

**THE DYNAMIC INTERACTIONS AMONG YOUTH  
UNEMPLOYMENT, INFLATION AND ECONOMIC  
GROWTH IN ASEAN COUNTRIES**



**YEN VUN FUNG**

**UMS**  
UNIVERSITI MALAYSIA SABAH

**FACULTY OF BUSINESS, ECONOMICS AND  
ACCOUNTANCY  
UNIVERSITY MALAYSIA SABAH  
2023**

**THE DYNAMIC INTERACTIONS AMONG YOUTH  
UNEMPLOYMENT, INFLATION AND ECONOMIC  
GROWTH IN ASEAN COUNTRIES**

**YEN VUN FUNG**



**THIS IS SUBMITTED IN FULFILMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY**

**FACULTY OF BUSINESS, ECONOMICS AND  
ACCOUNTANCY  
UNIVERSITY MALAYSIA SABAH  
2023**

**UNIVERSITI MALAYSIA SABAH**

**BORANG PENGESAHAN STATUS TESIS**

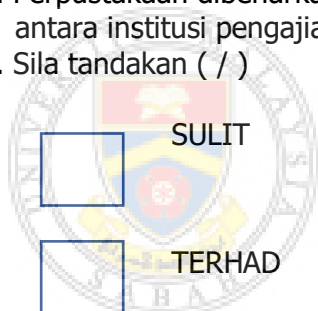
JUDUL : **THE DYNAMIC INTERACTIONS AMONG YOUTH UNEMPLOYMENT, INFLATION AND ECONOMIC GROWTH IN ASEAN COUNTRIES**

IJAZAH : **DOKTOR FALSAFAH EKONOMI**

BIDANG : **EKONOMI PERANCANGAN DAN PEMBANGUNAN**

Saya **YEN VUN FUNG**, Sesi **2016-2023**, mengaku membenarkan tesi Doktoral ini disimpan di Perpustakaan Universiti Malaysia Sabah dengan syarat-syarat kegunaan seperti berikut:-

1. Tesis ini adalah hak milik Universiti Malaysia Sabah
2. Perpustakaan Universiti Malaysia Sabah dibenarkan membuat salinan untuk tujuan pengajian sahaja.
3. Perpustakaan dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.
4. Sila tandakan ( / )



SULIT

(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA 1972)

TERHAD

(Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)

TIDAK TERHAD

Disahkan Oleh,

---

**YEN VUN FUNG**  
**DB1611010T**

---

(Tandatangan Pustakawan)

Tarikh : 15 Aug 2023

---

(Professor Madya Dr. janice L. H. Nga)

Penyelia Utama

## **DECLARATION**

I hereby declare that the material in this thesis is my own except for quotations, excerpts, equation, summaries and references, which have been duly acknowledge.

02 Mei 2023

---

Yen Yun Fung

DB1611010T



**UMS**  
UNIVERSITI MALAYSIA SABAH

## CERTIFICATION

NAME : **YEN VUN FUNG**

MATRIC NUM. : **DB1611010T**

TITLE : **THE DYNAMIC INTERACTIONS AMONG YOUTH UNEMPLOYMENT, INFLATION AND ECONOMIC GROWTH IN ASEAN COUNTRIES**

DEGREE : **DOCTOR OF PHILOSOPHY IN ECONOMICS**

FIELD : **PLANNING AND DEVELOPMENT ECONOMICS**

VIVA DATE : **02 MEI 2023**



**1. MAIN SUPERVISOR**

Professor Madya Dr. Janice L. H. Nga

**CERTIFIED BY;**

Signature

**2. CO - SUPERVISOR**

Dr. Rusli Bin Latimaha

## **ACKNOWLEDGEMENT**

First and foremost, I would like to record my gratitude to my main supervisor, Professor Madya Dr. Janice L. H. Nga from Faculty Business, Economic and Accountancy, University Malaysia Sabah for their supervision and constant support. Their invaluable help of constructive comments and suggestions the thesis works have contributed to the success of this research. I am grateful to my former colleagues for listening and offering advices, comments, and feedbacks on the research topic. They have lent me their moral support throughout this whole learning experience. Last but not least, I would like to place on record my deepest gratitude to my ever-supportive parents for their ever-ending moral support, which has given me the strength to complete my postgraduate study.

