UNIVERSITI PUTRA MALAYSIA

"GOVERNMENT REVENUE AND GOVERNMENT SPENDING CAUSAL ANALYSIS": MULTI COUNTRY EVIDENCES

LEONG MELYING

FEP 2003 13

"GOVERNMENT REVENUE AND GOVERNMENT SPENDING CAUSAL ANALYSIS": MULTI COUNTRY EVIDENCES

By

LEONG MEI YING

Project Paper Submitted to the Faculty of Economics and Management, University Putra Malaysia, in Fulfilment of the requirements for the Degree of Master of Economics

2005

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Abstract

This study investigate the causal relationship between the government revenue and government spending in selected eight Asian countries, namely, India, Malaysia, Pakistan, Philippine, Singapore, South Korea, Sri Langka and Thailand, for the data span from 1960 to 2002. This study can be use to fill up the gap in the literature on causality between the government revenue and government spending in Asian countries.

A general form of the government revenue and government spending is use and recent developments in time series econometrics, including unit root and error correction model were used.

The empirical results indicated that Pakistan and Thailand support the tax-and-spend hypothesis; India, Singapore and Sri Langka are supporting spend-and tax hypothesis; and Malaysia, Philippine and South Korea's government revenue and government spending are independent.

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I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has been previously or concurrently submitted for any other degree at UPM or other institutions.

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Candidate.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

After World War II, almost all the countries faced the problem of rapid increase in the government size. Hence, many of these countries have budget deficits. These deficits are expected to have adverse economic consequences including high interest rate, slow capital formation, and high unemployment rate. Even, to the extend that the deficit is financed through the issuance of government bonds and, the current large deficits have further worsened the public debt problem, which threatens the well-being of numerous countries. The issue of reducing budget deficit is one of the central themes of economic policy in many countries.

Therefore, researcher and policy makers have put a lot of effort in attempting to analyze the deficit problem and to suggest ways to resolve it. Basically, this type of research is prompted by the need to devise appropriate measures in order to reduce the U.S. federal budget deficit (Manzini and Nejadan, 1995; Mithani and Goh, 1999). Causality link between governments spending and government revenue has unique significance for developing countries in making budget decision.

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1.2 Background of Government Revenue and Government Spending condition

In order to place the ensuring discussion of the relationship of government revenue and government spending, it will be helpful at the outset review some key aspect of these countries fiscal balance condition.

1.2.1 India

India was one of the poorer countries in the world with very high population. With such a high population, obviously the government spending is a burden for the government. Over the past four decades, India's government revenue and government spending has increased over time. Generally government spending is higher than government revenue. From figures 1(a) and (b), we can observe that the different between government revenue and government spending is very close before year 1980. After year 1980, both government revenue and government spending in India start to increase dramatically. As we can see from figure 1(b), after year 1980, government revenue fluctuated very much while government spending does not change much.

During the Asia financial crisis in 1997, almost all the countries in Asia are affected. Therefore government revenue for India is increase in the decreasing rate, in additional, government spending for India increase in the increasing rate.

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Figure 1(a), India: Government Revenue and Government Spending, 1960-2001 (in Billions of Rupees)

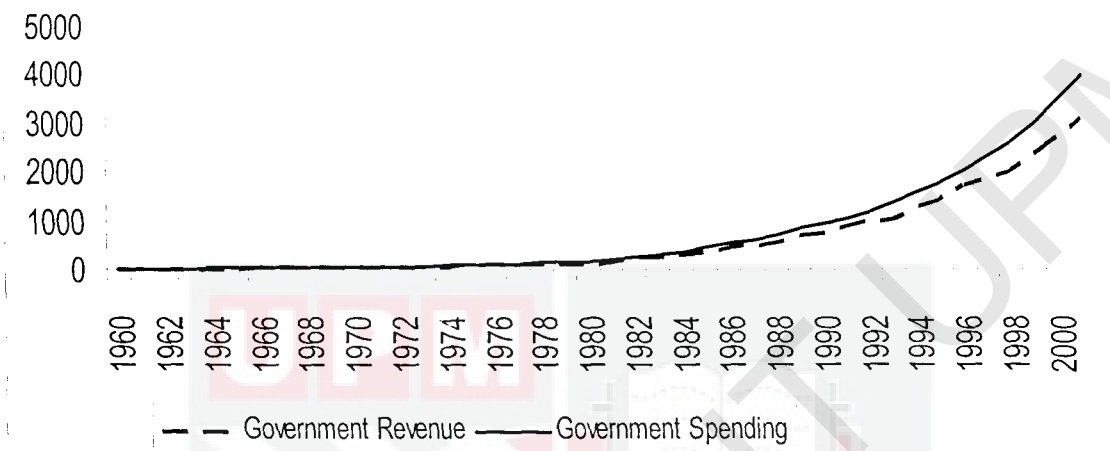
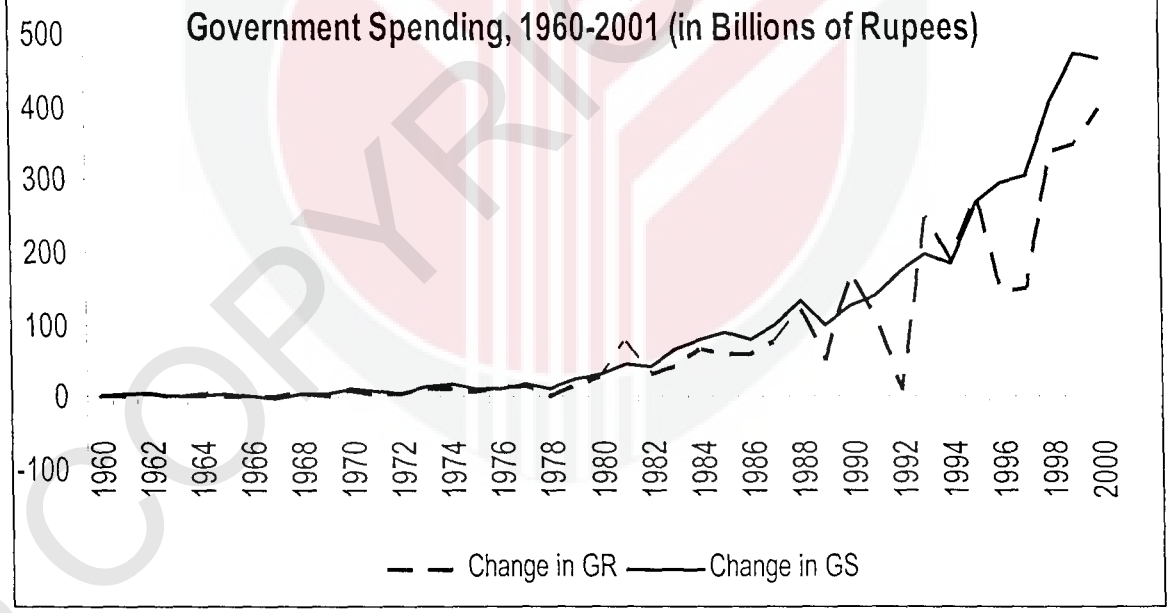


Figure 1(b), India: Change in Government Revenue and Government Spending, 1960-2001 (in Billions of Rupees)



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1.2.2 Malaysia

Malaysia is a middle income country, achieved impressive economic growth during the last two decades. The performance of Malaysia's economy in recent year has drawn the attention from all over the world. During the period 1960-1990, Malaysia moved rapidly from being a primary commodity producer with low per capital income to a industrialize country with higher per capital income. Malaysia transforms itself from 1970 through the late 1990s from a producer of raw material into an emerging multi-sector economy. Growth was almost exclusively driven by export – particularly of electronics. Meanwhile, the economy has also undergone a rapid structural transformation.

The long run growth in Gross Domestic Product (GDP) of around 7 percent over the two decades is not a small achievement. The long boom was accompanied and underpinned by international trade and payment liberalization, with rapid expansion in the proportionate role of the external sector.

For more than 30 years, Malaysia is facing fiscal deficit where its government spending is always higher than the government spending. This situation had improved since the government had tried to transform the economy from a producer of raw material into a multi-sector economy. In early of 1990s, government spending starts to growth negatively. Since 1993, the Malaysia government, successfully, recover from the imbalance of fiscal account.

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From figure 2(a), we found that government revenue and government spending is quite constant before year 1977. Since year after that, government revenue and government spending start to growth rapidly. As shown in figure 2(b), both government revenue and government spending is much fluctuated after year 1977. We can note that during the Asia financial crisis in year 1997, government revenue was dropped drastically, as well as the government spending.

