



Faculty of Economics and Business

**SOCIO-ECONOMIC DETERMINANTS OF CRIME RATE
IN MALAYSIA**

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Bachelor of Economics with Honours

(International Economics)

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SOCIO-ECONOMIC DETERMINANTS OF CRIME RATE IN MALAYSIA

TAN HUI CHEN

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

Faculty of Economics and Business
UNIVERSITI MALAYSIA SARAWAK

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Final Year Project Report

Masters

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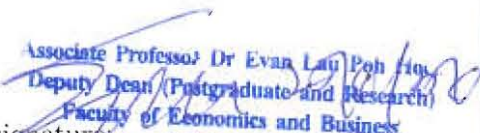
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ABSTRACT

SOCIO-ECONOMIC DETERMINANTS OF CRIME RATE IN MALAYSIA

By

Tan Hui Chen

The study is to investigate the relationship between total crimes and real GDP per capita, unemployment rate, population growth and fertility rate in Malaysia by using the annually data which covered the period from year 1976 to year 2014. Augmented Dickey-Fuller (ADF) test, Philips and Perron (PP) test and Kwiatkowski-Philips-Schmidt-Shin (KPSS) test is to test the stationary properties of the variables. Johansen and Juselius co-integration and vector error correction model (VECM) were applied to examine the long run relationship together with causality relationship among the variables. Granger causality test was applied to find out the short run causality among the variables. The results imply that the variables are stationary at order one, $I(1)$. Besides, Johansen-Juselius co-integration test also shows the existence of long-run relationship between the variables. Unidirectional Granger causality is running from GDP per capita, population and fertility rate to unemployment and bidirectional Granger causality between population and fertility rate. However, there is no short-run causality relationship between total crime rate and explanatory variables. Policy may focused on these socio-economic variables which might indirectly affect the crime rate in Malaysia.

ABSTRAK

PENENTU SOSIO-EKONOMI UNTUK KADAR JENAYAH DI MALAYSIA

Oleh

Tan Hui Chen

Kajian ini adalah untuk mengkaji hubungan antara jumlah kadar jenayah, pertumbuhan ekonomi, kadar pengangguran, perkembangan populasi dan kadar kesuburan dengan menggunakan data tahunan merangkumi bermula dari tempoh tahun 1976 hingga tahun 2014. Ujian Kepengunan (ADF, PP dan KPSS) adalah digunakan untuk mengkaji kepegunan antara pembolehubah-pembolehubah. Ujian Kopingamiran Johansen dan Juselius, dan VECM diaplikasikan untuk memeriksa kointegrasi dengan arah hubungan antara pembolehubah-pembolehubah. Penyebab Granger displikasikan untuk menentu arah hubungan yang wujud bagi pembolehubah-pembolehubah dalam jangka masa pendek. Keputusan menunjukkan pembolehubah-pembolehubah terpegun pada $I(1)$. Selain itu, JJ kointegrasi also meunjukkan hubungan jangka panjang antara pembolehubah-pembolehubah. Pertumbuhan ekonomi, perkembangan populasi dan kadar kesuburan mempunyai hubungan sebab akibat kepada kadar pengangguran dan perkembangan populasi dan kadar kesuburan pula mempunyai sebab akibat dwiarah. Walaubagaimanapun, hubungan sebab akibat tidak menwujud antara jumlah kadar jenayah dan pembolehubah penerangan. Dasar boleh fokus pada pembolehubah penerangan yang mungkin menjejaskan kadar jenayah di Malaysia.

ACKNOWLEDGEMENT

This degree education and thesis have been a challenging journey. The continuous support from supervisors, lecturers, family and friends are the motivation that helps me to go through the difficulties.

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

In the past few decades, crime has been classified as an activity that consists enormous negative impact towards society and economic of a nation. Nowadays, Royal Malaysia Police (RMP), newspaper or news in television, radio, and articles published in the internet report crime as a serious problem. In the first quarter of 2016, crime index of Malaysia's has increased 4.6% as compared to the previous year, reported by The Star Online (2016). This issue makes individuals feeling unsafe to the society.

The very first paper discussed about the linkage between economic and crime has done by Becker in year 1968. In his paper, the aim was to investigate economic variables that affect criminal choices and behaviours of a person. Becker (1968) emphasizes that whether individuals decide to commit crime is based on their decision on cost-benefit analysis.

