DETERMINANTS OF CRIME:
AN EMPIRICAL STUDY IN MALAYSIAN BORNEO

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DETERMINANTS OF CRIME:
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A thesis submitted in fulfillment of
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Statement of Originality

The work described in this Thesis, entitled “DETERMINANTS OF CRIME: AN EMPIRICAL STUDY IN MALAYSIAN BORNEO” is to the best of author’s knowledge that of the author, except where due reference is made.

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ABSTRACT

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By
Teo Shu Hui

The worsening crime situation has been a major concern for people and it is becoming a constant source of discussion and debate among politicians and the general public. Television news in Malaysia frequently conveys the accounts of crimes committed by both locals and foreigners. Likewise, newspapers, repeatedly show that the crime rate is spiraling alarmingly. With this barrage of media reporting, society is now anxious and fearful as to what the future will hold for the economy of Sarawak and Sabah. The aim of this study is to examine whether real GDP per capita, inflation, population density and unemployment will have any effect on the total crime, property crime and violent crime in Sarawak and Sabah. The results of this study show that in Sarawak and Sabah, there is no existence of cointegrating vector which thus indicates no long-run relationship between crime (total crime, property crime and violent crime) and real GDP per capita, population density and inflation. However, there does exist one cointegrating vector between violent crime and unemployment for Sarawak and crime (total crime, property crime and violent crime) and unemployment for Sabah. The Granger causality test results show bi-directional relationship where total crime and property crime Granger cause unemployment and vice versa, while violent crime and unemployment only show uni-directional relationship in Sarawak. On the other hand,
unemployment Granger causes total crime, property crime and violent crime in Sabah. Therefore, it can be concluded that not all the variables have a relationship in the short-run.

The most significant measure that can curb the problems is to generate economic growth. With more economic opportunities, employment can be increased as more businesses and investment will flow into the country, thus creating greater job opportunities. Besides that, parents and teachers have the important roles to instill good moral values in the young generation. As what is often said by the elders, “spare the rod, spoil the child”. Therefore, education plays a key role in building up highly disciplined citizens. Lastly, the police needs to play their role by consistently enforcing laws and regulations to maintain peace in the country.
ABSTRAK

PENENTU-PENENTU JENAYAH:
KAJIAN EMPIRIKAL DI MALAYSIA BORNEO

Oleh
Teo Shu Hui

Keadaan jenayah yang bertambah buruk merupakan perkara yang paling diambil berat oleh rakyat dan telah dijadikan bahan perbincangan dan perdebatan oleh ahli-ahli politik dan masyarakat umum. Televisyen selalu menyiarkan berita tentang kes-kes jenayah yang dilakukan oleh orang tempatan dan orang asing, begitu juga dengan suratkhabar yang melaporkan jumlah kes jenayah yang semakin meningkat. Liputan media yang begitu luas dan mendalam menyebabkan masyarakat berada dalam kemusykilan dan bimbang tentang masa depan ekonomi di Sarawak dan Sabah. Oleh itu, kajian ini bertujuan untuk mengkaji sama ada keluaran dalam negeri kasar (KDNK) benar per kapita, inflasi, populasi densiti dan pengangguran akan mempengaruhi jumlah jenayah, jenayah harta benda dan jenayah kekerasan di Sarawak dan Sabah. Hasil kajian menunjukkan bahawa tiada kewujudan kointegrasi di antara jenayah (jumlah jenayah, jenayah harta benda dan jenayah kekerasan) dengan KDNK benar per kapita, populasi densiti dan inflasi dalam jangka masa panjang. Walau bagaimanapun, untuk Sarawak, satu kointegrasi wujud di antara jenayah kekerasan dan pengangguran. Di Sabah pula, satu kointegrasi wujud di antara jenayah (jumlah jenayah, jenayah harta benda dan jenayah kekerasan) dan pengangguran. Keputusan dari ujian penyebab Granger menunjukkan terdapat
hubungan dua arah di mana jumlah jenayah dan jenayah harta benda mempengaruhi pengangguran dan sebaliknya di Sarawak. Manakala di Sabah pula, pengangguran mempengaruhi jumlah jenayah, jenayah harta benda dan jenayah kekerasan. Oleh itu, ia boleh disimpulkan bahawa tidak semua pembolehubah mempunyai hubungan dalam jangka pendek.