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Figure 2(a), Malaysia: Government Revenue and Government Spending 1963-1999 (in Millions of Ringgit)

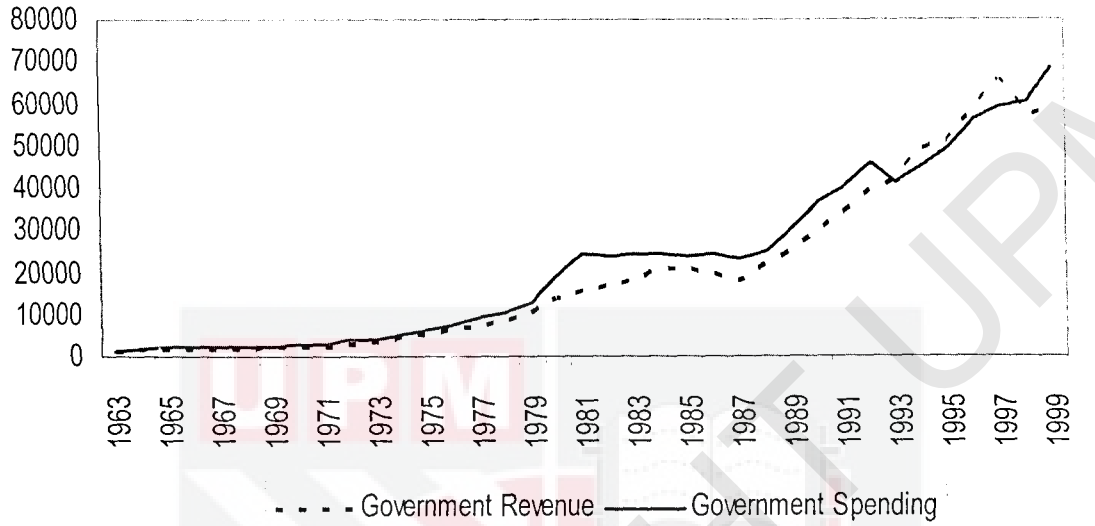
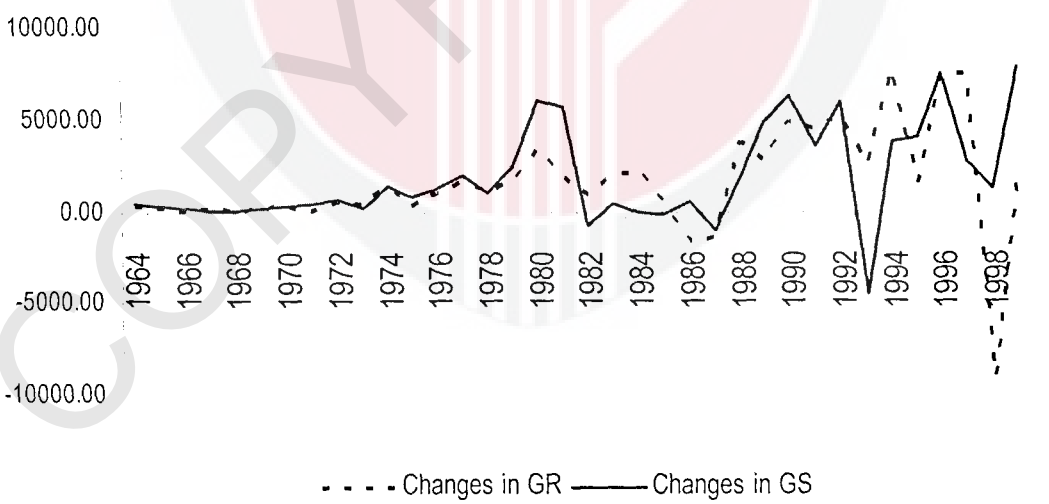


Figure 2(b), Malaysia: Changes in Government Revenue and Government Spending 1963-1999 (in Millions of Ringgit)



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1.2.3 Pakistan

In 1960s, Pakistan fiscal account is quite stable with government spending slightly higher than the government revenue. As exhibited in figure 3(b), changes in both government revenue and governments spending are near to zero.

Since 1970s, both government revenue and government spending in Pakistan starts to rise dramatically. Before year 1987, difference between revenue and spending is not very significant. However, after 1987 government spending growth rapidly and make the fiscal account for Pakistan become more and more imbalance. From figure 3(a), the difference between revenue and spending for Pakistan does not have the intention to close up the gap in 21st century.

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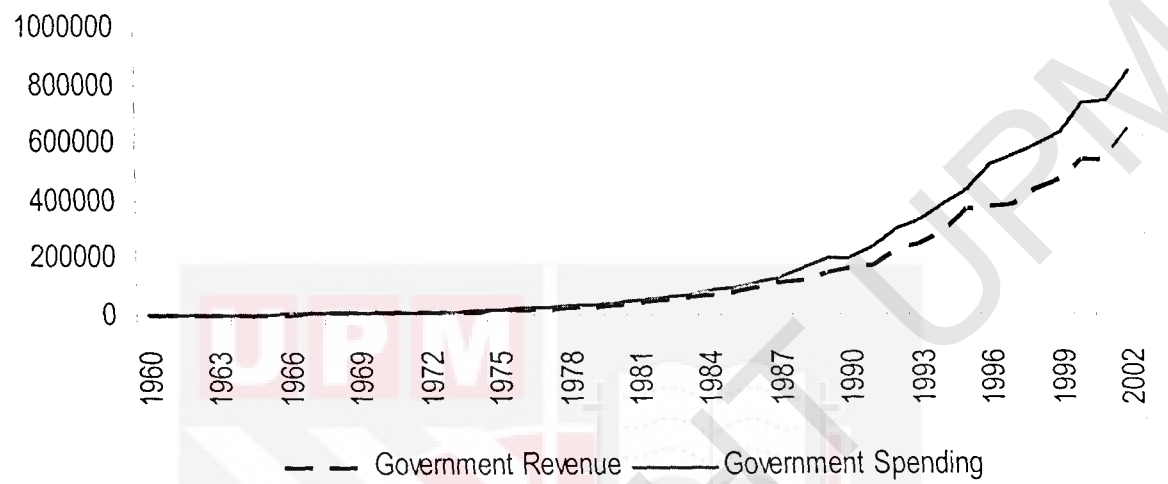
Figure 3(a), Pakistan: Government Revenue and Government Spending 1960-2002 (in Millions of Rupees)



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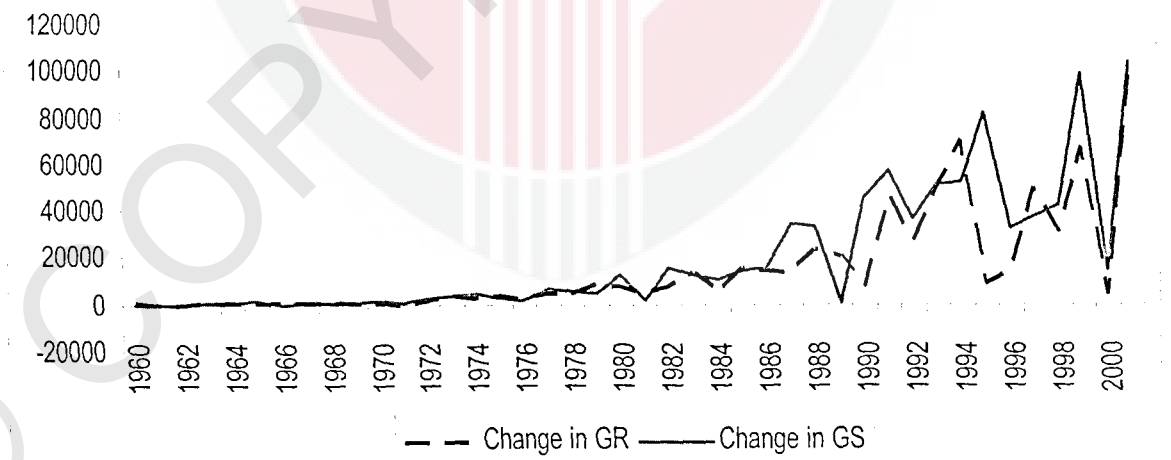

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1.2.4 Philippine

The recent acceleration of economic growth in the Philippines is remarkable, especially in the context of the dramatic slide in the economic position relative to neighbouring East Asian economies since the early 1970s. Since 1992, the start of the six-year term of President Ramos, the Philippine economy has grown impressively.

During 1970s, Philippine GDP growth rate increase fairly steady, and government revenue for Philippine growth reasonably slow. Philippine economy was collapse during 1983 to 1985. The Philippine economy starts to recover since 1986 to 1990. Figure 4(a) exhibited that the government revenue as well as the government spending has increased rapidly over the years.

As the growth rate approaches 6 percent of GDP in 1996, optimism in the Philippine economies increased, culminating in the first two months of 1997 when the growth numbers of 1996 were revealed. This picture changed suddenly in the next few months where the Asia financial crisis starts to attack Thailand. As shown in figure 4(a), government revenue decrease in year 1997 and 1998. Since the Asia financial crisis, government spending for Philippine was ahead the government revenue.