Based on Overseas Security Advisory Council (OSAC) (2015), Malaysia still face a high rating of crime. It not only affects in terms of money but also in terms of physically and mentally of a person. People may feel their personal safety have been threaten. Part of job of government is to protect his people. Therefore, government should enforces more laws and policies to prevent crime as well as to reduce crime.

1.1 Definition of Terms

The definition of each terms will be explained under this section in order to give full understand on every variables that been used.

1.1.1 Crime rate per 1000 population

Crime can be defined as an abnormal behaviour or action that contrary to prevailing norms–cultural standards that prescribed how human being ought to behave in society¹. Crime rate per 1000 population is crime index divided by a nation’s total population then multiple by 1000.

$$\textit{Crime rate per 1000 population} = \frac{\textit{Crime index}}{\textit{Total population}} \times 1000$$

¹ The definition of crime was adapted from Havi (2014).

1.1.2 Real Gross Domestic Product (GDP) per capita

Real GDP per capita is one of the important economic indicator. It is measure by using the total economic output of a country divided by the number of people and adjusted for inflation².

$$\text{Real GDP per capita} = \frac{\text{Real GDP}}{\text{Number of population}}$$

1.1.3 Unemployment rate

Unemployment rate is defined as the number of people who are unemployed divided by the labour force, where the labour force is the sum of number of employed and number of unemployed person³.

$$\text{Labor force} = \text{Number of employed} + \text{Number of unemployed}$$

$$\text{Unemployment rate} = \frac{\text{Number of unemployed}}{\text{Labor force}} \times 100$$

²The definition and equation were adopted from Amadeo (2015).

³Both definition and equation are adopted from Mankiw (2012).

1.1.4 Population growth

Population growth is the change in population over time, and can be quantified as the change in the number of individuals in a population using “per unit time” for measurement⁴.

1.1.5 Fertility rate

Fertility rate represent the number of children that would be born by a woman if the woman were to pass through the childbearing years bearing children according to a current schedule of age-specific fertility rates⁵.

$$TFR = \sum ASFR$$

where ASFR = age-specific fertility rate for women in age group.

⁴The definition are adopted from Department of Statistics Malaysia (2015).

⁵The definition of fertility rate was adopted from World Data Bank (2015).

1.2 Background of the study

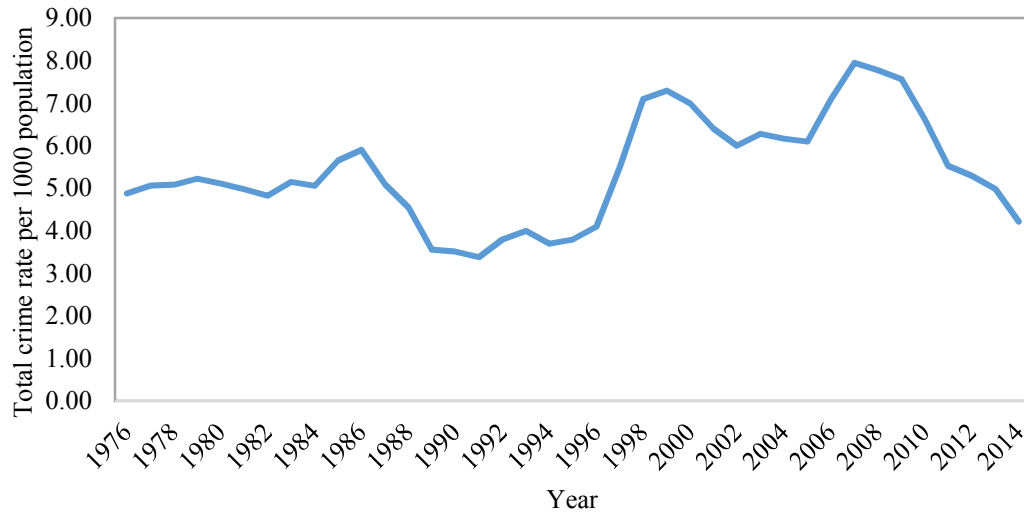
Malaysia is a developing country which formed by 1963. It covers an area of about 330,803 square kilometers, consisting Peninsular Malaysia, and East Malaysia state of Sabah and Sarawak on the northern coast of Borneo. It is located on strategic sea-lane without natural disaster and also exposes to global trade and foreign culture.

