijah & Uffort, 2007). The issues of poverty rate will bring positive or negative impact on shadow economy of a country had been discussed by previous researchers. According to Elijah and Uffort (2007), the existence of shadow economy leads the government loses a large percentage of revenues from tax avoidance, tax evasion and inefficient fiscal authorities. Due to increase of tax avoidance and tax evasion, the poverty rate of citizens will reduce and can promote sustainable development in economic growth. However, it will have positive or negative effects on economic growth when the increasing of shadow economy and decrease of chief financial source of government revenues which is tax revenues (Nikopour & Shah Habibullah, 2010). Essentially, the increase or decrease

poverty rate is depends on the level development of the country, since the main factor influence poverty is economy growth. In MPRA working paper by Nikopour and Shah Habibullah (2010), the empirical results of study stated that an increasing of shadow economy will lead to poverty rate increase in developing countries, while lead to poverty rate decrease in developed countries.

1.2 Background of the Study

1.2.1 Types of Shadow Economy Activities

In color psychology, white color represents cleanliness, innocence, positive and purity, whereas black color stands for the power of darkness, evil and absence of light (Greenberg & Patterson, 2007). There are similar black and white aspect that can be describe in global economy today, such as black indicates the shadow, underground and informal economy, whereas white color stands for the formal official economy.

Previous researchers of shadow economy intended to give directions and backup force for future research in this topic, even though there is no precise and specific definition of shadow economy. Smith (1994) stated there are purposely escapes detection in the official GDP estimation such as legal or illegal activities on production of goods and services in market. However, there are arguable and disagreement about

the definition, the methods and analysis that used in shadow economy estimation (Schneider, 2006).

In table 1.1 below provides taxonomy types of shadow economy activities in detail and comprehensive. From table 1.1, we can obviously determine and gain more understanding on the illegal and legal activities of shadow economy from monetary and non-monetary transactions. Legal activities include income and salaries earned from a legal production in which the payments are under-report with purposely to escape and evade tax. For instance, activities that are unreported income from subsidiary job to evade higher tax charges; understate the size of business and income to escape more tax burden; exchange the goods and services in legally throughout barter transactions with under-report. In contrary, illegal activities include unlawful, prohibition, forbidden and irregular of goods and services produce will not be reported and strictly restricted by state such as gambling, fraud, prostitution, trade with theft goods and drug dealing.

Table 1.1: Taxonomy Types of Shadow Economy Activities

Illegal Activities	<u>Monetary Transactions</u> Trade with stolen goods; drug dealing and manufacturing; prostitution; gambling; smuggling and fraud.		<u>Non-Monetary Transactions</u> Barter of drugs, stolen goods, smuggling etc. Produce or growing drugs for own use. Theft for own use.	
Legal Activities	<u>Tax Evasion</u> Unreported income from self-employment; Wages, salaries and assets from unreported work related to legal goods and services.	<u>Tax Avoidance</u> Employee discounts; fringe benefits.	<u>Tax Evasion</u> Barter of legal goods and services.	<u>Tax Avoidance</u> All do-it-yourself work and neighbor help.