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Figure 4(a), Philippine: Government Revenue and Government Spending, 1966-2002 (in Millions of Pesos)

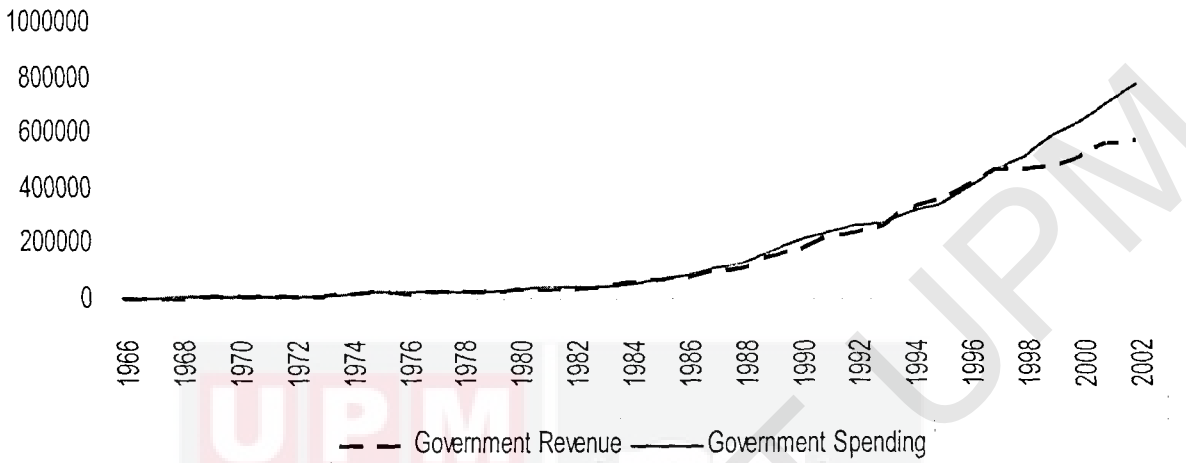
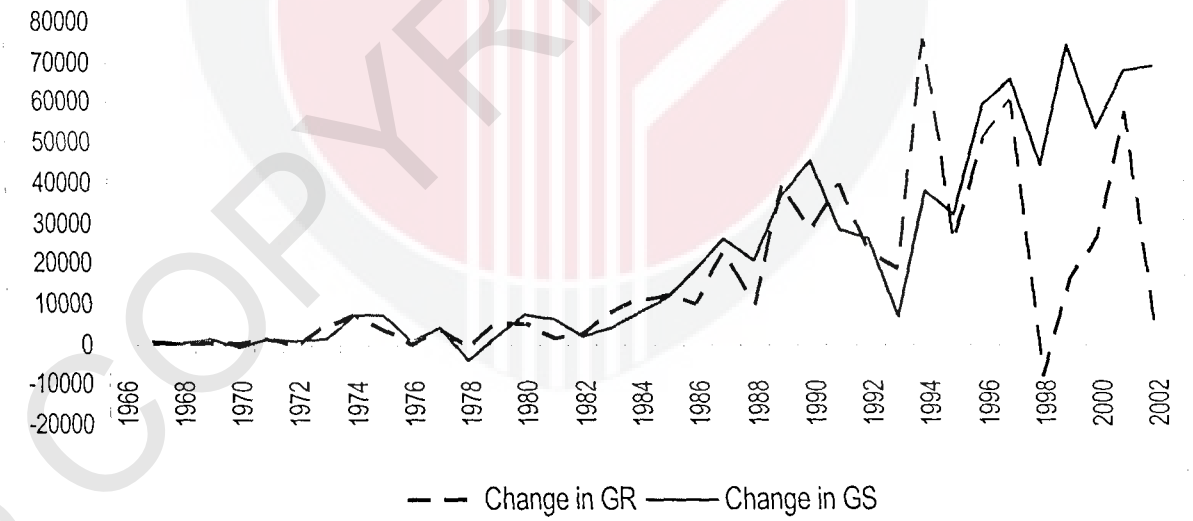


Figure 4(b), Philippine: Change in Government Revenue and Government Spending, 1966-2002 (in Millions of Pesos)



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1.2.5 Singapore

Singapore has achieved economic success by capitalizing on its geographic location, developing its labour force, adopting sound policies, enforcing political stability, and receiving the spillover benefic of being part of a region that has enjoyed highest rate of economic growth in the world for much of the post war era. Singapore became less vulnerable to the fluctuations in the world economy.

The government is highly interventionist in the running of the economy of the country both at the macro and micro level. However, government intervention has not hampered the growth of the country. Since independence, the country's economic policies have produced high growth, low inflation and a healthy balance of payment without external borrowing, along with the gains in the standard of living. As a result, we can easily found that government revenue dominated government spending all the time.

Figure 5(a) exhibit that after 1988, government revenue for Singapore increases drastically. This increase in government revenue has carried through until 1997 where the Asia financial crisis occurs. During the period of 1988 to 1997, although government spending do increase but it is still much lower than the increase in government revenue.

Although after Asia financial crisis 1997, government revenue starts to decrease but it still above the level of government spending.

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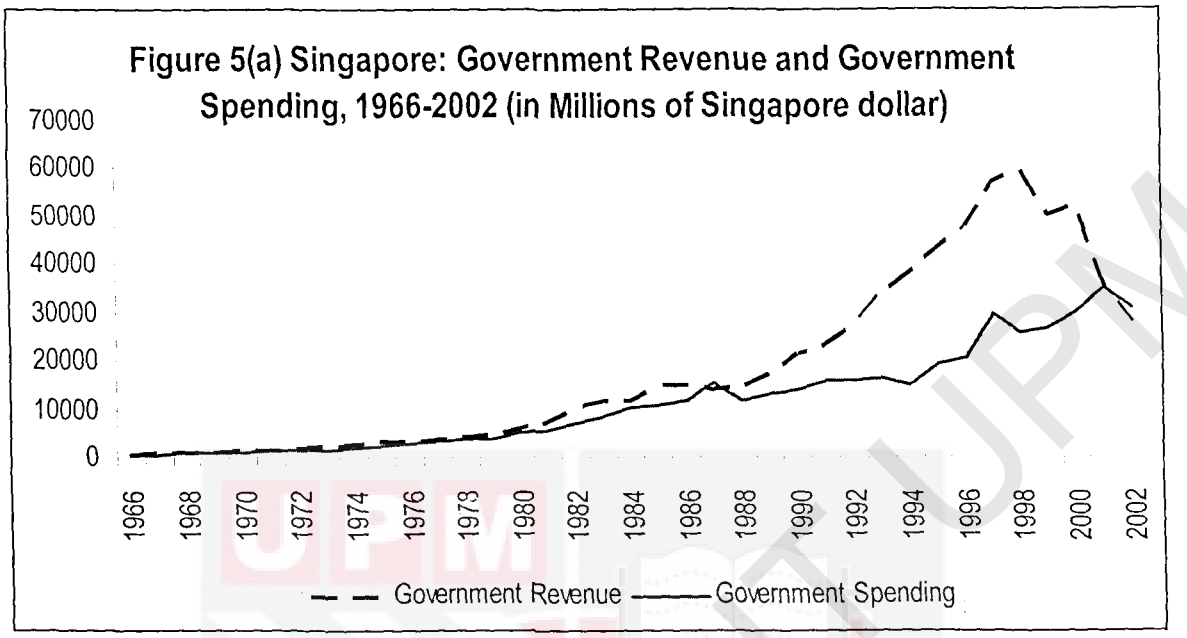

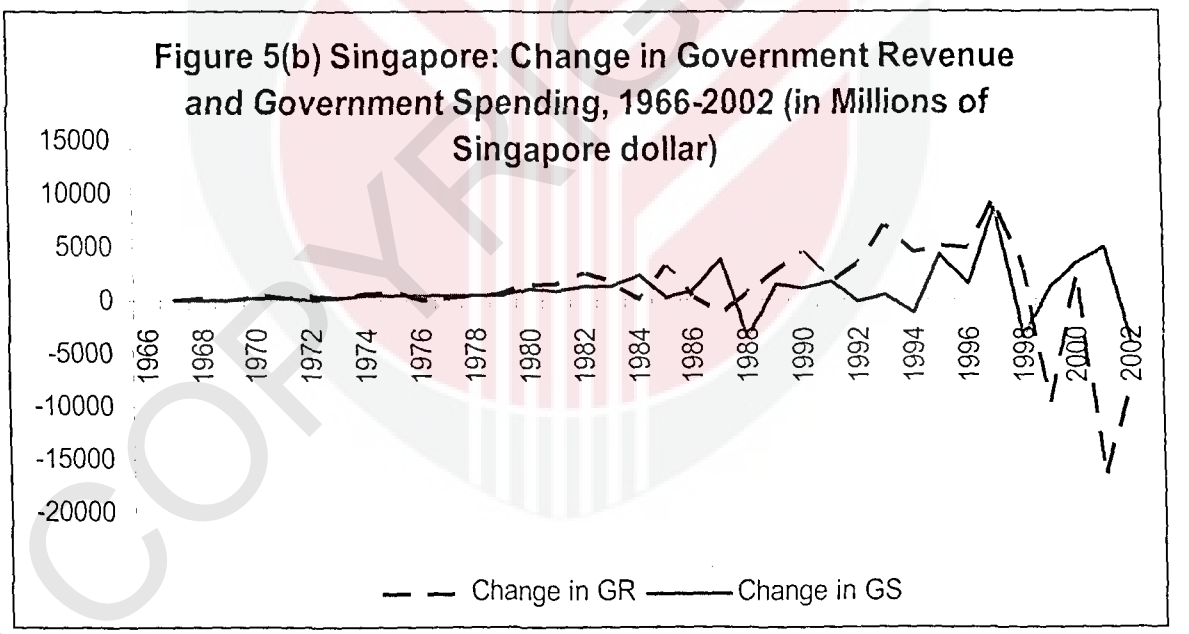

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1.2.6 South Korea

Generally, government spending and government revenue for South Korea growth constantly over the last four decades. Year before 1980, government revenue and government spending does not change significantly. However, after the year of 1980, the government revenue and government spending for South Korea increase rapidly in parallel line. Figure 6(a) shows that the government revenue and government spending move closely together.