Based on the Social Statistics Yearbook published by Department of Statistic, Malaysia (2016), crime data is fluctuated throughout the years and the total crime index (property crime and violent crime) is 4.22 (129,037 cases) in year 2014. With the increasing in population, there is an increase in production too. Increase nation wealth means that people's income are raise in average. These people may become the potential target of crime, and hence increase the crime rates.

Besides, too much increase in population may cause part of the workers unemployed especially for those who are less experience and fresh graduate. This may due to less of job places or high technology that use to replace manpower. In order to survive in such a competitive society, people may have the motivation to engage in illegal activities, hence, crime rates increase. Therefore, it is very important to reduce crime rates to make sure people are feel safe and secure.

1.2.1 The trend of total crime rate per 1000 population

Figure 1.1: Total crime rate per 1000 population in Malaysia from year 1976 to 2014

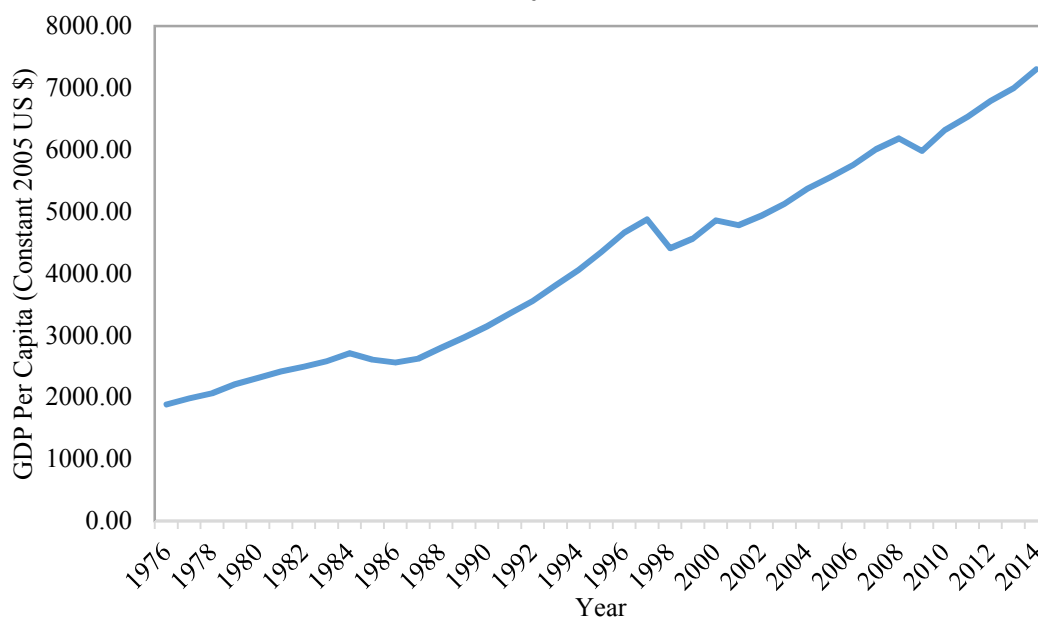


Sources: Department of Statistics, Malaysia (2016) and Sidhu (2005).

Figure 1.1 shows the trend of total crime rate per 1000 population in Malaysia from year 1976 to 2014. Over the past 39 years, total crime rate per 1000 population had fluctuated from year to year. In year 1998 and 2008, total crime index recorded were 7.30 and 7.78 respectively. Sidhu (2005) and United Nations Office on Drug and Crime (UNODC) (2012) explain that economic downturn happened in 1997-1998 and 2008-2009 increased the unemployment and thus, extend the possibility of rise in crime rate. The lowest total crime rate recorded is 3.39 with 63371 cases in year 1991. After 2009, total crime rate is having a decreasing trend until 2014. In average, total crime rate per 1000 population is 5.50.

1.2.2 The trend of real Gross Domestic Product (GDP) per capita

Figure 1.2: Real GDP per capita in Malaysia from year 1976 to 2014



Source: Department of Statistics, Malaysia (2016).