Yen Vun Fung

02 Mei 2023



UMS  
UNIVERSITI MALAYSIA SABAH

## ABSTRAK

Penyelidikan ini tentang hubungan dan interaksi antara pengangguran belia (YU), pertumbuhan ekonomi (EG) dan inflasi (INFLA) di negara-negara ASEAN Brunei Darussalam, Kemboja, Indonesia, Lao PDR, Malaysia, Myanmar, Filipina, Singapura, Thailand, dan Vietnam dari tahun 1996 hingga 2019. Objektif penyelidikan ini adalah untuk mengetahui tentang kesan, interaksi dan hubungan sebab dan akibat daripada inflasi dan pertumbuhan ekonomi terhadap pengangguran belia. Keputusan yang diperoleh melalui penggunaan aplikasi *kaedah panel cointegration*, *Dumitrescu-Hurlin panel Granger Causality* dan *Multivariate Analysis of Variance* mendapati dalam jangka masa panjang, ketiga pemboleh ubah menunjukkan korelasi, dengan hasilnya menunjukkan hubungan yang signifikan secara statistik. Pertumbuhan ekonomi mempunyai kesan negatif yang besar dalam jangka panjang, dengan kenaikan 1% mengurangkan pengangguran belia sebanyak 0.14%. Entah bagaimana, tidak ada kesan terhadap pengangguran belia dalam jangka pendek. Seperti halnya di negara-negara ASEAN, ada hubungan kausalitas dua arah antara pengangguran belia dan pertumbuhan ekonomi serta antara inflasi dan pengangguran belia. Walau bagaimanapun, terdapat sebab-akibat yang tidak bergerak dari inflasi ke pertumbuhan ekonomi. Oleh itu, dapat disimpulkan bahawa pemerintah perlu mengambil tindakan awal terhadap pertumbuhan ekonomi dan inflasi untuk menurunkan pengangguran belia di negara-negara ASEAN. Akhirnya, terdapat interaksi antara pengangguran belia (YU), pertumbuhan ekonomi dan inflasi antara satu sama lain, pengangguran dan inflasi belia mempunyai kesan yang signifikan terhadap pertumbuhan ekonomi sebanyak 0.04%. Selain itu, inflasi memberi kesan yang besar terhadap pertumbuhan ekonomi dan pengangguran belia ketika nilai  $p$  kurang dari 0.5% (0.036). Akibatnya, disarankan agar negara-negara ASEAN menerapkan kebijakan yang berhasil dan memiliki pengaruh positif terhadap pengangguran belia, inflasi dan pertumbuhan ekonomi. Penyelidikan ini juga untuk menyumbang kepada pembentukan dasar pemberdayaan belia yang lebih berkesan dan pertumbuhan pekerjaan belia. Selain itu, penyelidikan ini juga menggalakkan kepentingan serta peningkatan guna tenaga belia dalam negara-negara ASEAN.

## **ABSTRACT**

### ***THE DYNAMIC INTERACTIONS AMONG YOUTH UNEMPLOYMENT, INFLATION AND ECONOMIC GROWTH IN ASEAN COUNTRIES***

*In this research, youth unemployment (YU), economic growth (EG) and inflation (INFLA) in the ASEAN countries of Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam is examined empirically from 1996 to 2019. The purpose of this research is to investigate the relationship between youth unemployment, economic growth and inflation in ASEAN countries. Additionally, this study examines the causal relationship between youth unemployment, inflation, and economic growth in ASEAN countries. Finally, this research examines the how interaction between youth unemployment, economic growth and inflation in ASEAN countries. The findings of this study reveal that over the long term, the three variables exhibit a correlation, with the result indicating a statistically significant relationship. The result from panel cointegration, Dumitrescu-Hurlin panel Granger Causality test and Multivariate Analysis of Variance found out that economic growth had a considerable negative impact in the long term, with a rise of 1% reducing youth unemployment by 0.14%. Somehow, there was no effect on youth unemployment in the short run. As is the case in ASEAN countries, there was a bidirectional causality relationship among youth unemployment and economic growth as well as between inflation and youth unemployment. However, there is a unidirectional causality moved from inflation to economic growth. Therefore, it can be concluded that government need to take an advance action on economic growth and inflation to lower the youth unemployment in ASEAN countries. Finally, there is interaction between youth unemployment (YU), economic growth and inflation with each other, both youth unemployment and inflation had a significant effect on economic growth of 0.04%. Additionally, inflation had a substantial effect on economic growth and youth unemployment when the p-value was less than 0.5 % (0.036). As a result, it is advised that ASEAN countries adopt policies that are successful and have a positive influence on youth unemployment, inflation and economic growth. This research is intended to contribute to the establishment of more effective youth empowerment policies and the growth of youth employment.*