From figure 6(b), we can see that after year 1982, government revenue and government spending change significantly. Eventually the government revenue is dominated the government spending before Asia financial crisis. However, due to unavailability of data after the year 1997; we can not see the effect of the Asia financial crisis to the government revenue and government spending for South Korea.

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Figure 6(a), South Korea: Government Revenue and Government Spending, 1960-1997 (in Billions of Won)

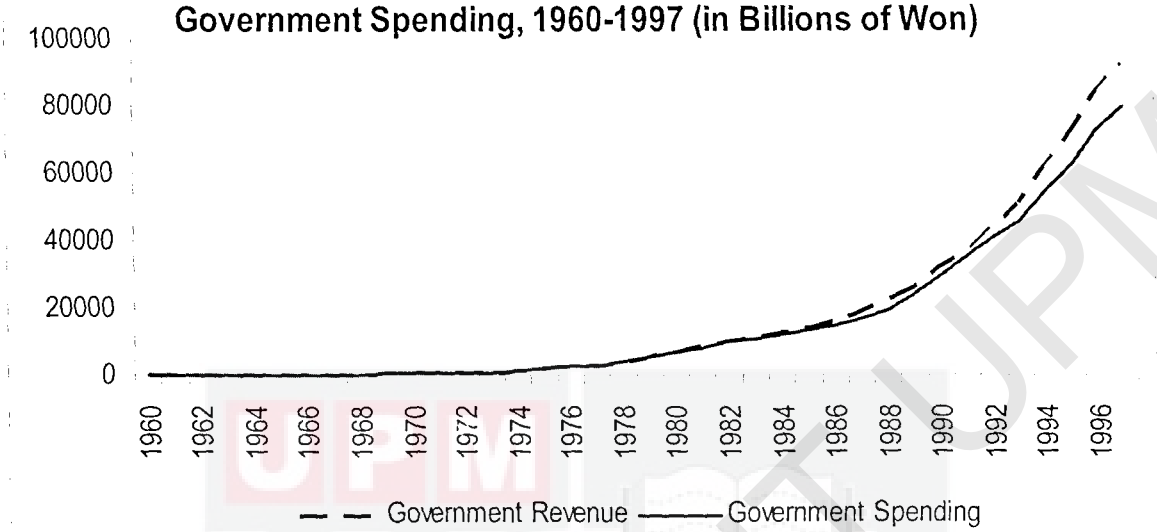
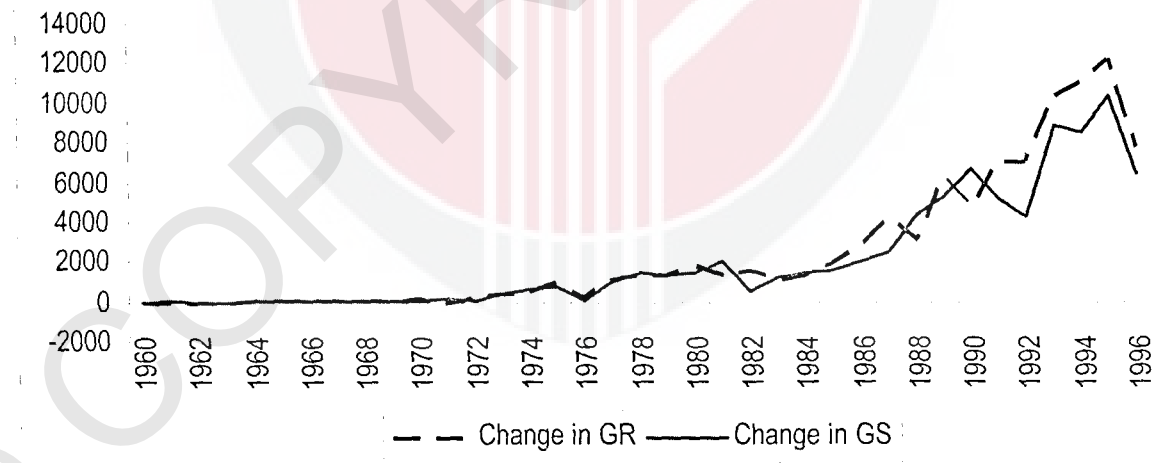


Figure 6(b), South Korea: Change in Government Revenue and Government Spending, 1960-1997 (in Billions of Won)



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1.2.7 Sri Langka

Sri Langka is also one of the poorer countries in the world; therefore the government spending dominated government revenue for the past four decades. In addition, government spending for Sri Langka has the intention to grow faster than government revenue. This had force Sri Langka to face an imbalance of fiscal account.

Figure 7(a) shows that the difference between government revenue and government spending for Sri Langka tend to deviate from each other, especially after year 1980. ever since then, government spending starts to dominate government spending and both the government revenue and government spend increase dramatically.

Figure 7(b) shows that, since 1976, government revenue and government spending change significantly over time. From figure 7(b), we can perceive that government revenue and government spending always change in order to adjust to each other.

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Figure 7(a), Sri Langka: Government Revenue and Government Spending, 1966-2001 (in Millions of Rupees)

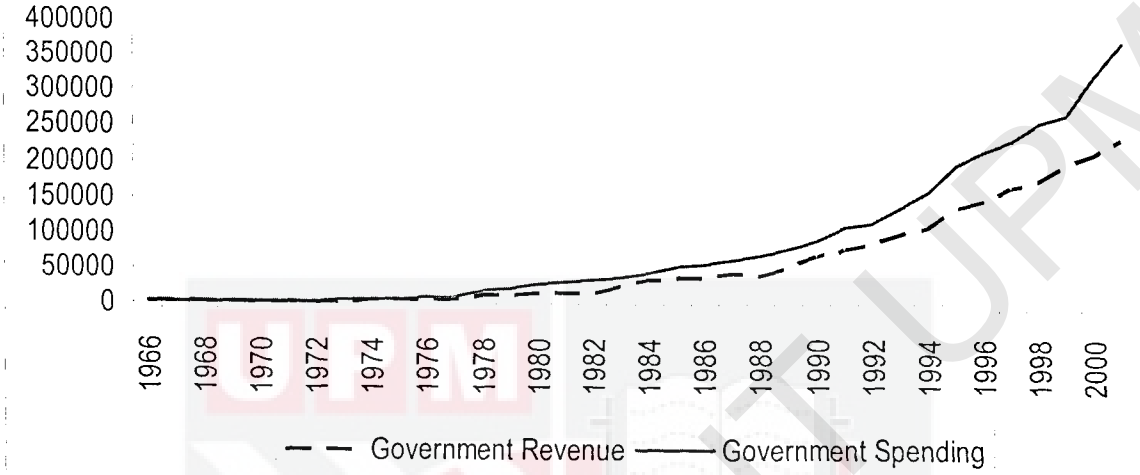
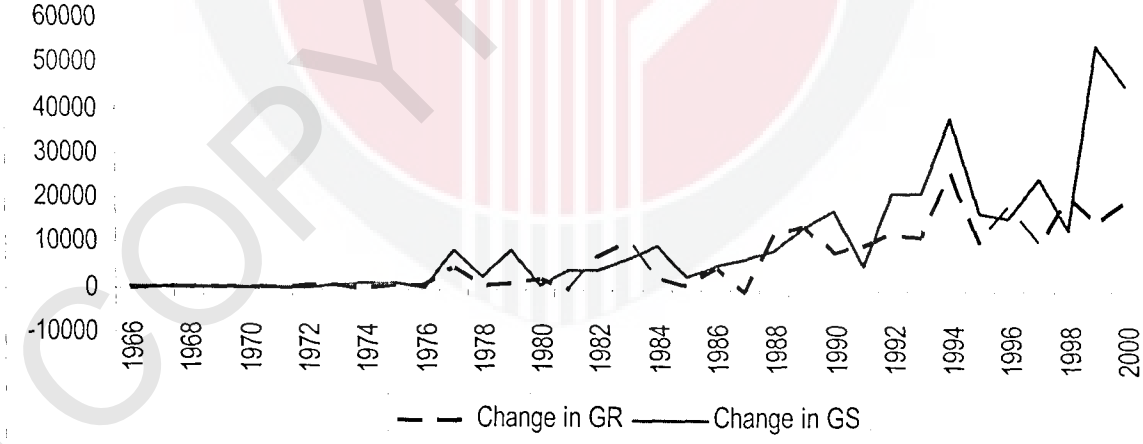


Figure 7(b), Sri Langka: Change in Government Revenue and Government Spending, 1966-2001 (in Millions of Rupees)



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1.2.8 Thailand

In 1950, after a century of zero growth of output per head of population, Thailand was one of the poorest countries in the world. In the next four decades, the economy has transformed. Rapid and sustained growth of output was achieved simultaneously with low inflation and only moderate growth of external debt. The incidence of poverty fell dramatically. Despite the international turnmoil caused by the two oil shocks of the 1970s, Thailand did not experience a single year of negative growth, even in per capital term – an achievement unmatched by any other oil-importing developing country.

Figures 8(a) and (b) exhibits the Thailand government revenue and expenditure condition. The government increases its spending over the years to cover the rapid development the country. However, at the same time, government manages to generate revenue to cover up the increasing spending. The revenue and spending for government Thailand before 1980 are move closely to each other. Since year 1981 to 1988 government spending seem to growth faster the than the revenue.

