Testing Budget Sustainability in Malaysia

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TESTING BUDGET SUSTAINABILITY IN MALAYSIA

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ABSTRACT

Testing Budget Sustainability in Malaysia

By
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This study examines the sustainability of Malaysian budget deficit for the period of 1970-2011. The study adopts government intertemporal budget constraint as framework and tests the long-run cointegration relationship between government revenue and government expenditure. Johansen cointegration test and Granger causality test have been applied for analysis purpose. The results of Johansen cointegration test show that there is no long-run relationship between government revenue and government expenditure. The results of cointegration test also indicate that there is no long-run relationship between government revenue, government expenditure and gross domestic product (GDP) which is used as a control variable in this study. Hence, the Malaysian budget deficit is in an unsustainable condition. The results of Granger causality test show that there is no causal relationship between government revenue and government expenditure. However, the results indicate that there is causality from GDP to government revenue and also causality from GDP to government expenditure, but there is no causality from government revenue to GDP or government expenditure to GDP.
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<td>ADF</td>
<td>Augmented Dickey-Fuller</td>
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<td>ARDL</td>
<td>Autoregressive Distributed Lag</td>
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<tr>
<td>DOLS</td>
<td>Dynamic Ordinary Least Squares</td>
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<td>GE</td>
<td>Government Expenditure</td>
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<td>GR</td>
<td>Government Revenue</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>IBC</td>
<td>Intertemporal Budget Constraint</td>
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<td>Phillips-Perron</td>
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CHAPTER ONE
INTRODUCTION

1.1 Introduction

Malaysia has an aspiration to achieve a developed nation status by the year 2020. In order to achieve this aspiration, the nation required an annual growth of 7% over the thirty-year periods (1990-2020). However, the external factors and uncertainties in the global economic condition have affected the nation economic growth. In 1998, Malaysia suffered a contraction in Gross Domestic Product (GDP) growth due to the Asian Financial Crisis. The real GDP growth rate declined from 7.3% in 1997 to -7.2% in 1998 as been shown in the Figure 1. In 2007, the Global Financial Crisis has caused a downturn in economic activity leading to the 2008-2012 global recessions and European sovereign-debt crisis. This crisis has exposed the vulnerability of Malaysia’s export-dependent growth. Malaysia has suffered its biggest drop in exports in 2009. In 2008, the export duties obtained by the government is RM2,779 million. In 2009, the export duties decreased to RM1,152 million. The real GDP growth rate declined from 4.8% in 2008 to -1.6% in 2009.

**FIGURE 1: Malaysia GDP Growth Rate from 1980-2011**

(Source: International Monetary Fund)
Like other countries, Malaysian government also uses fiscal policy to influence the level of aggregate demand in the economy and to achieve price stability and economic growth. Hence, fiscal policy has significant impact on the economy in Malaysia.

Fiscal policy is the use of government revenue collection (taxation) and expenditure (spending) to influence the economy. The changes in the level and composition of government taxation and spending will affect the aggregate demand and level of economic activity. Malaysian government spending is funded by the tax revenue. Hence, the overall budget outcome has an effect on the level of economic activities.

Fiscal policy exists in three possible stances which are neutral, expansionary and contractionary. A neutral stance of fiscal policy occurs when the total government expenditure is equal to total tax revenue which leads to a balance budget. An expansionary stance of fiscal policy occurs when an increased in government spending or fall in taxation revenue or combination of the two which leads to a budget deficit. A contractionary fiscal policy occurs when the government reduces their spending or higher taxation revenue or a combination of the two which leads to a budget surplus.

A proper fiscal policy will help to generate budget sustainability which has an impact on the economic growth. Hence, Malaysian government as a policy maker needs to understand the relationship between government revenue and expenditure which is important in helping Malaysian government to evaluate budget sustainability.

Budget sustainability, in general, refers to the ability of government to maintain current and future policies. It is important that governments need to concern the current and
future policies, if not, will lead to an intertemporal budget constraint, then the fiscal process would be unsustainable and government insolvency would be possible.