# LIST OF CONTENTS

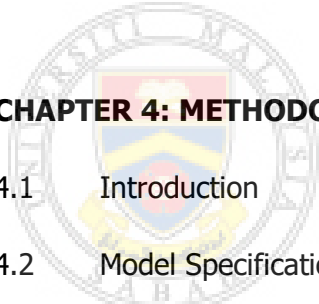

	Page
<b>TITLE</b>	i
<b>DECLARATION</b>	ii
<b>PENGESAHAN</b>	iii
<b>ACKNOWLEDGEMENT</b>	iv
<b>ABSTRACT</b>	v
<b><i>ABSTRAK</i></b>	vi
<b>LIST OF CONTENTS</b>	vii
<b>LIST OF TABLES</b>	xiii
<b>LIST OF FIGURES</b>	xiv
<b>LIST OF DIAGRAMS</b>	xvi
<b>LIST OF ABBREVIATIONS</b>	xvii
<b>LIST OF APPENDICES</b>	xviii
<b>CHAPTER 1: INTRODUCTION</b>	
1.1 Introduction	1
1.2 Background of Study	1
1.2.1 Youth Unemployment in ASEAN Countries	4
1.2.2 Inflation in ASEAN countries	6
1.2.3 Economic Growth in ASEAN countries	7
1.3 Definition of youth age range in ASEAN countries	8
1.4 Problem Statements	10

1.5	Research Questions	13
1.6	Objectives of Research	13
1.7	Scope of study	13
1.8	Significance of Study	15
1.9	Research Design	16
1.10	Concluding Remarks	17

## **CHAPTER 2: BACKGROUND OF YOUTH UNEMPLOYMENT RATE IN ASEAN COUNTRIES**

2.1	Introduction	19
2.2	Youth unemployment rate and unemployment rate in ASEAN Countries	19
	2.2.1 Brunei Darussalam	19
	2.2.2 Cambodia	20
	2.2.3 Indonesia	21
	2.2.4 Lao PDR	23
	2.2.5 Malaysia	24
	2.2.6 Myanmar	25
	2.2.7 Philippines	26
	2.2.8 Singapore	26
	2.2.9 Thailand	27
	2.2.10 Vietnam	28
2.3	Overview of youth unemployment with unemployment in ASEAN	29
2.4	Inflation rate and GDP in ASEAN Countries	33

2.4.1	Brunei Darussalam	34
2.4.2	Cambodia	35
2.4.3	Indonesia	36
2.4.4	Lao PDR	38
2.4.5	Malaysia	40
2.4.6	Myanmar	43
2.4.7	Philippines	45
2.4.8	Singapore	47
2.4.9	Thailand	50
2.4.10	Vietnam	52
2.5	Conclusion	54
<b>CHAPTER 3: LITERATURE REVIEW</b>		
3.1	Introduction	56
3.2	Characteristics of Youth Unemployment	56
3.3	The relationship between Unemployment and Variables	57
3.4	The relationship between Economic Growth and Variables	59
3.5	Youth unemployment and Economic Growth	60
3.6	Concept of Unemployment	61
	3.6.1 Type of Youth Unemployment	62
3.7	Concept of Inflation	63
	3.7.1 Type of Inflation	63
3.8	Concept of Growth Theory	64

3.8.1	Classical growth theory	64
3.8.2	Rostow's stages of growth theory	64
3.8.3	The harrod-domar growth model	65
3.8.4	Great spurt theory	65
3.8.5	The Solow growth model	66
3.8.6	The new growth theory (Romer,1990)	66
3.8.7	Increasing Returns to Knowledge Drive Growth	67
	The Philips curves	67
3.9	Conceptual Framework	69
3.10	Conclusion	69
 		