After year 1988, before the Asian financial crisis, Thailand government manages to balance it fiscal account and generate more income than its spending. Unfortunately, after the Asia financial crisis, government revenue falls below the government spending. From figures 8(a) and (b) we can see that, lately, Thailand is catching up with the economy, where we can see that the different between government revenue and government spending is become lesser.

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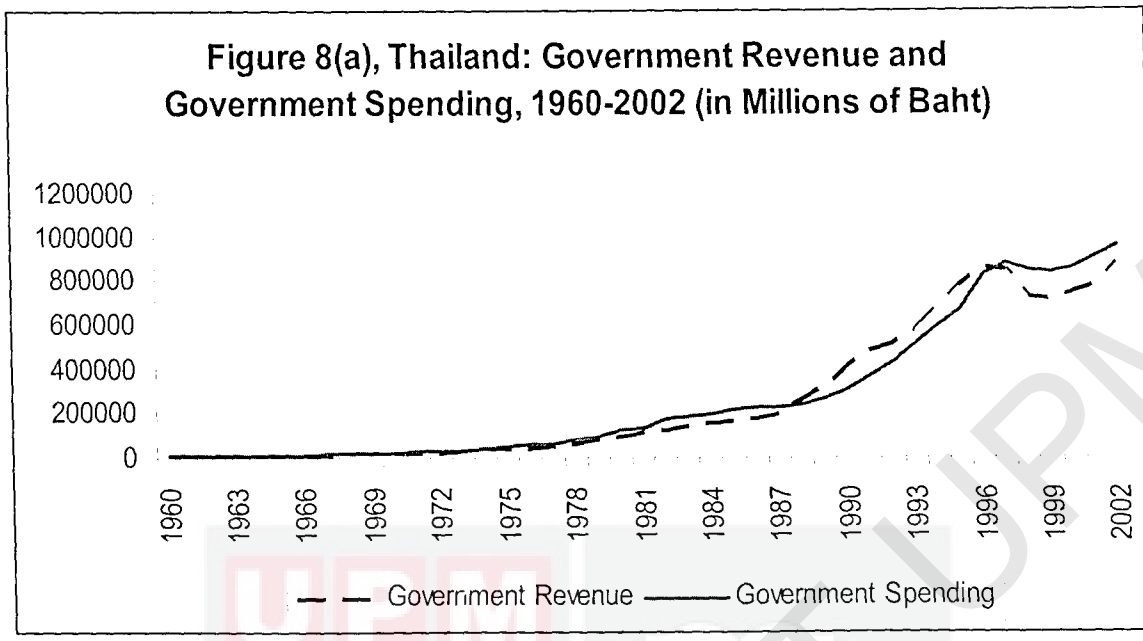

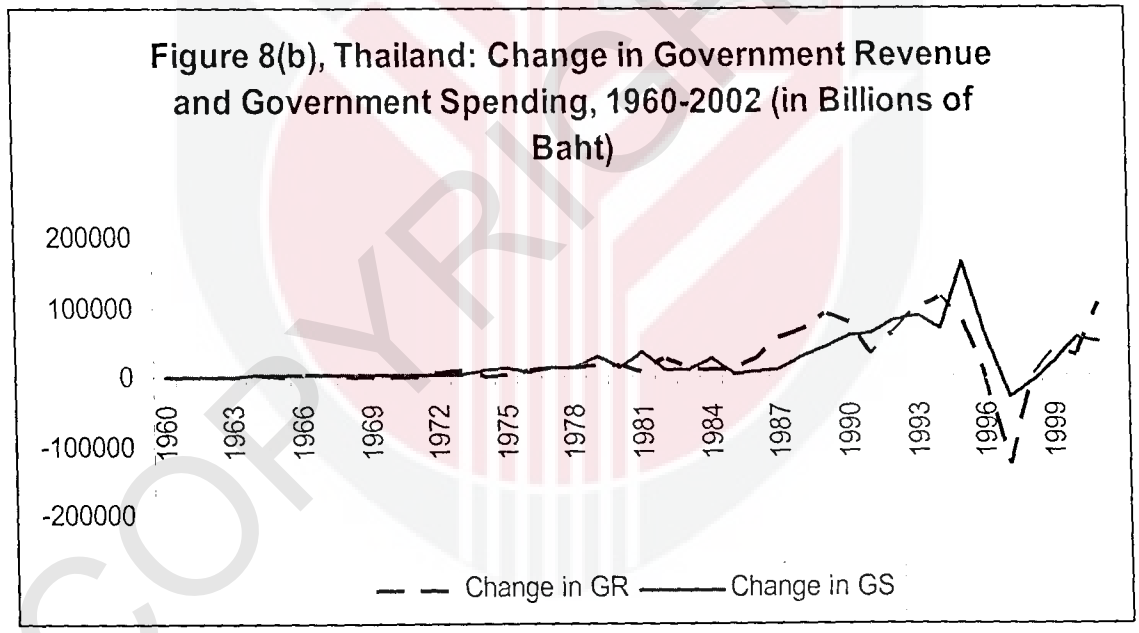

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1.3 Statement of Problem

Much of the empirical work under taken so far focuses almost exclusively on the US and other developed countries of the G7 group. Although a number of studies have documented the relationship between the government revenue and government spending, these studies have typically focused in the western countries. We have to take into consideration that the history, economy and social background in Asia countries are very different from western countries, even among the Asian countries themselves. Owing to these differences, it is possible that Asian countries may have different causality between government revenue and government spending. Asian countries have their own ways in financing their government spending patterned. Thus, the main purpose of this study is to fill the gap in the literature and examine the long-run relationship between government spending and government revenue in selected countries in Asia.

1.4 Objective of Study

1.4.1 General Objective

The general objective of this study is to investigate the causal relationship between the government revenue and government spending in selected Asian countries for the data span from year 1960 to 2002.

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1.4.2 Specific Objectives

The specific objectives of this study are as below:

i) To determine the long-run relationship between the government revenue and government spending in the selected countries; and

ii) To determine the relationship of the causality between revenue and spending in the selected countries;

1.5 Significance of Study

Unlike previous studies which focus exclusively on the revenue and spending experience of the western countries or in the more develop countries, this study is focused on the Asia countries. This study incorporates with multi countries in Asia including countries in East Asia, South Asia and Southeast Asia. The sample period chosen is covering the range from year 1960 to 2002. As compare to the previous studies, this study covers more countries with recent history of rapid growth in government revenue and government spending in the Asian countries.

This study sheds light on the existing knowledge of the research community about the causality between the government revenue and government spending in Asian countries. It is also believed to have more reliable results and interpretations. This is because the approach adopted in this study is more robust.

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1.2 Background of Government Revenue and Government Spending condition

In order to place the ensuring discussion of the relationship of government revenue and government spending, it will be helpful at the outset review some key aspect of these countries fiscal balance condition.

1.2.1 India

India was one of the poorer countries in the world with very high population. With such a high population, obviously the government spending is a burden for the government. Over the past four decades, India's government revenue and government spending has increased over time. Generally government spending is higher than government revenue. From figures 1(a) and (b), we can observe that the different between government revenue and government spending is very close before year 1980. After year 1980, both government revenue and government spending in India start to increase dramatically. As we can see from figure 1(b), after year 1980, government revenue fluctuated very much while government spending does not change much.

During the Asia financial crisis in 1997, almost all the countries in Asia are affected. Therefore government revenue for India is increase in the decreasing rate, in additional, government spending for India increase in the increasing rate.

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Figure 1(a), India: Government Revenue and Government Spending, 1960-2001 (in Billions of Rupees)