During the Asian Financial Crisis, Malaysian government has implemented the fiscal expansionary policy to stimulate the economy. The government has allocated more funds for socio-economic projects and reduced the taxes. The real GDP growth rate increased from -7.2% in 1998 to 6.0% in 1999 and 8.7% in 2000 as been shown in the Figure 1. However, the budget deficit also increased from RM 5,003 million in 1998 to RM9,487 million in 1999 and RM19,715 million in 2000 due to the government spending more than government revenue (see Figure 2 and Figure 3).
1.2 The Development of Malaysian Economy

Malaysia is a middle-income country. Malaysia abandoned reliance on the export of primary natural resources and agricultural products and established itself as a rapidly industrializing country with a diversified export base.

At the time of independence, Malaysian economy was precariously dependent on two primary commodities which are rubber and tin. The prices of rubber and tin were highly volatile. Consequently, the economy was very vulnerable to fluctuations in primary exports. Oil palm, pepper, cocoa and pineapple were among the new commercial crops geared primarily for the export market.

In the 1970s, Malaysia has transformed itself from a producer of raw materials into an emerging multi-sector economy. Malaysian economy no longer depends on a few primary commodities. It was emphasises on manufactured exports, especially electric and electronic products. The manufacturing sector was boosted by the extensive growth of the electric assembly and electronics sectors. Malaysia became an important producer of radios, television sets, stereo equipment, and other related products in the 1970s and 1980s. Hence, Malaysian economy has become more open and outward looking over the years.

In the 1980s, the industrial sector has led Malaysia economy’s growth. The heavy industries which the government has vigorously promoted include petrochemicals, iron and steel and automobile manufacturing. The high levels of investment played a significant role in this, especially with Japanese investment, heavy industries flourished and in a matter of years, the exports of manufactured goods such as microchips and semiconductors have contributed
to the Malaysia economy’s growth. Consequently, Malaysia achieved more than 7% GDP growth along with low inflation in the 1980s and the 1990s (see Figure 1). Malaysian government also launched its national automobile project, the locally produced Proton car (in cooperation with Mitsubishi of Japan), and in the late 1980s, it started exporting the Proton to the international market.

In the 1990s, there was further growth in the manufacturing sector, especially in export-oriented electronics production, including semiconductors, silicon wafers, and other items. Malaysia has become the world's third-largest producer, and one of the world's largest exporters, of semiconductors. Most of Malaysia's electrical and electronic products are produced for export to the United States, Europe, and other markets. This makes Malaysian manufacturing economy vulnerable to downturns in the regional and international market. Evidently, during Asian Financial Crisis in 1997, the manufacturing sector experienced serious contraction; dozens of plants were closed and thousands of workers lost their jobs. Consequently, Malaysia real GDP growth rate declined from 7.3% in 1997 to -7.2% in 1998 (see Figure 1).

In the early 2000s, there was a boost in electronics components exports which helped the economy to recover. However, Malaysian economy then was affected by the Global Finance Crisis of 2008. Malaysia has suffered its biggest drop in exports in 2009. The real GDP growth rate declined from 4.8% in 2008 to -1.6% in 2009 (see Figure 1). Malaysian Prime Minister, Dato' Seri Najib Tun Razak, boosts domestic demand and reduce the economy's dependence on exports. Dato' Seri Najib has moved farther up the value-added production chain by attracting investments in Islamic finance, high technology industries, biotechnology, and services.
1.3 Malaysian Budget

The federal government revenue and expenditure are the two main elements in Malaysian budget. The government budget balance will be used to assess Malaysian fiscal health.

 Malaysian federal government revenue sources are generated from direct taxes, indirect taxes, non-tax revenue and non-revenue receipts. The main source of direct taxes is income taxes which are especially contributed by companies, individuals and petroleum. Export duties, import duties and surtax, exercise duties, sales tax and service tax are the major sources of indirect taxes. Non-tax revenue is obtained mainly from PETRONAS dividend and petroleum royalty and gas.