<b>CHAPTER 4: METHODOLOGY</b>		
4.1	Introduction	71
4.2	Model Specification	71
4.3	Definition of Variables	73
	4.3.1 Gross Domestic Per Capita	73
	4.3.2 Youth Unemployment Rate	74
	4.3.3 Inflation Rate	75
4.4	Statement of Hypothesis	76
4.5	Data sources	77
4.6	Description Analysis	77
4.7	Estimation Procedure	78
	4.7.1 Panel Unit Root test	78

4.7.2	Panel Co-integration	81
4.7.3	Panel Autoregressive Distributed Lag Model (ARDL)	83
4.7.4	Dynamic Heterogeneous Panel Estimation	86
4.7.5	Robustness Test	90
4.7.6	Dumitrescu-Hurlin panel Granger Causality test	91
4.7.7	Multivariate Analysis of Variance (MANOVA)	93
4.8	Conclusion	95

## **CHAPTER 5: RESULT AND DISCUSSION**

5.1	Introduction	96
5.2	Empirical Result	97
	5.2.1 Descriptive Statistic	97
	5.2.2 Correlation matrix	98
	5.2.3 Panel Unit Root Test	99
	5.2.4 Panel Co-integration Test	100
	5.2.5 Mean Group and Pooled Mean Group: Hausman Test Results	102
	5.2.6 Robustness Analysis	104
	5.2.7 Dumitrescu-Hurlin panel Granger Causality Test Result	106
	5.2.8 Multivariate Analysis of Variance (MANOVA) Test	107
5.3	Conclusion	108

## **CHAPTER 6: DISCUSSION AND CONCLUSION**

6.1	Introduction	110
-----	--------------	-----

6.2	Discussion of finding	110
6.3	Contributions of the study	113
6.4	Policy and Implication	116
6.5	Limitation and Recommendations of study	120
6.6	Conclusion	121
	<b>REFERENCES</b>	123
	<b>APPENDICES</b>	150



UMS  
UNIVERSITI MALAYSIA SABAH

## LIST OF TABLES

	Page
Table 1.1 : Youth unemployment rate and unemployment youth, 2016-18	4
Table 1.2 : Mean of EG growth rate per capita and mean of inflation rate over the period of 1996-2021 in ASEAN countries.	7
Table 1.3 : Youth age range in ASEAN countries and organisations	10
Table 1.4 : Research Design of the study	17
Table 4.1 : Expected relationship among the variables	76
Table 5.1 : Descriptive Statistics of the Variables ASEAN countries	97
Table 5.2 : Correlation matrix Result for ASEAN countries	99
Table 5.3 : Cross-Section Dependence Test Result	99
Table 5.4 : Panel Unit Root Test Results	100
Table 5.5 : Panel Co-integration Test Results	101
Table 5.6 : Mean Group and Pooled Mean Group: Hausman Test Results	102
Table 5.7 : Pooled Mean Group for each country with ARDL (4,4,4) Results	103
Table 5.8 : Robustness Analysis Result	105
Table 5.9 : Dumitrescu-Hurlin panel Granger Causality Test Result	106
Table 5.10 : MANOVA Result	107
Table 6.1 : Summary of Two Perspective of Youth Unemployment	114

## LIST OF FIGURES

	Page
Figure 1.1 : Youth unemployment rate (%) in global	3
Figure 1.2 : Youth vs Adult unemployment in ASEAN year 2019	5
Figure 2.1 : Youth unemployment rate and unemployment rate in Brunei Darussalam	20
Figure 2.2 : Youth unemployment rate and unemployment rate in Cambodia	21
Figure 2.3 : Youth unemployment rate and unemployment rate in Indonesia	22
Figure 2.4 : Youth unemployment rate and unemployment rate in Lao PDR	23
Figure 2.5 : Youth unemployment rate and unemployment rate in Malaysia	24
Figure 2.6 : Youth unemployment rate and unemployment rate in Myanmar	25
Figure 2.7 : Youth unemployment rate and unemployment rate in Philippines	26
Figure 2.8 : Youth unemployment rate and unemployment rate in Singapore	27
Figure 2.9 : Youth unemployment rate and unemployment rate in Thailand	28
Figure 2.10 : Youth unemployment rate and unemployment rate in Vietnam	29
Figure 2.11 : Comparison between youth unemployment rate and unemployment rate in ASEAN	30
Figure 2.12 : Inflation rate and EG in Brunei Darussalam	34
Figure 2.13 : Inflation rate and EG in Cambodia	35
Figure 2.14 : Inflation rate and EG in Indonesia	36
Figure 2.15 : Inflation rate and EG in Lao PDR	38
Figure 2.16 : Inflation rate and EG in Malaysia	40
Figure 2.17 : Inflation rate and EG in Myanmar	43
Figure 2.18 : Inflation rate and EG in Philippines	45
Figure 2.19 : Inflation rate and EG in Singapore	47