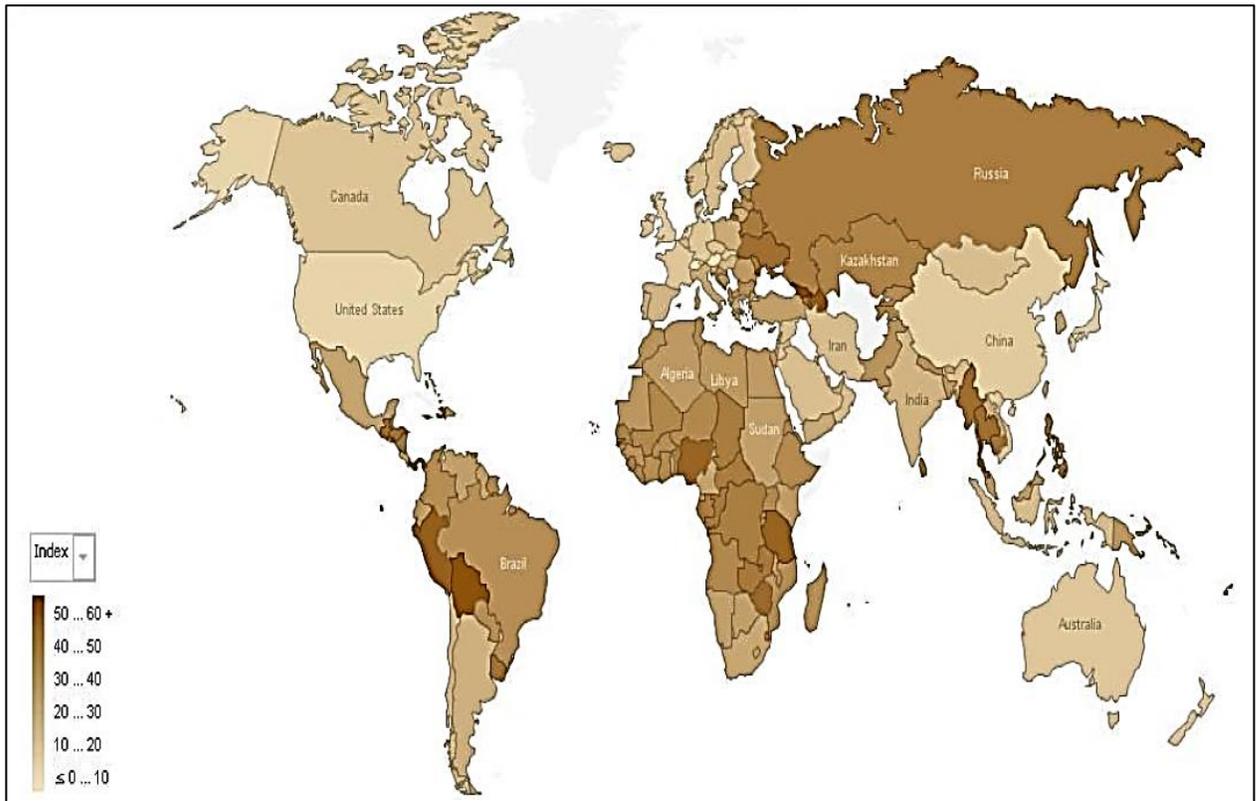
Notes: Lippert and Walker (1997, p.5)

1.2.2 Shadow economy in Developed and Developing Countries

Developed country define as country which is higher in income, performance, standard living, advance technology, GDP per capita and development in all aspect, whereas developing country known as a less-developed country which is contrary with developed country. First and foremost, the shadow economy has been exist in almost all the countries, especially developed and developing countries. From figure 1.1 above, the map showed that the different level of shadow economy in worldview. As we can see, the almost all of countries have existence of shadow economy. Based on author's

estimation measurement, the result showed that the existence of shadow economy and it is increasing continuously in many countries (Schneider, Braithwaite & Reinhard, 2001).

Figure 1.1 The Level of Shadow Economy in the World



Notes: Schneider, Buehn and Montenegro (2010)

From table 1.2 and 1.3 below, the size of shadow economy in developed countries is obviously smaller than developing countries which compare through the level of development countries. Table 1.2 presented the increasing trend of developed countries according to the size of the shadow economy from year 1999 till year 2007 , whereas the average trend of shadow economy for 20 countries below is 15.5% of GDP in year 1999 and rise slightly to 16.4% of GDP in year 2007. The three countries with

highest level of shadow economy among 20 countries below were Spain, Belgium and Portugal which reached an average value at 22.9%, 22.5% and 22.5% respectively. However, the three countries with lowest level of shadow economy among 20 countries below are Switzerland, United States and Austria which only gain an average value at 8.6%, 8.8% and 9.8% respectively.

Table 1.2: Ranking of Developed Countries According to the Size of the Shadow Economy

Country	Years									Country Average (% of GDP)
	1999	2000	2001	2002	2003	2004	2005	2006	2007	
Switzerland	8.4	8.6	8.6	8.6	8.4	8.7	8.7	8.9	9.1	8.6
United States	8.6	8.7	8.7	8.6	8.7	8.8	8.9	8.9	9.0	8.8
Austria	9.6	9.8	9.9	9.8	9.8	9.8	9.8	10.0	10.1	9.8
Japan	11.0	11.2	11.2	11.1	11.2	11.5	11.7	12.0	12.1	11.4
United Kingdom	12.6	12.7	12.8	12.8	12.9	13.0	13.0	13.1	13.2	12.9
Netherlands	12.9	13.1	13.1	13.0	12.9	13.0	13.0	13.0	13.2	13.0
New Zealand	12.6	12.8	13.0	13.2	13.4	13.6	13.5	13.5	13.6	13.2
Australia	14.2	14.3	14.3	14.4	14.7	14.8	14.8	14.9	15.0	14.6
France	14.8	15.2	15.4	15.3	15.4	15.5	15.6	15.6	15.7	15.4
Ireland	15.7	15.9	15.9	15.9	15.8	16.0	16.2	16.3	16.4	16.0
Germany	15.6	16.0	16.1	16.0	15.8	15.9	16.0	16.4	16.7	16.0
Iceland	15.8	15.9	16.0	15.8	15.9	16.3	16.7	16.7	16.8	16.2
Canada	15.7	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.6	16.3
Finland	17.8	18.1	18.3	18.4	18.5	18.6	18.8	19.1	19.2	18.5
Norway	19.0	19.1	19.2	19.2	19.2	19.7	19.7	20.0	20.2	19.5
Sweden	18.9	19.2	19.3	19.4	19.6	19.9	19.8	20.2	20.4	19.6
Israel	21.2	21.9	21.6	21.1	21.2	21.7	22.0	22.6	23.0	21.8
Portugal	22.4	22.7	22.8	22.7	22.4	22.3	22.2	22.2	22.2	22.5
Belgium	21.7	22.2	22.3	22.4	22.4	22.6	22.6	22.9	23.1	22.5
Spain	22.4	22.7	22.9	23.0	23.0	22.9	23.0	23.0	23.1	22.9
Time Average	15.5	15.8	15.9	15.8	15.9	16.0	16.1	16.3	16.4	