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TABLE OF CONTENTS

LIST OF TABLES…………………………………………………………………… ix
LIST OF FIGURES…………………………………………………………………… xi
LIST OF ABBREVIATIONS………………………………………………………… xii

CHAPTER 1: INTRODUCTION

1.0 Introduction…………………………………………………………………. 1
1.1 Problem Statement………………………………………………………… 4
1.2 Objectives of the Study…………………………………………………… 6
1.3 Significance of the Study………………………………………………… 7
1.4 Scope of the Study………………………………………………………… 8

CHAPTER 2: SOCIO-ECONOMIC BACKGROUND OF SARAWAK AND SABAH

2.0 Introduction…………………………………………………………………. 9
2.1 Socio-Economic Background
   2.1.1 Economic and Geographical Condition for Sarawak and Sabah……….. 9
   2.1.2 The Trend of Real GDP Per Capita in Sarawak and Sabah…. 12
   2.1.3 The Trend of Unemployment Rate in Sarawak and Sabah…. 14
   2.1.4 The Trend of Inflation Rate in Sarawak and Sabah……….. 15
   2.1.5 The Crime Rate in Sarawak and Sabah………………… 16
CHAPTER 3: LITERATURE REVIEW

3.0 Introduction

3.1 The Supply and Demand of Crime

3.2 Review of the Relationship between Crime and Economic Conditions, Unemployment, Population Density, Inflation and Others

   3.2.1 Review of the Relationship between Crime and Economic Condition

   3.2.2 Review of the Relationship between Crime and Unemployment

   3.2.3 Review of the Relationship between Crime and Population Density

   3.2.4 Review of the Relationship between Crime and Inflation

   3.2.5 Review of the Relationship between Crime and Others

3.3 Chapter Summary

CHAPTER 4: METHODOLOGY

4.0 Introduction

4.1 Model Formulation

   4.1.1 Definition and Description of Variables

4.2 Data Source

4.3 Data Analyzing Method

   4.3.1 Augmented Dickey-Fuller (ADF) Unit Root Test

   4.3.2 Philips-Perron (PP) Unit Root Test

   4.3.3 Johansen-Juselius Cointegration Test
CHAPTER 5: EMPIRICAL RESULTS AND DISCUSSION

5.0 Introduction ........................................................................................................ 82
5.1 The Relationship Between Crime and Real GDP Per Capita, Inflation and Population Density
   5.1.1 Unit Root Test Results .................................................................................. 82
   5.1.2 Johansen-Juselius Cointegration Test Results .......................................... 85
   5.1.3 Granger Causality Test Results ................................................................. 88
5.2 The Relationship Between Crime and Unemployment
   5.2.1 Unit Root Test Results ................................................................................ 93
   5.2.2 Johansen-Juselius Cointegration Test Results .......................................... 95
   5.2.3 Granger Causality Test Results ................................................................. 97

CHAPTER 6: CONCLUSION AND POLICY IMPLICATIONS

6.0 Introduction ........................................................................................................ 104
6.1 Conclusion .......................................................................................................... 104
6.2 Policy Implications ............................................................................................ 110
6.3 Limitations of the Study ..................................................................................... 113