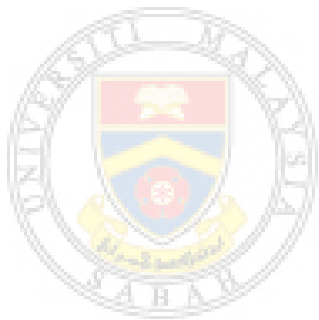
Figure 2.20	:	Inflation rate and EG in Thailand	50
Figure 2.21	:	Inflation rate and EG in Vietnam	52
Figure 3.1	:	Philip Curve	68
Figure 3.2	:	Concept Framework among Economic Growth, Youth Unemployment and Inflation	69
Figure 5.1	:	Skewness and Kurtosis Graph	98



UMS  
UNIVERSITI MALAYSIA SABAH

## LIST OF DIAGRAMS

	Page
Diagram 1.1 : ASEAN countries members	4



UMS  
UNIVERSITI MALAYSIA SABAH

## LIST OF ABBREVIATIONS

<b>ASEAN</b>	-	Association of Southeast Asian Nations
<b>ADF</b>	-	Augmented Dickey-Fuller
<b>ADRL</b>	-	Autoregressive distributed lag
<b>DH</b>	-	Dumitrescu-Hurlin
<b>EG</b>	-	Economic Growth
<b>GDP</b>	-	Gross Domestic Product (Growth)
<b>INFLA</b>	-	Inflation rate in consumer price index CPI
<b>MANOVA</b>	-	Multivariate Analysis of Variance
<b>MG</b>	-	Mean Group
<b>OECD</b>	-	Organization for Economic Co-operation and Development
<b>OLS</b>	-	Ordinal Least Squares
<b>PDR</b>	-	People's Democratic Republic
<b>IPS</b>	-	Im, Pesaran and Shin
<b>PMG</b>	-	Pooled Mean Group
<b>YU</b>	-	Youth Unemployment

## LIST OF APPENDICES

	Page
Appendix A : The Overall Result Of Less Common Perspective	150
Appendix B : Descriptive Analysis	164
Appendix C : Correlation Matrix Test Result	165
Appendix D : Residual Cross-Section Dependence Test Result	166
Appendix E : Panel Unit Root Test	167
Appendix F : Panel Co-integration Test	177
Appendix G : Lag Suggested By Akaike Information Criteria (AIC)- ARDL (4,4,4)	179
Appendix H : For each Countries short run relationship	182
Appendix I : Robustness test Result (DFE VS PMG)	188
Appendix J : Dumitrescu-Hurlin Panel Causality Tests	189
Appendix K : MANOVA Test	190
Appendix L : Table Of Literature Review Summaries	192

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

This chapter analyses the background of ASEAN which reflects the problem of youth unemployment in ASEAN countries. In this chapter, the situation of youth unemployment, inflation and economic growth are discussed. The questions, objectives and significance of the research also presented as well. In addition, the context and scope of the research in ASEAN countries are briefly discussed in this chapter.