The expenditure of the federal government consists of operating and development expenditure. The operating expenditure consists largely of fixed obligatory payments as allocated by the government and Constitution such as emoluments and grants and transfers to the state and statutory bodies. The development expenditure is allocated to the State’s ministries, departments and agencies to implement approved development projects in economic services (transport, public utilities), social services (education, health, housing) and security and defense.

Government expenditures in Malaysia have almost consistently exceeded government revenues throughout most of the past decades since the formation of Malaysia in 1963 except for the period of 1993-1997. The government's commitment in pursuing rapid economic
development programmes as embodied in the various five years Malaysian development plans largely accounts for the fiscal deficits incurred (Abdul Aziz et al., 2000).

**FIGURE 2: Revenue & Expenditure of Malaysian Government from 1970-2011**

(Source: Department of Statistics Malaysia)

There has been a steady increase of government expenditures and also government revenues between 1970 and 1979 as shown in Figure 2. In the period from 1988 until 2011, the government revenues were increased sharply. At the same time, government expenditures also increased sharply. As shown in Figure 2, the government expenditures were exceeded the government revenues during the periods of 1970-1992 and 1998-2011 which had led the Malaysian budget in deficit. The bigger one budget deficits were from 2000-2011 (see Figure 3). The only exceptional was during the period of 1993-1997 where the Malaysian budget in surplus.
FIGURE 3: Malaysian Budget Deficit from 1970-2011

(Origin: Department of Statistics Malaysia)

In the early of 1980s, Malaysia has experienced a higher budget deficit compared to the period of 1970-1979 as shown in Figure 3. In 1982, there was a commodity crisis. So, during that period, Malaysian government had increased the budget for expenditure to enhance the economic recovery. In the late of 1980s and the early of 1990s, the budget deficit has decreased due to the economic recovery as the result of the growth in manufacturing sector. This also has led Malaysian budget in surplus during the period of 1993-1997 as shown in Figure 3. After Asia Financial Crisis in 1998, Malaysia experienced again the budget deficit from 1998-2011. The highest budget deficit recorded by Malaysia between 1970 and 2011 was in 2009 amounting to RM47,424 million due to the Global Financial Crisis in 2007.
1.4 Problem Statement

Malaysian budget has been in deficit for a long period. The only exceptional was during the period of 1992-1997. The government expenditure has been rising faster than government revenue. The budget deficit has important implications for economic growth. It will reduce economic growth and development, if it continued too long or became too large. Evidently, Malaysian GDP growth rate was declined from the average of 7.25% per annum in 1990s to the average of 4.8% per annum in 2000s due to the budget deficits became larger compared to the budget deficits in the past thirty years. Malaysia has an aspiration to achieve a developed nation status by the year 2020. To achieve this aspiration, the nation required an annual growth of 7% over the thirty-year periods from 1990-2020 (Mohamad, 1991). However, Malaysian average annual growth was below 7% from 2000 until 2011 (see Figure 1).

The question was whether Malaysian government's budget deficits are sustainable over the long-run or not. Therefore, this study intends to test the sustainability condition of fiscal position in Malaysia over the years of 1970 to 2011. It is important for Malaysian government to know its fiscal sustainability condition. A strong sustainability will indicate that no problems in the deficit's behavior are expected to arise and therefore no need for structural fiscal reforms. A weak sustainability will imply that Malaysian government might have future problems in managing its debt, involving a substantial risk of a rise in interest rates that may have perverse effects on economic growth and the public budget, so Malaysian government need to design a suitable fiscal form.
1.5 Research Objectives

1.5.1 General Objective

The general objective of this study is to investigate the relationship between government revenue and government expenditure in Malaysia.

1.5.2 Specific Objectives

i. To examine the long-run cointegration relationship between government revenue and government expenditure.

ii. To examine the sustainability of the budget deficit of government.

iii. To examine the causal direction between government revenue and government expenditure in Malaysia.
1.6 Significance of the Study

The significance of the study is to investigate the relationship between government revenue and government expenditure in Malaysia, in order to study the budget sustainability condition in Malaysia. Understanding the long-run sustainability between government revenue and government expenditure is important in order to assess the imbalanced fiscal phenomenon. The causal direction between the government revenue and expenditure will assist policy maker in identifying the sources of budget imbalance and designing a suitable fiscal form.