REFERENCES

APPENDIX
## LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 2.1:</td>
<td>Economic and Geographical Condition for Malaysia, Sarawak and Sabah, 2010</td>
<td>10</td>
</tr>
<tr>
<td>Table 2.2:</td>
<td>Reported Cases of Crimes in Sarawak and Sabah</td>
<td>17</td>
</tr>
<tr>
<td>Table 4.1:</td>
<td>The Two Categories of “Index Crime”</td>
<td>65</td>
</tr>
<tr>
<td>Table 4.2:</td>
<td>Violent Crime and Property Crime</td>
<td>66</td>
</tr>
<tr>
<td>Table 5.1:</td>
<td>First Model Unit Root Test Results for Sarawak and Sabah</td>
<td>83</td>
</tr>
<tr>
<td>Table 5.2:</td>
<td>Johansen-Juselius Cointegration Test Results for Sarawak</td>
<td>86</td>
</tr>
<tr>
<td>Table 5.3:</td>
<td>Johansen-Juselius Cointegration Test Results for Sabah</td>
<td>87</td>
</tr>
<tr>
<td>Table 5.4:</td>
<td>VAR Granger Causality Test Results for Sarawak (Total Crime)</td>
<td>88</td>
</tr>
<tr>
<td>Table 5.5:</td>
<td>VAR Granger Causality Test Results for Sarawak (Property Crime)</td>
<td>88</td>
</tr>
<tr>
<td>Table 5.6:</td>
<td>VAR Granger Causality Test Results for Sarawak (Violent Crime)</td>
<td>89</td>
</tr>
<tr>
<td>Table 5.7:</td>
<td>VAR Granger Causality Test Results for Sabah (Total Crime)</td>
<td>91</td>
</tr>
<tr>
<td>Table 5.8:</td>
<td>VAR Granger Causality Test Results for Sabah (Property Crime)</td>
<td>91</td>
</tr>
<tr>
<td>Table 5.9:</td>
<td>VAR Granger Causality Test Results for Sabah (Violent Crime)</td>
<td>91</td>
</tr>
<tr>
<td>Table 5.10:</td>
<td>Second Model Unit Root Test Results for Sarawak and Sabah</td>
<td>93</td>
</tr>
<tr>
<td>Table 5.11:</td>
<td>Johansen-Juselius Cointegration Test Results for Sarawak</td>
<td>95</td>
</tr>
<tr>
<td>Table 5.12:</td>
<td>Johansen-Juselius Cointegration Test Results for Sabah</td>
<td>96</td>
</tr>
<tr>
<td>Table 5.13:</td>
<td>VAR Granger Causality Test Results for Sarawak (Total Crime)</td>
<td>97</td>
</tr>
<tr>
<td>Table 5.14:</td>
<td>VAR Granger Causality Test Results for Sarawak (Property Crime)</td>
<td>98</td>
</tr>
<tr>
<td>Table 5.15:</td>
<td>VEC Granger Causality Test Results for Sarawak (Violent Crime)</td>
<td>99</td>
</tr>
<tr>
<td>TABLE</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Table 5.16:</td>
<td>VEC Granger Causality Test Results for Sabah (Total Crime)</td>
<td>100</td>
</tr>
<tr>
<td>Table 5.17:</td>
<td>VEC Granger Causality Test Results for Sabah (Property Crime)</td>
<td>101</td>
</tr>
<tr>
<td>Table 5.18:</td>
<td>VEC Granger Causality Test Results for Sabah (Violent Crime)</td>
<td>102</td>
</tr>
<tr>
<td>Table 5.19:</td>
<td>Summarized of Granger Causality Test Results</td>
<td>103</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 2.1:</td>
<td>The Trend of Real GDP Per Capita in Sarawak and Sabah, 1975 to 2011</td>
<td>12</td>
</tr>
<tr>
<td>Figure 2.2:</td>
<td>The Trend of Unemployment Rate in Sarawak and Sabah, 2001 to 2011</td>
<td>14</td>
</tr>
<tr>
<td>Figure 2.3:</td>
<td>The Trend of Inflation Rate in Sarawak and Sabah, 1975 to 2011</td>
<td>15</td>
</tr>
<tr>
<td>Figure 2.4:</td>
<td>The Trend for Violent Crime in Sarawak and Sabah, 1975 to 2011</td>
<td>18</td>
</tr>
<tr>
<td>Figure 2.5:</td>
<td>The Trend for Property Crime in Sarawak and Sabah, 1975 to 2011</td>
<td>19</td>
</tr>
<tr>
<td>Figure 2.6:</td>
<td>Total Crime Rate in Sarawak and Sabah, 1975 to 2011</td>
<td>20</td>
</tr>
<tr>
<td>Figure 3.1:</td>
<td>Supply and Demand for Crime</td>
<td>23</td>
</tr>
<tr>
<td>Figure 5.1:</td>
<td>Direction of Short-run Causality Based on Table 5.6</td>
<td>89</td>
</tr>
<tr>
<td>Figure 5.2:</td>
<td>Direction of Short-run Causality Based on Table 5.13</td>
<td>97</td>
</tr>
<tr>
<td>Figure 5.3:</td>
<td>Direction of Short-run Causality Based on Table 5.14</td>
<td>98</td>
</tr>
<tr>
<td>Figure 5.4:</td>
<td>Direction of Short-run Causality Based on Table 5.15</td>
<td>99</td>
</tr>
<tr>
<td>Figure 5.5:</td>
<td>Direction of Short-run Causality Based on Table 5.16</td>
<td>100</td>
</tr>
<tr>
<td>Figure 5.6:</td>
<td>Direction of Short-run Causality Based on Table 5.17</td>
<td>101</td>
</tr>
<tr>
<td>Figure 5.7:</td>
<td>Direction of Short-run Causality Based on Table 5.18</td>
<td>102</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>LTCRIME</td>
<td>Natural Log of Total Crime</td>
<td></td>
</tr>
<tr>
<td>LPCRIME</td>
<td>Natural Log of Property Crime</td>
<td></td>
</tr>
<tr>
<td>LVCRIME</td>
<td>Natural Log of Violent Crime</td>
<td></td>
</tr>
<tr>
<td>LRGDPPC</td>
<td>Natural Log of Real GDP Per Capita</td>
<td></td>
</tr>
<tr>
<td>LPD</td>
<td>Natural Log of Population Density</td>
<td></td>
</tr>
<tr>
<td>LUN</td>
<td>Natural Log of Unemployment</td>
<td></td>
</tr>
<tr>
<td>LINF</td>
<td>Natural Log of Inflation</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER ONE
INTRODUCTION