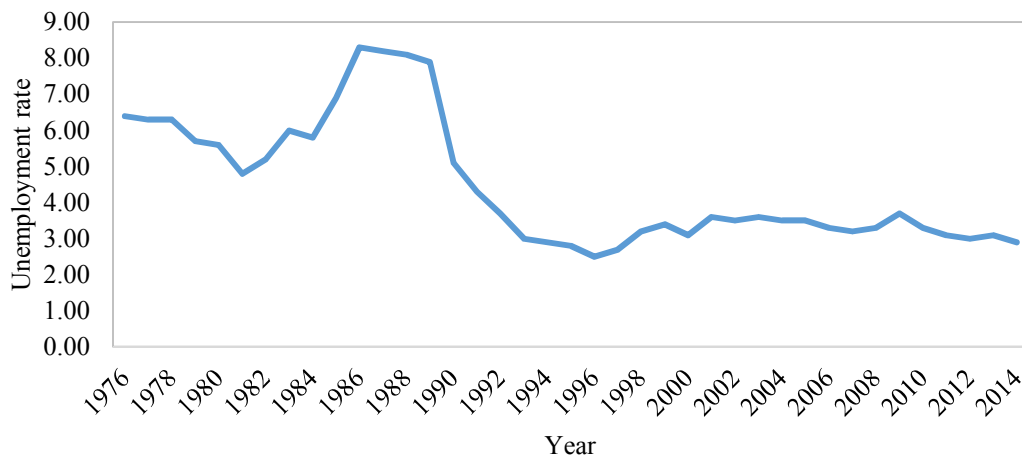
Figure 1.2 shows the trend of real GDP per capita in Malaysia over 39 years from 1976 to 2014. Real GDP per capita mostly in ascending trend along the time frame except for certain year which are 1985, 1986, 1998 and 2009. In year 1985 and 1986, Malaysia was involved in commodity crisis⁶ which raised by the US high-interest rate policy and this also caused economic downturn in developed countries. Then follow by Asian financial crisis happened in the year 1997 caused a sharply decreased of GDP growth in 1998 and global financial crisis in year 2008

⁶See more in Athukorala (2010).

again gave a direct impact to the economics structure of Malaysia and causes GDP declined⁷.

1.2.3 The trend of unemployment rate

Figure 1.3: Unemployment rate in Malaysia from year 1976 to 2014



Source: Department of Statistics, Malaysia (2016).

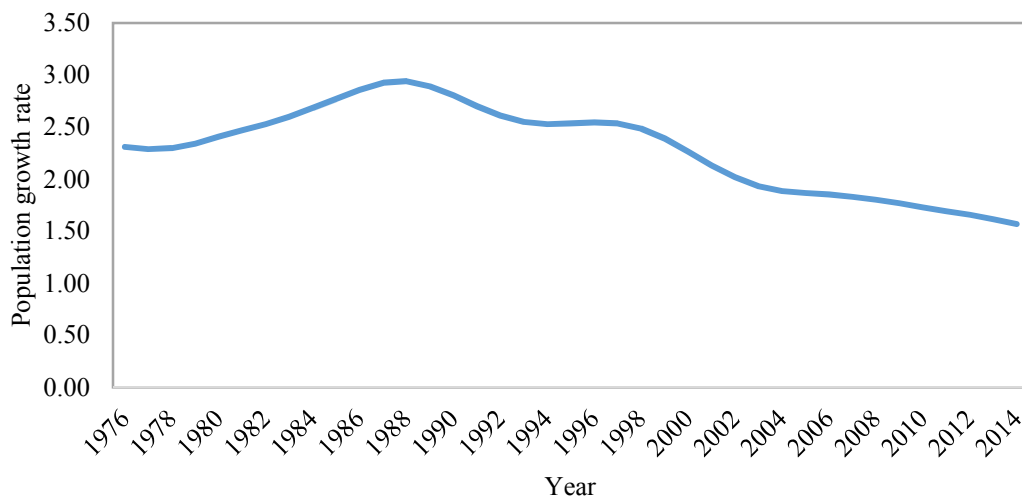
Figure 1.3 shows the trend of unemployment rate in Malaysia from year 1976 to 2014. Based on the graph, the unemployment rate is fluctuated over the years. The unemployment rate is increase from year 1980 which is 5.6 percent to 8.3 percent in year 1986. After that, it shows a decreasing trend until year 1997. Again, the unemployment rate continue to go high due to financial crisis that affected

⁷See more in Athukorala (2010).

economic conditions and caused many people lost their job. After 2000s, unemployment rate in Malaysia is consistency between 3 to 4 percent.