### 1.2 Background of the Study

In this research, the dynamic reinteraction among youth unemployment, inflation and economic growth in ASEAN countries will be discussed. Therefore, the background of characteristic of youth employment, youth unemployment, inflation and economic growth in ASEAN countries is an important information that need to be understand. Youth unemployment refer for those who are at the age between 16 to 25 years and they are at the risk of jobless in many countries. The characteristic of youth whose are unemployed refers to the lack of employability causes by the range of socio-economic factors. The existence of youth unemployment means that they have lack of working experience that dislike of characteristic by the employers. Moreover, they also less networking or social capital which would let them have challenge to get the job opportunities. This will affect their resources of financial to enable the mobility where is demand for labor (Andrew, 2007:3). There are varies way to define youth unemployment in many countries. Some countries, the students

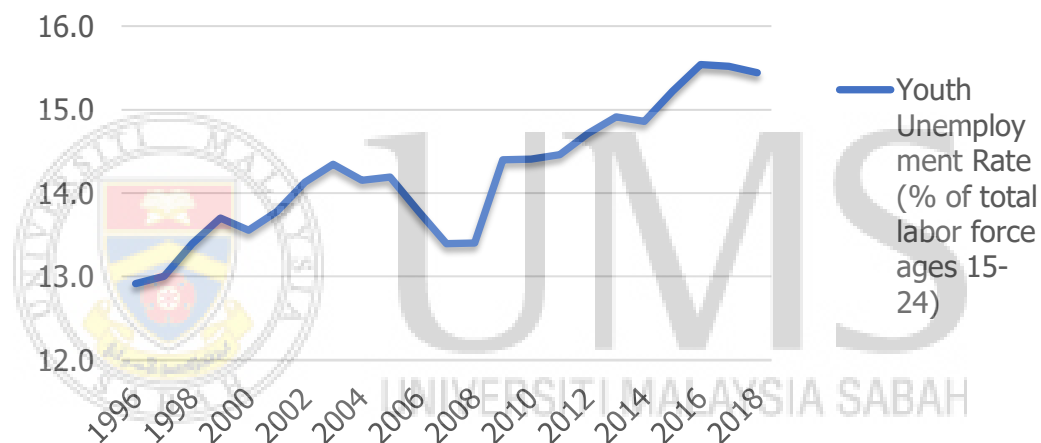
who are searching for job actively are considered as youth unemployed. Furthermore, some countries defined the youth employed are the number of inactive youths whose are not finding for work actively and not being in the workforce or in education can also exhibit quite a variation across countries (Gorlich D, Stepanok and Al Hussami,2013:4).

In contrast, youth employment is one of the important indicators which will affect the economic growth (Elvi *et al.*, 2022: 6; Enrico *et al.*, 2013:6; ILO, 2009: 1). Youth employment is a critical measure economic development. There are roughly 1.3 billion young adults globally between 15 and 24 years old who we refer to as youth. Their participation in the workforce has a long-term leverage on their countries' social and economic progress (International Labour Organization [ILO], 2020: 22; Junankar, 2016: 38; Ragui & Deborah, 2013:11). Youth employment promotes social inclusion, intergenerational discourse, citizenship and solidarity. Establishing and providing salary jobs for the youth can result in immediate poverty alleviation advantages. As an outcome, youth employment contributes to the growth of society. It also contributes to economic growth by allowing young skilled employees to enter vital areas of an industry, helping the nation to maintain its efficiency and viability in the international marketplace.

Somehow, the youth unemployment rate remains the highest in other parts of the world, particularly in the Arab States and North African region, at around 1.7 and 2.2 times the global average, respectively. Therefore, it is critical to assist youth in starting a job. Global youth unemployment is 11.7% in 2010, which is greater than the pre-crisis. Somehow, in year 2014 the youth unemployment then decreased to 73.3 million which means that there is a decrease of 3.3 million from 76.6 million in 2009 (ILO, 2015: 1). Thus, it is evidently clear that the youth employment has decreased over the last five years from 2014 to 2010. However, according to International Labour Organization (2017: 15), the worldwide youth unemployment rate is anticipated to be 13.0% in total for 2016, implying that the global youth unemployment rate will continue to rise. At this rate, it is less than the 13.1% recorded between 2011 and 2013. However, the global youth unemployment rate increased to 13.1% in 2017 and 13.1% in 2018. Regrettably, the declining trend has

been reversed. Thus, the unemployed youth population is expected to reach 70.9 million in 2017, a decrease from 76.7 million in 2009.

According to the ILO, the unemployment rate in 2016 was 13.0%, which is 13.1% lower than the rate during the crisis between 2011 and 2013. Dismally, the unemployment rate increased to 13.1% in 2017 and 2018 (Figure 1.1). Simultaneously, the number of unemployed youths decreased to 70.3 million in 2015. The ILO then estimated 70.9 million unemployed youth in 2017, a significant decrease from 76.7 million in 2009. Regrettably, the global youth unemployment rate began to grow in 2017 and is anticipated to increase by another 134,000 in 2018, reaching 71.1 million (ILO, 2017: 15).