1.0 Introduction

When we read newspapers or watch television, we will surely come across the news about criminal activities. Almost everyday, criminal activities occur and seem to increase. The news about crimes that are usually broadcasted includes snatch thefts, rapes, assaults and murders, child abuses, foreign maid abuses and others. Crime is a global phenomenon whereby every country and its people are gripped with fear due to the rising statistics of crime rates. Generally, the economic and political conditions of a country have a direct impact on its crime situation. In the case of Japan, a study shows that crime and economic growth do have a relationship. During its economic boom in the late 1980s, crime rate in Japan dropped sharply but later on in the early 1990s, when the economic bubble burst, crime rate spiraled and again in 1999, under similar situation (Lipman Report, 2000).

The crime trend in Malaysia has risen from the pre-Independence period through to the present date. The crime trend has developed from its modest beginning of simple theft, simple wayside robbery and physical injuries caused by direct confrontation, to that of syndicate crimes and now to the more complex borderless crimes. The rise in the crime rate has badly eroded people’s confidence and trust in the police whose image is thus tarnished (Sidhu, 2005). The world does not seem to be a safe place to live in anymore with crimes happening around the clock.
Crime rates vary enormously across countries and regions. They have a large impact either on psychological point of view or economical point of view. There are a lot of reasons why crime rate keeps on increasing. People often believed that poverty is the main reason as to why people commit crime (Deadman and MacDonald, 2002). Is this true? Some people commit crime though they are wealthy. White collar crime has become a trans-border type of crime where it causes jurisdiction problems when transactions are made thousands of miles away from Malaysia. Human greed is believed to be one of the reasons that has led to the increase of crime. For example, the economic crisis in 1997 was sparked by human greed and currency speculation, that later affected the economy and the society.

Crime will affect our economy and the society. Therefore, there is a need to identify the relationship between crime and economic activity to prevent any serious problems from occurring. The concern with crime is well justified given its pernicious effects on economic activity and, more generally, on the quality of life of the people who must cope with the reduced sense of personal and proprietary security (Baharom and Habibullah, 2008). The impact of crime on the economy is a debatable issue. Therefore, this study will determine the relationship between crime and economy in Sarawak and Sabah.