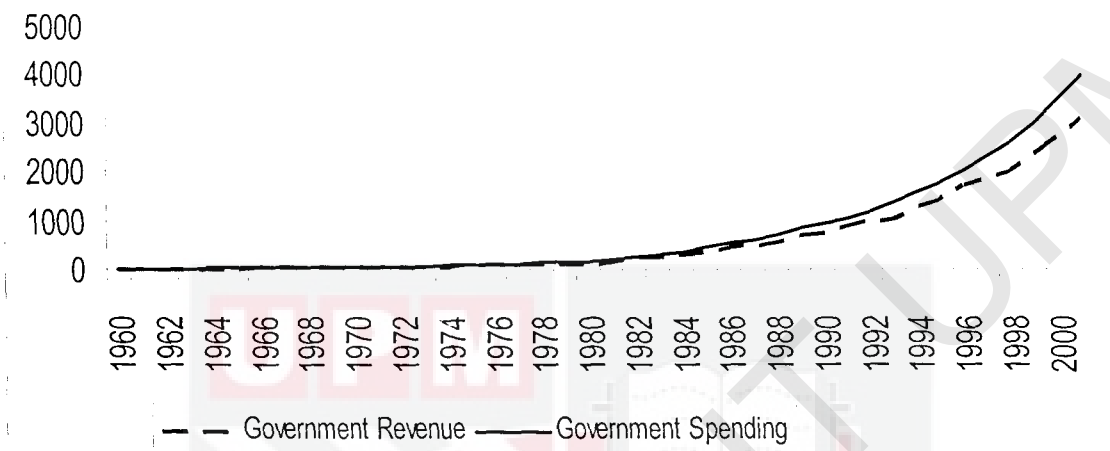
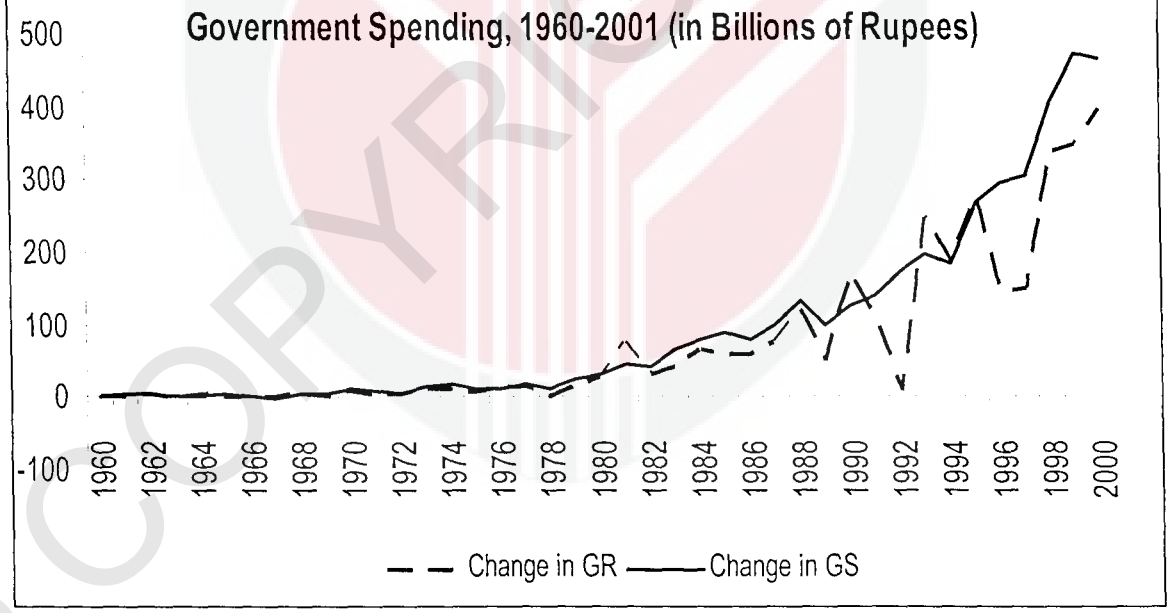


Figure 1(b), India: Change in Government Revenue and Government Spending, 1960-2001 (in Billions of Rupees)



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1.2.2 Malaysia

Malaysia is a middle income country, achieved impressive economic growth during the last two decades. The performance of Malaysia's economy in recent year has drawn the attention from all over the world. During the period 1960-1990, Malaysia moved rapidly from being a primary commodity producer with low per capital income to a industrialize country with higher per capital income. Malaysia transforms itself from 1970 through the late 1990s from a producer of raw material into an emerging multi-sector economy. Growth was almost exclusively driven by export – particularly of electronics. Meanwhile, the economy has also undergone a rapid structural transformation.

The long run growth in Gross Domestic Product (GDP) of around 7 percent over the two decades is not a small achievement. The long boom was accompanied and underpinned by international trade and payment liberalization, with rapid expansion in the proportionate role of the external sector.

For more than 30 years, Malaysia is facing fiscal deficit where its government spending is always higher than the government spending. This situation had improved since the government had tried to transform the economy from a producer of raw material into a multi-sector economy. In early of 1990s, government spending starts to growth negatively. Since 1993, the Malaysia government, successfully, recover from the imbalance of fiscal account.

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From figure 2(a), we found that government revenue and government spending is quite constant before year 1977. Since year after that, government revenue and government spending start to growth rapidly. As shown in figure 2(b), both government revenue and government spending is much fluctuated after year 1977. We can note that during the Asia financial crisis in year 1997, government revenue was dropped drastically, as well as the government spending.

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Figure 2(a), Malaysia: Government Revenue and Government Spending 1963-1999 (in Millions of Ringgit)

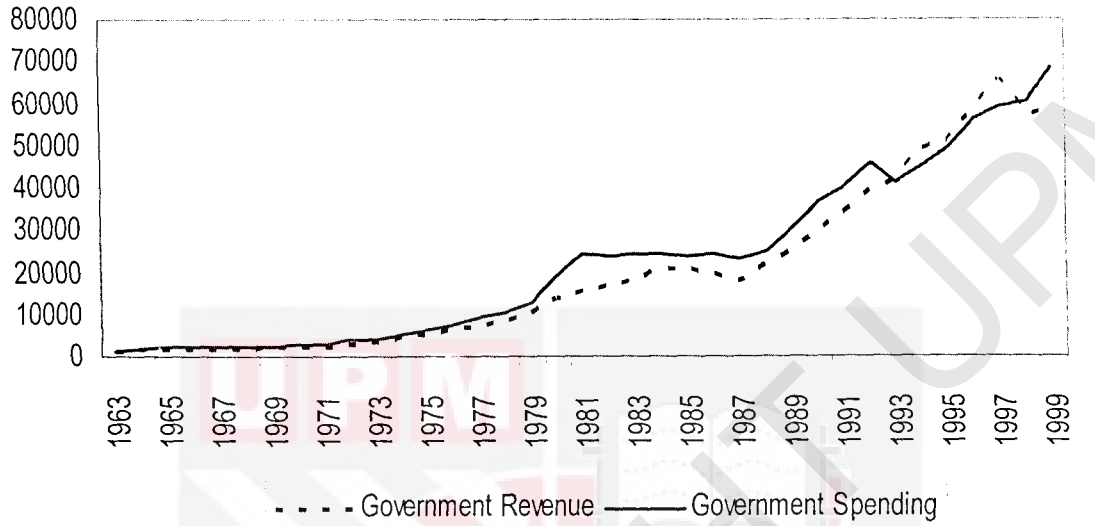
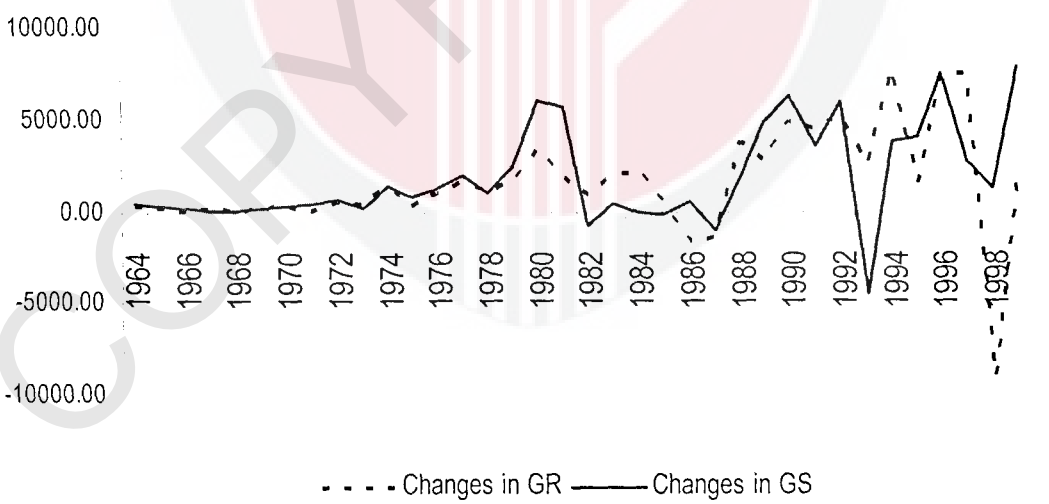


Figure 2(b), Malaysia: Changes in Government Revenue and Government Spending 1963-1999 (in Millions of Ringgit)



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1.2.3 Pakistan

In 1960s, Pakistan fiscal account is quite stable with government spending slightly higher than the government revenue. As exhibited in figure 3(b), changes in both government revenue and governments spending are near to zero.

Since 1970s, both government revenue and government spending in Pakistan starts to rise dramatically. Before year 1987, difference between revenue and spending is not very significant. However, after 1987 government spending growth rapidly and make the fiscal account for Pakistan become more and more imbalance. From figure 3(a), the difference between revenue and spending for Pakistan does not have the intention to close up the gap in 21st century.