Notes: Schneider, Buehn and Montenegro (2010)

On the other hand, table 1.3 showed the ranking and the trend of developing countries based on the size of the shadow economy from years 1999 till years 2007. The average increasing trend obviously in 20 delveloping countries below according to the size of shadow economy, which is gain an average value at 46.5% of GDP at year 1999 and increase constanstly to 51.1% of GDP at year 2007. The three countries with the highest size of shadow economy in comparison among 20 developing countries are Georgia, Bolivia and Ajerbaijan whereas achieve an average value at 68.8%, 68.1% and 63.3% of GDP respectively. In contrary, the three countries with the lowest size of shadow economy in comparison among 20 developing countries are Maldives, Malaysia and Algeria, whereas achieve an average value at 31.1%, 31.3% and 35.7% of GDP respectively.

Table 1.3: Ranking of Developing Countries According to the Size of the Shadow Economy

Country	Years									Country Average (% of GDP)
	1999	2000	2001	2002	2003	2004	2005	2006	2007	
Switzerland	8.4	8.6	8.6	8.6	8.4	8.7	8.7	8.9	9.1	8.6
United States	8.6	8.7	8.7	8.6	8.7	8.8	8.9	8.9	9.0	8.8
Austria	9.6	9.8	9.9	9.8	9.8	9.8	9.8	10.0	10.1	9.8
Japan	11.0	11.2	11.2	11.1	11.2	11.5	11.7	12.0	12.1	11.4
United Kingdom	12.6	12.7	12.8	12.8	12.9	13.0	13.0	13.1	13.2	12.9
Netherlands	12.9	13.1	13.1	13.0	12.9	13.0	13.0	13.0	13.2	13.0
New Zealand	12.6	12.8	13.0	13.2	13.4	13.6	13.5	13.5	13.6	13.2
Australia	14.2	14.3	14.3	14.4	14.7	14.8	14.8	14.9	15.0	14.6
France	14.8	15.2	15.4	15.3	15.4	15.5	15.6	15.6	15.7	15.4
Ireland	15.7	15.9	15.9	15.9	15.8	16.0	16.2	16.3	16.4	16.0
Germany	15.6	16.0	16.1	16.0	15.8	15.9	16.0	16.4	16.7	16.0

Iceland	15.8	15.9	16.0	15.8	15.9	16.3	16.7	16.7	16.8	16.2
Canada	15.7	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.6	16.3
Finland	17.8	18.1	18.3	18.4	18.5	18.6	18.8	19.1	19.2	18.5
Norway	19.0	19.1	19.2	19.2	19.2	19.7	19.7	20.0	20.2	19.5
Sweden	18.9	19.2	19.3	19.4	19.6	19.9	19.8	20.2	20.4	19.6
Israel	21.2	21.9	21.6	21.1	21.2	21.7	22.0	22.6	23.0	21.8
Portugal	22.4	22.7	22.8	22.7	22.4	22.3	22.2	22.2	22.2	22.5
Belgium	21.7	22.2	22.3	22.4	22.4	22.6	22.6	22.9	23.1	22.5
Spain	22.4	22.7	22.9	23.0	23.0	22.9	23.0	23.0	23.1	22.9
Time Average	15.5	15.8	15.9	15.8	15.9	16.0	16.1	16.3	16.4	

Notes: Schneider, Buehn and Montenegro (2010)

From table 1.2 and 1.3 above, this conclude that the size of shadow economy in developing countries is clearly worse than the size of shadow economy in developed countries. As we can see from year 1999 till 2007, the trend of shadow economy in 20 developed countries above are at the average value around 15.5% of GDP increase till 16.4% of GDP which are only increase 0.9% of GDP. While the size of shadow economy in 20 developing countries above are at the average value around 46.5% of GDP increase till 51.1% of GDP which are increase 4.6% of GDP. Thus, there are tremendously gulf between the size and trend of the developed and developing countries. In addition, the highest size of shadow economy in developed countries is 22.9% of GDP which is Spain, whereas Georgia is the developing country with the highest size of shadow economy which is 68.8% of GDP. This situation can absolute comfirm that the developed countries have smaller size of shadow economy than developing countries.