Unemployment is one of the variables which has a very close relationship with crime. Once a person is unemployed for a long time, they will face financial difficulties which cause them to desperately look for money so that they can maintain their current lifestyle and pay for all their expenses. If they cannot solve their financial problems, they may turn to crime. According to Becsi (1999), high crime
rates reflect relatively high unemployment rates. As a result, the relationship between crime and unemployment needs to be investigated.

Crime is considered as an urban phenomenon. Glaeser and Sacerdote (1999) stated that there is more crime in the cities compared to smaller cities or rural areas. The reason is because in urban areas, criminals may have a greater access to wealthy people and face a greater density of victims. Therefore population density is associated with crime. According to Fajnzylber, Lederman and Loayza (2002), an increase in the degree of urbanization leads to a rise in robbery rate, confirming the view that this type of property crime is more of an urban phenomenon. Therefore, an investigation needs to be done to find out whether the increase in population density would affect crime and vice versa.

Inflation is also one of the significant variables that are related to crime. Inflation can have positive or negative effects on a country’s economy. The negative effects of inflation may indirectly cause people to commit crimes because it will reduce the real value of money. The overall economic productivity rate will also decline because inflation discourages investments and savings. On the other hand, the positive effect of inflation is that it can reduce the real level of debt. According to Tang (2009), inflation is positively related to crime in Malaysia and Malaysia’s crime rate is Granger caused by inflation. Thus, it is important to find out the relationship between crime and inflation so that the policy makers can come up with ways to curb the problems arising from inflation.
1.1 Problem Statement

Crime has always been one of the main concerns of all people, whether the government or society. Although people from various walks of life have their own opinions on crime, they all agree that crime rate is on the rise. The rising crime rates all over the world have caused people to live in fear. From the news broadcasts, crime activities are one of the issues that are being reported daily all around the world. The whole world is facing a global phenomenon where everyone needs to play their role in the reduction of crime. Crime has become a field of interest since Becker’s study way back in 1968. Various types of studies have been conducted since then to test the relationship between crime and its possible determinants.

Crime will definitely have a negative impact on a country but whether it will harm the country’s economy is still a question that needs to be explored. When economic growth changes over time, will crime rates follow the same pattern? This is another question that needs to be figured out. In Sidhu’s (2005) descriptive research of “Rise of Crime in Malaysia”, there were two time frames in which crime statistics peaked significantly, once in mid 1980’s and again in 1997, during the economic downturn. The Lipman Report (2000) shows that crime will lead to a lower economic growth. Crime causes a lot of social problems which may adversely cut down investment opportunities for foreigners. The growth of economic activities can create attractive opportunities for investments and employment. This will boost their wealth but the increase of an individual’s wealth may portray potential loot for crime.
Unemployment is always considered to be closely related to crime. Increasing or decreasing unemployment rate will either increase or decrease crime rate. A study conducted by Nilsson and Agell (2003) shows that there is a positive relationship between crime and unemployment rate. People who are unemployed will not have a stable income and it will lower their standard of living. The probability of a person who is unemployed for a long period of time to engage in criminal activities is higher than those who are employed. The Lipman Report (2000) says that when there is full employment in Japan’s economy, people will have more job opportunities, which would automatically lead to a drop in the crime rate.

Population density is always thought to be associated with crime primarily because crime is considered as an urban phenomenon. Population density is positively correlated with all crimes except murder which tend to have a relatively weak correlation with density (Becsi, 1999). Glaeser, Sacerdote and Scheinkman (1996) also argued that a large degree of urbanization can facilitate the development of social interactions between criminals and would-be criminals. The consequences of committing crimes will decrease as the cost of transport for crime is low, thus leading to a higher incidence of crime.