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Figure 3(a), Pakistan: Government Revenue and Government Spending 1960-2002 (in Millions of Rupees)

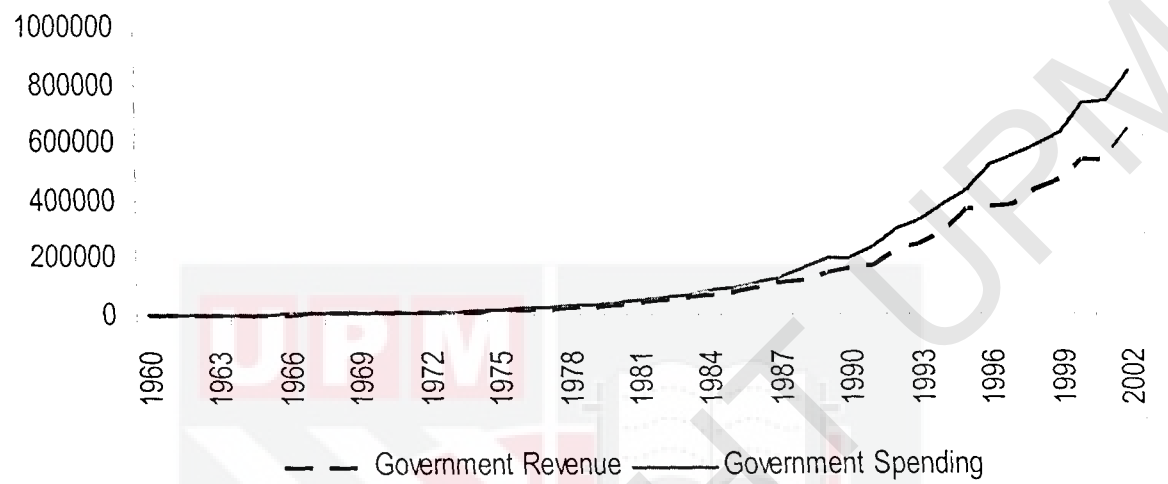
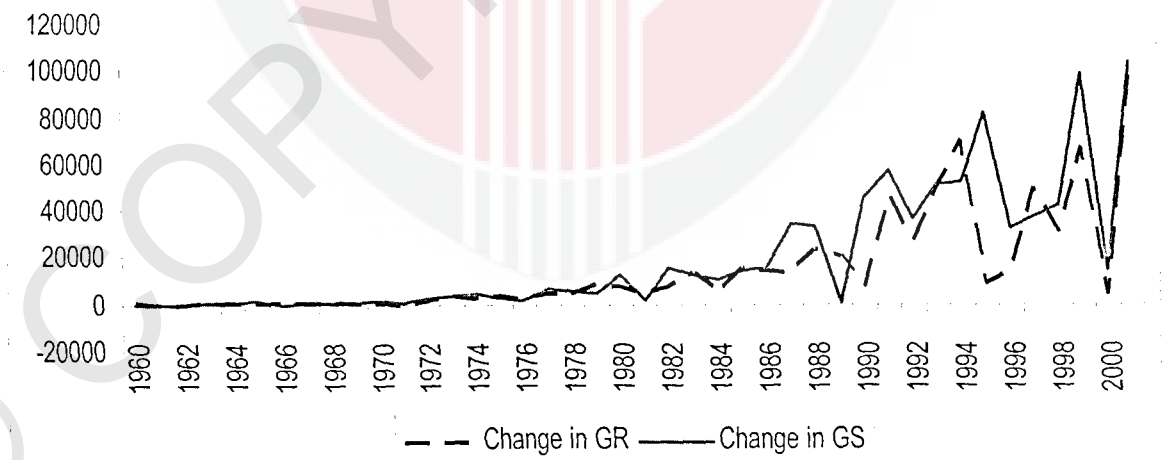


Figure 3(b), Pakistan: Change in Government Revenue and Government Spending 1960-2002 (in Millions of Rupees)



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1.2.4 Philippine

The recent acceleration of economic growth in the Philippines is remarkable, especially in the context of the dramatic slide in the economic position relative to neighbouring East Asian economies since the early 1970s. Since 1992, the start of the six-year term of President Ramos, the Philippine economy has grown impressively.

During 1970s, Philippine GDP growth rate increase fairly steady, and government revenue for Philippine growth reasonably slow. Philippine economy was collapse during 1983 to 1985. The Philippine economy starts to recover since 1986 to 1990. Figure 4(a) exhibited that the government revenue as well as the government spending has increased rapidly over the years.

As the growth rate approaches 6 percent of GDP in 1996, optimism in the Philippine economies increased, culminating in the first two months of 1997 when the growth numbers of 1996 were revealed. This picture changed suddenly in the next few months where the Asia financial crisis starts to attack Thailand. As shown in figure 4(a), government revenue decrease in year 1997 and 1998. Since the Asia financial crisis, government spending for Philippine was ahead the government revenue.

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Figure 4(a), Philippine: Government Revenue and Government Spending, 1966-2002 (in Millions of Pesos)

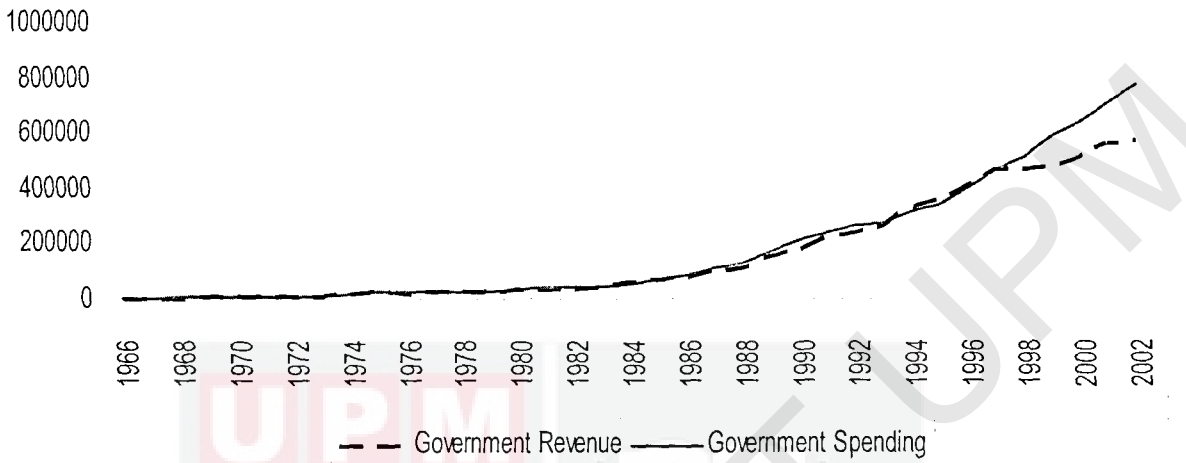
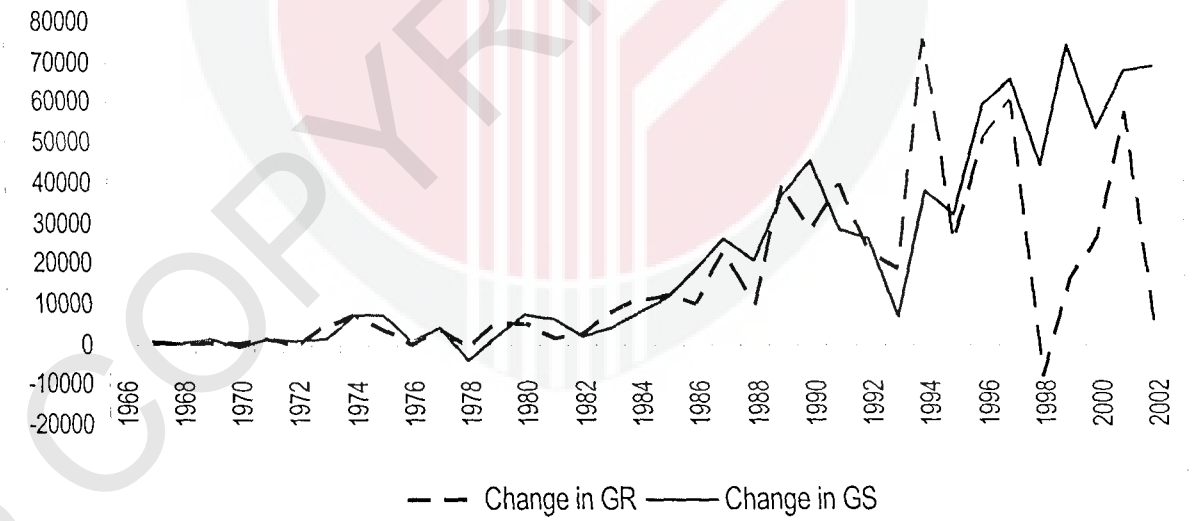


Figure 4(b), Philippine: Change in Government Revenue and Government Spending, 1966-2002 (in Millions of Pesos)



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1.2.5 Singapore

Singapore has achieved economic success by capitalizing on its geographic location, developing its labour force, adopting sound policies, enforcing political stability, and receiving the spillover benefic of being part of a region that has enjoyed highest rate of economic growth in the world for much of the post war era. Singapore became less vulnerable to the fluctuations in the world economy.

The government is highly interventionist in the running of the economy of the country both at the macro and micro level. However, government intervention has not hampered the growth of the country. Since independence, the country's economic policies have produced high growth, low inflation and a healthy balance of payment without external borrowing, along with the gains in the standard of living. As a result, we can easily found that government revenue dominated government spending all the time.

Figure 5(a) exhibit that after 1988, government revenue for Singapore increases drastically. This increase in government revenue has carried through until 1997 where the Asia financial crisis occurs. During the period of 1988 to 1997, although government spending do increase but it is still much lower than the increase in government revenue.

Although after Asia financial crisis 1997, government revenue starts to decrease but it still above the level of government spending.