**Figure 1.1: Rate of youth unemployment (%) in global**

Source : ILO, Global Employment Trends for Youth (2017: 15)

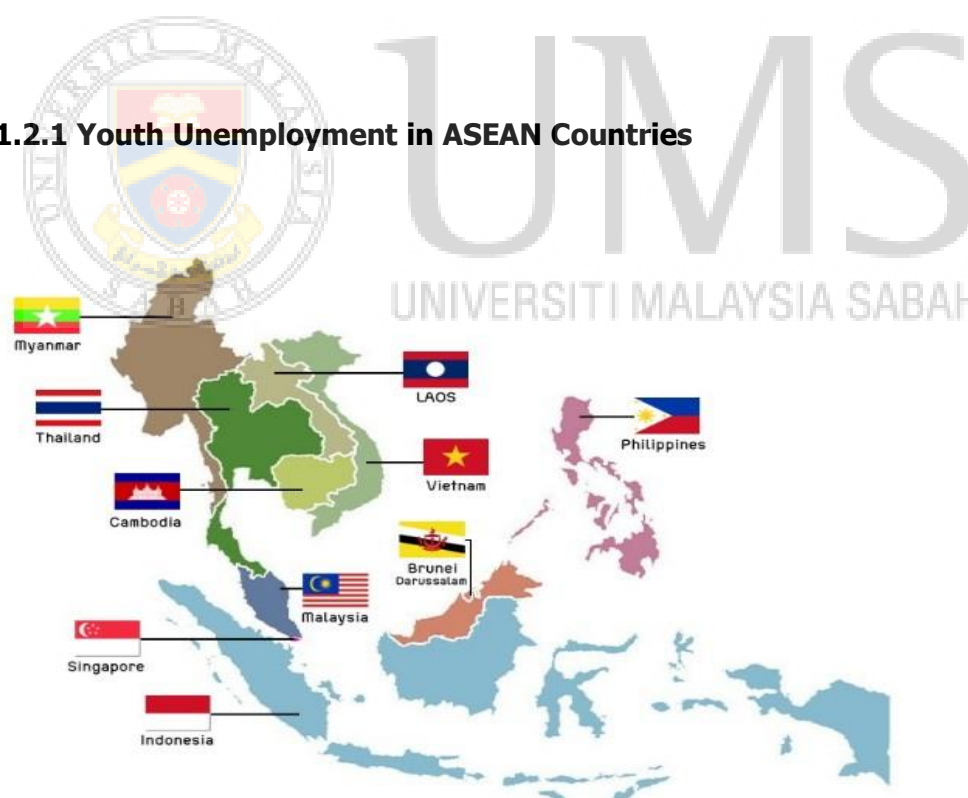
Global youth labour market conditions deteriorated in 2017 as a result of rising unemployment rates in developing countries. Youth unemployment is predicted to increase in emerging countries, having increased from 13.6% to 13.8% between 2016 and 2017. Concomitantly, it adds 200,000 young individuals to the list of unemployed (Figure 1.1). Youth unemployment climbed by half a million in developing countries between 2017 and 2018, despite the fact that a big legion of young people enters the labour field each year. Additionally, it indicated that the youth unemployment rate in emerging countries decreased from 14.0% to 13.4% between 2016 and 2017 but is fast increasing in 2018 (ILO, 2017: 15).

**Table 1.1 Youth unemployment rate and unemployment youth 2016–18**

Country / Region	Unemployment rate, 2016-18 (percentages)				Unemployed youth, 2016-18 (million)		
	2016-18	2016	2017	2018	2016	2017	2018
World		13.0	13.1	13.1	70.7	70.9	71.1
Developed Countries		14.0	13.4	13.5	9.5	9.0	9.0
Developing Countries		9.5	9.5	9.5	7.7	8.0	8.2

Source: ILO, Global Employment Trends for Youth (2017: 15)

### 1.2.1 Youth Unemployment in ASEAN Countries



**Diagram 1.1 : ASEAN member states**

Source : World Economic Forum on ASEAN