Inflation can be one of the significant factors that can spur people to commit crimes. Tang (2009) found out that inflation is an important criminal motivational factor in Malaysia. When the economy is good, people will live in a better lifestyle compared to during the high inflation rate period. When the economy is on the downturn, people will have a hard time to earn money. Therefore, some may engage in crime activities because they cannot solve their financial problems.
Hence, this study aims to ascertain whether there is any relationship between crime (total crime, property crime and violent crime) and real GDP per capita, population density, inflation and unemployment in Sarawak and Sabah. It is important to know the relationship between them, due to the fact that crime has a strong impact on a country’s socio-economic conditions.

1.2 Objectives of the Study

The general objective of this study is to examine the relationship between crime and real GDP per capita, population density, inflation and unemployment in Sarawak and Sabah.

The specific objectives of this study are as follows:

i. To determine whether real GDP per capita, population density, inflation and unemployment have any impact on total crime, violent crime and property crime respectively in the long run.

ii. To examine the causal interplay between the real GDP per capita, inflation, population density and unemployment against total crime, violent crime and property crime respectively.

iii. To compare the relationship between crime and the economic variables in Sarawak and Sabah.
1.3 Significance of the Study

This study is an attempt to examine the socio-economic and demographic factors responsible for promoting crime in Sarawak and Sabah. If crime rate and the real GDP per capita, population density, inflation and unemployment are interrelated, then appropriate remedial measures can be put in place to overcome these problems. For instance, in curbing the increasing crime rate caused by low economic growth, the government will have to come out with solutions to boost the economic growth. The findings from this study may be able to provide useful information and guidelines for policy makers. If the policy makers know the direction of the causality, they can implement new policies to curb the rising crime rate. Therefore, it can help to clear the uncertainties and lack of information regarding the relationship between the variables. The limited exploration on the relationship between crime and population density and inflation is also one of the reasons that this study is being conducted. It is hoped that this study will contribute to the limited literature on this subject.
1.4 Scope of the Study

This study is intended to examine the relationship between crime and real GDP per capita, population density, inflation and unemployment in Sarawak and Sabah from 1975 to 2011, and also between crime and employment from 1996Q1 to 2011Q4. The thesis will be presented as follows. Chapter 1 is an introduction on the importance of the relationship between crime and the other variables. Chapter 2 presents the socio-economic background of Sarawak and Sabah. Chapter 3 is the review of the empirical and theoretical literatures reviews which analyze the relationship between crime and real GDP per capita, population density, inflation and unemployment. Similarities and differences will be compared and discussed in this chapter to allow further understanding and to provide additional insights into this research. Chapter 4 explains a detailed description of the data set, the source of the data or variables, definition of the variables and the methods that will be used in this study. Next, Chapter 5 will contain the interpretation of the empirical results and discussions on the outcome of the findings. Last but not least, conclusions on the main findings, policies recommendations and the limitations of the study will be provided in Chapter 6.
CHAPTER TWO
SOCIO-ECONOMIC BACKGROUND OF SARAWAK AND SABAH

2.0 Introduction

In this chapter, the contextual background of this study is presented. The economic and geographical condition for Sarawak and Sabah, the trend of the real GDP per capita, unemployment, inflation, total crime, violent crime, and property crime are briefly discussed in this section.

2.1 Socio-Economic Background

2.1.1 Economic and Geographical Condition for Sarawak and Sabah

Sarawak and Sabah, also known as Malaysian Borneo is one of the regions in Malaysia. Malaysia is separated into two regions which includes Peninsular Malaysia and Malaysian Borneo by the South China Sea. Sarawak\(^1\), also known as “Bumi Kenyalang” (Land of the Hornbills), is the largest state in Malaysia covering an area of 124,450 sq km, which is 37.73\% of Malaysia and is divided into 11 divisions. Sabah\(^2\) is the second largest state in Malaysia after Sarawak, which is located on the northern portion of the island of Borneo. Sabah is also known as “Negeri di Bawah Bayu” (The Land Below the Winds). This is due to its location at the south of the

\(^1\) The discussions for the economic development of Sarawak are adopted from http://www.sarawak.gov.my/seg.php?recordID=M00011&mainmenuID=M0001

\(^2\) The discussions for the economic development in Sabah are adopted from http://www.sabah.org.my/bi/know_sabah/economy_intro.asp