1.7 Scope of the Study

The study is a time series data analysis and the sample size will focus on the 42 years of government revenue and expenditure in Malaysia from the year 1970 to 2011 annually. The study begins with the introduction of the research that has presented in Chapter One. In Chapter Two, the literature on budget sustainability will be discussed. The research methodology and the data collection will be discussed in Chapter Three. The description of the data and empirical result will be presented in Chapter Four. Finally, Chapter Five will conclude the paper and provide some policy suggestions.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

There had been extensive studies focused on fiscal sustainability in different countries either developed countries or developing countries with different time periods, macroeconomic variables and econometric methodologies. This chapter will review literature on theoretical relating to fiscal deficits and fiscal adjustment. Thereafter, the chapter will review empirical evidences from developed countries, developing countries, Malaysian states and Malaysian federation relating to fiscal sustainable condition in these countries and also the relationship between government revenue and government expenditure in the budgetary process of these countries.

2.2 Theoretical Review

2.2.1 The Macroeconomic Effects of Budget Deficits

Budget deficits have significant impact on the economy. Budget deficits tend to reduce the level of national savings which in turn will retard economic growth of a country (Abdul Aziz et al., 2000; Wong & Lim, 2005; Abdul Rahman, 2012). However, Bose et al. (2007) in their study found that the budget deficit will help economy of a country to grow provided that
the deficits were due to productive expenditures such as education, health and capital expenditures.

Kuştepeli and Önel (2005) summarized the macroeconomic effects of the budget deficits in four major points. First, budget deficit will alter the incentive mechanisms in the economy. Second, budget deficit may direct policy makers to choose monetization. Third, budget deficit may lead to instability in the economy through the expectations about how the deficits will be financed. For instance, the private sector expects that the government will monetize the deficit and this expectation will lead to inflation even though the government does not monetize the deficit. Finally, high budget deficit will lead to increase in budget deficits due to some of the tax revenues of the government will be used for interest payments of government debt and as these interest payments are included as government expenditures. All these effects enhance when budget deficits become unsustainable.

Huge budget deficits not only tend to reduce the national savings but also reduce the private investment (Abdul Rahman, 2012). The investors will have less confidence to invest in a country, which further will reduce the economic growth of a country. According to Abdul Rahman (2012), the budget deficits can also reduce the economic growth of a country based on the perspective of politic and election process.

Abdul Aziz et al. (2000) suggested that reducing government expenditures and raising tax revenues can stimulate economic growth in a budget deficit economy. However, Wong and Lim (2005) suggested that by raising the national savings and reducing the budget deficit might induce economic growth in a budget deficit economy.
2.2.2 The Sustainability of Budget Deficits

A sustainable fiscal policy will contribute to the stability of the macroeconomic environment that fosters sustainable economic growth and strengthen fiscal discipline to avoid populist fiscal policies that lead to unsustainable levels of debt and seignorage (Archibald & Greenidge, 2003; Tshiwaka-Kashalala, 2006). Hence, it is important to maintain sustainable fiscal policy as one of the core requirements for a stable macroeconomic environment and a sustainable economy (Lau & Baharamshah, 2005).

Castro and Cos (2002) defined fiscal sustainability is based on the need for a fiscal deficit to be financed. The current market value of debt equal to the discounted sum of expected future primary surpluses. So, fiscal policy is sustainable if the discounted value of debt reaches zero at the limit.

Kirchgaessner and Prohl (2006) also stated that fiscal policy is sustainable if the present value budget constraint of the government is valid where the discounted value of public debt should reach zero at the limit. The current and discounted future surpluses must be sufficient to pay off the current public debt.

Doh-Nani (2011) stated that budget deficit sustainability referred to the ability of government to maintain a given budget deficit in the future where the current deficit policy by government can be continued indefinitely with a stable debt-to-GDP ratio. Meanwhile, government has the ability to raise the necessary funds by borrowing or balance its budget in present value terms (Kuştepeli & Önel, 2005; Doh-Nani, 2011).