1.2.4 The trend of population growth rate

Figure 1.4: Population growth rate in Malaysia from year 1976 to 2014



Source: World Development Indicator (2016).

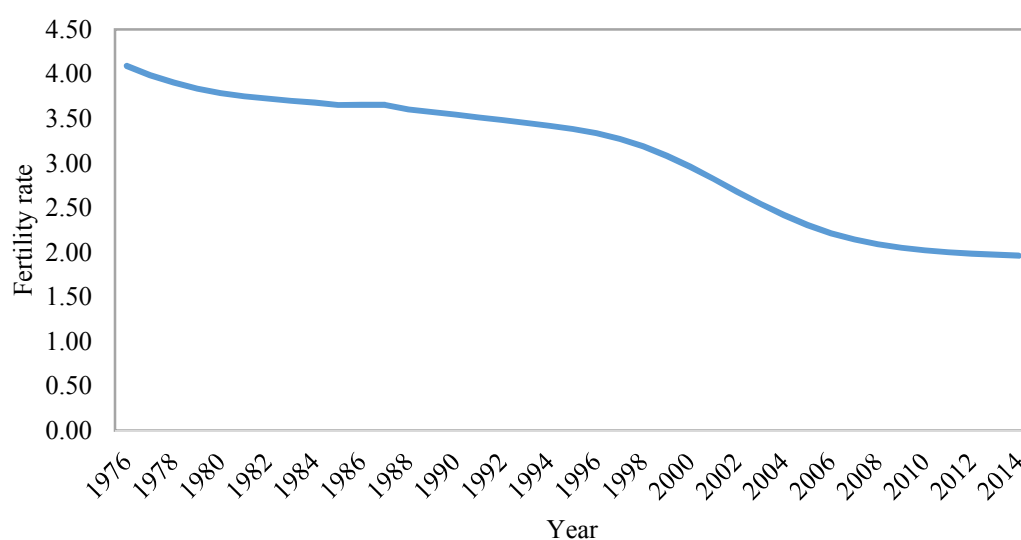
Figure 1.4 shows the trend of population growth in Malaysia from year 1976 to 2014. Start from year 1976, population growth increase gradually from 2.31 percent to 2.94 percent in year 1988. Then, the trend slowly decrease from 2.89 percent to 1.62 percent for the following years until 2013. This may due to the government start to launch family planning⁸ to his people and it has become an official policy since

⁸See more detail explanations for family planning in Ahmad et al. (2010).

1966 to control fertility rate. According to Ahmad et al. (2010), after the first launch of family planning, the fertility rate has changed from “too high” in 1990s to “satisfactory” in year 2007. This planning is said to have a more quality population.

1.2.5 The trend of fertility rate

Figure 1.5: Fertility rate in Malaysia from year 1976 to 2014



Source: World Development Indicator (2016).

Figure 1.5 shows the trend of total fertility rate in Malaysia from year 1976 to year 2014. The graph above shows that fertility rate is gradually decline throughout the years. The average fertility rate in year 1976 to year 1987 is about 3.70 percent. After that, it slowly decrease to 1.98 percent in year 2013. The declination may because of government started to launch family planning program to control the fertility rate and increase the living standards as well (Ahmad et al., 2010).

1.3 Problem Statement

Over the past three decades, the trend of crime index in Malaysia is inconsistency. This can be verified through the data from Department of Statistics Malaysia. The uncertainty of crime has made the society feel insecure and discomfort. Malaysia government had spent about RM2 million annually for investigate crime cases, maintain prisons, and also increase the police officer especially in the particular area in order to raise the public security and the peace and harmony in the society. Therefore, it is an important issue to solve the problems that arise from illegal activities.

Malaysia is an export oriented country with no doubt that GNP and GDP growth is ascending gradually except for those years when crisis happened. However, crime does not show descending trend but is in the opposite way. One of the reasons that stated by Habibullah and Baharom (2008) is because higher national growth means individuals have high income on average. Thus, the increase in wealth accumulation of population will have higher probability of the potential target of crime to occur.

In addition, the significant increase in population and foreign workers annually in Malaysia cause a trade-off between each other. The low costs of hired foreign