1.2.3 Trend of Shadow economy in Malaysia

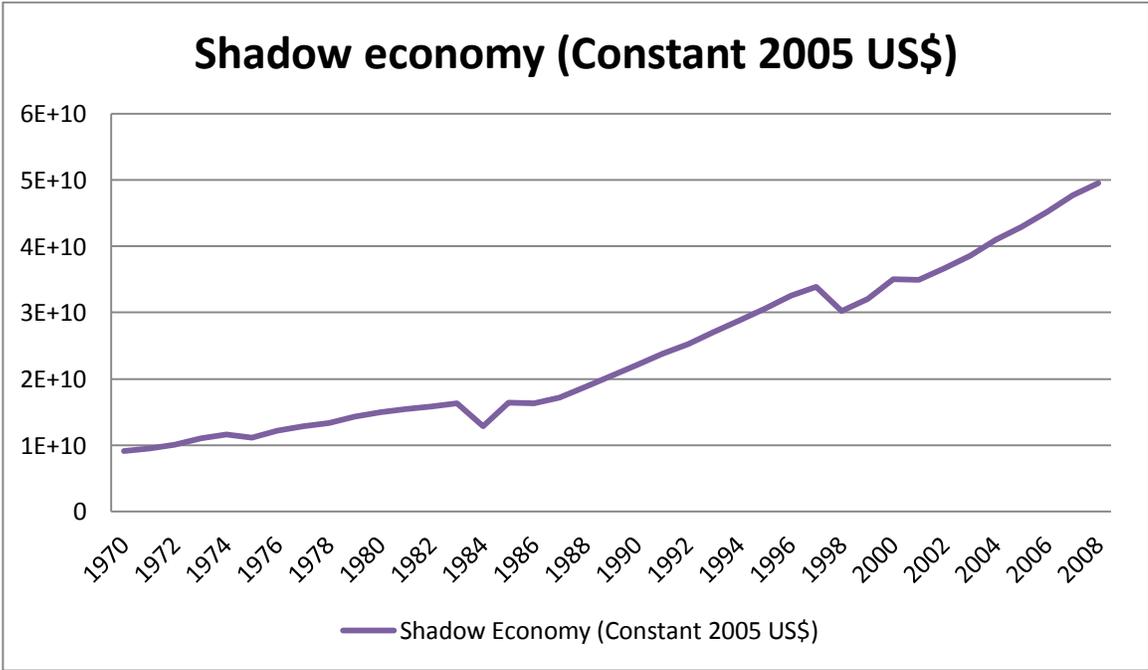
As refer to table 1.3 above, the size of shadow economy in Malaysia is considered quite high which recorded between 30.1% and 32.6% of GDP and remain in increasing trend from year 1999 till 2007, although the size of shadow economy in Malaysia is lower than other developing countries.

Figure 1.2 below shows that the trend of shadow economy Malaysia has increase significantly from 1970 till 2008. In 1970 till 1974, the increase shadow economy has contributed growth from US\$9123 million till US\$11563 million. Since 1970, the illicit trafficking of cultural goods such as artifacts illegally excavated happened in global market (UNESCO, 2011). Malaysia economy happened recession in year 1975, thus the shadow economy activities have slow down and drop at US\$11132 million.

During 1975 to 1983, the trend of shadow economy has consistent growth. The amount of shadow economy activities drop dramatically from US\$16291 million to US\$12883 million, due to public debt rose sharply and sovereign debt crisis occurred (Athukorala, 2010). From figure 1.2 below exhibits a upward trend of shadow activities from 1987 to 1997. In retrospect, after the 1985 sovereign debt crisis so that Malaysian authorities used fiscal consolidation to fix the problem (Eng & Wong, 2007).

In retrospect, another economy shock in 1997/98 financial crises happened and consider that the lower current average tax rates (Eng & Wong, 2007). While the activities of shadow economy decrease from US\$33882 million to US\$30244 million during the 1997 till 1998 and after the pain of financial crisis impact the growth of shadow economy is fluctuated from 1999 till 2001. Due to economic recession in 1997/98, the size of informal activities is expected rising since formally unemployment worker shift and substitute into informal or illicit trading (Eng & Wong, 2007). In year 2002 till 2008, the size of shadow economy increase significantly. The case of illicit cigarettes inflow in the global shadow economy market which is including Malaysia, while the illicit cigarettes undermine government tax revenue of Malaysia.

Figure 1.2 Trend of Shadow Economy Malaysia from 1970 till 2008



Notes: Elgin and Oztunali (2012)