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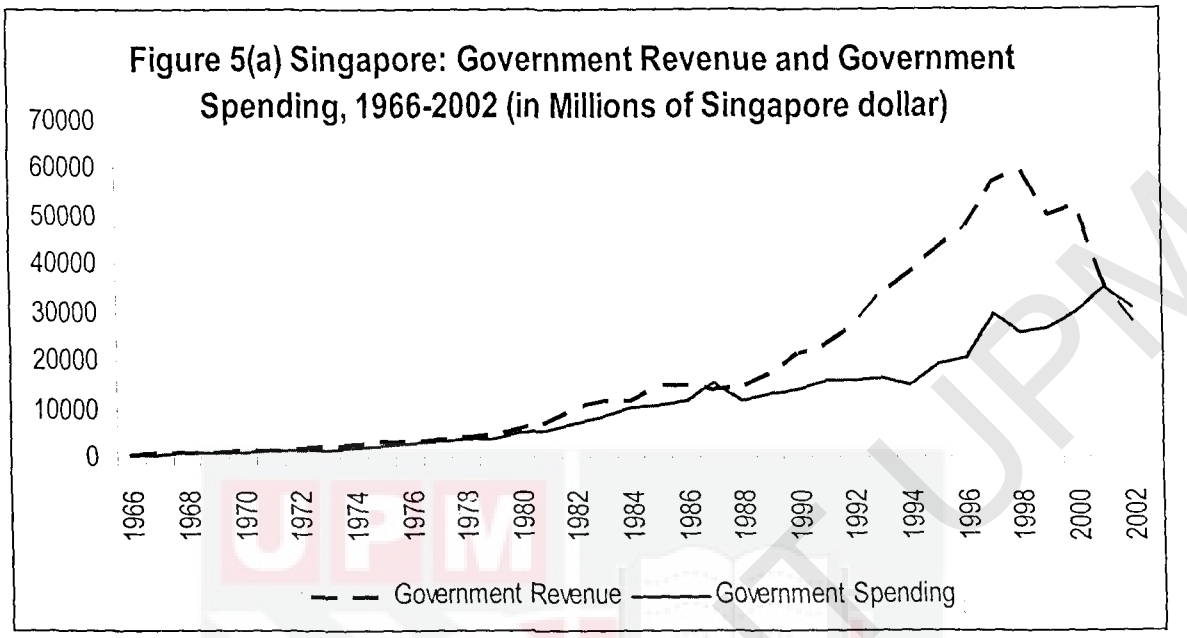

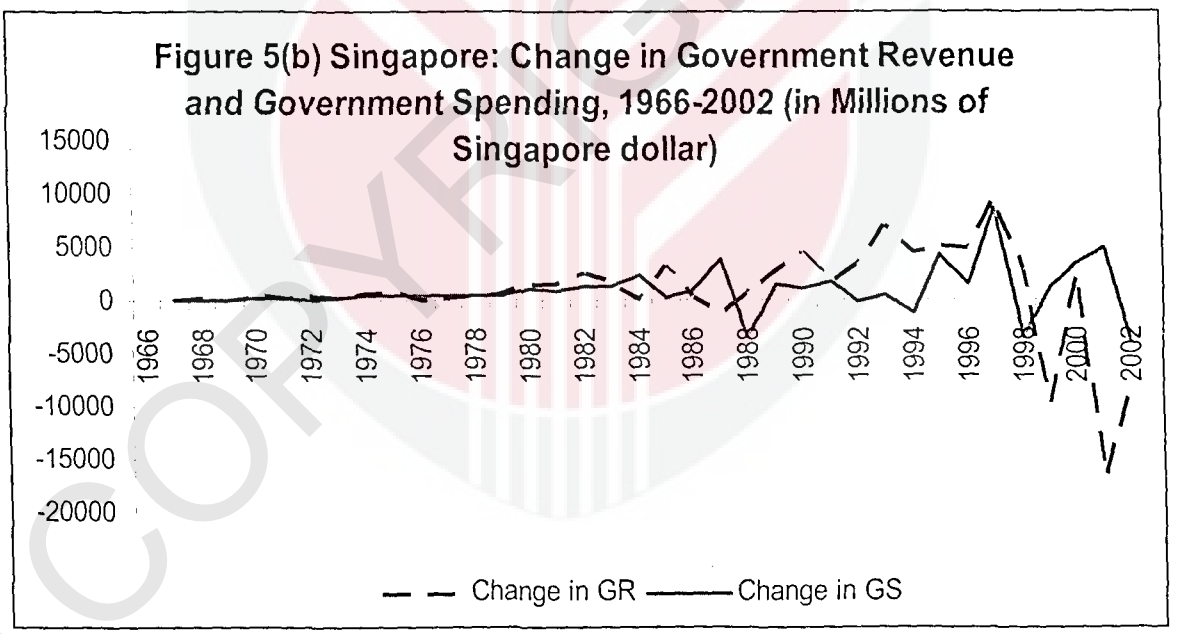

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1.2.6 South Korea

Generally, government spending and government revenue for South Korea growth constantly over the last four decades. Year before 1980, government revenue and government spending does not change significantly. However, after the year of 1980, the government revenue and government spending for South Korea increase rapidly in parallel line. Figure 6(a) shows that the government revenue and government spending move closely together.

From figure 6(b), we can see that after year 1982, government revenue and government spending change significantly. Eventually the government revenue is dominated the government spending before Asia financial crisis. However, due to unavailability of data after the year 1997; we can not see the effect of the Asia financial crisis to the government revenue and government spending for South Korea.

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Figure 6(a), South Korea: Government Revenue and Government Spending, 1960-1997 (in Billions of Won)

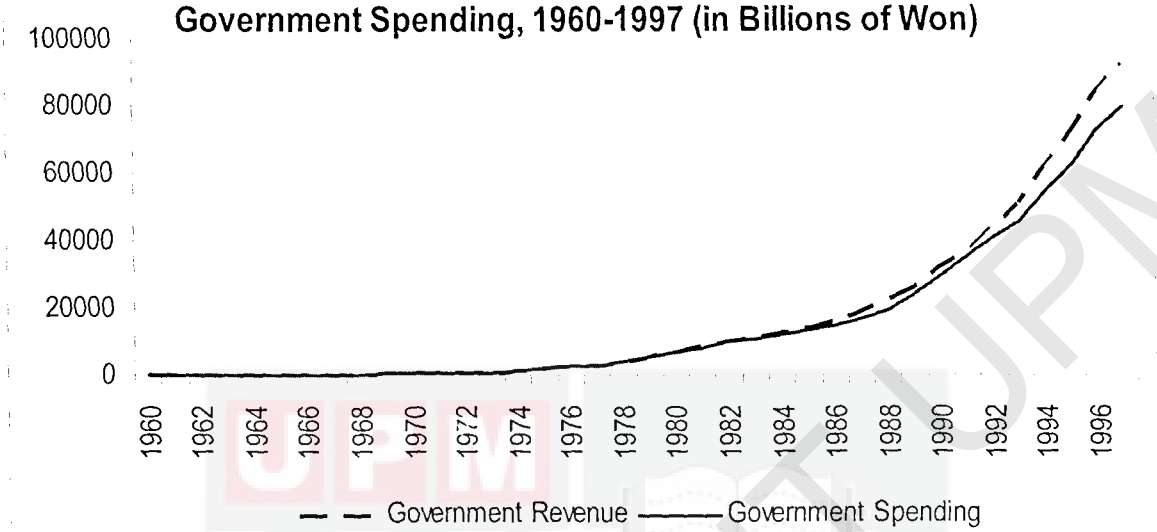
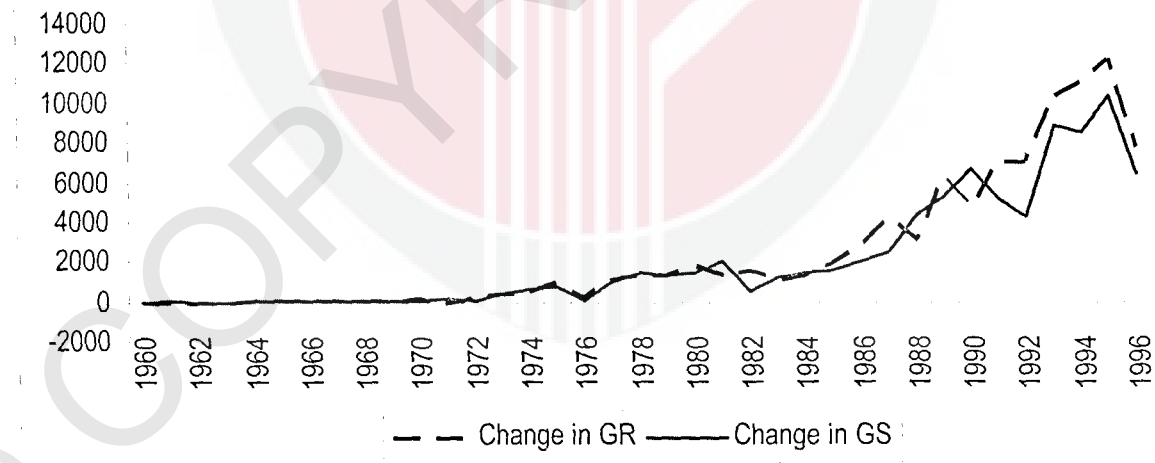


Figure 6(b), South Korea: Change in Government Revenue and Government Spending, 1960-1997 (in Billions of Won)



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1.2.7 Sri Langka

Sri Langka is also one of the poorer countries in the world; therefore the government spending dominated government revenue for the past four decades. In addition, government spending for Sri Langka has the intention to grow faster than government revenue. This had force Sri Langka to face an imbalance of fiscal account.

Figure 7(a) shows that the difference between government revenue and government spending for Sri Langka tend to deviate from each other, especially after year 1980. ever since then, government spending starts to dominate government spending and both the government revenue and government spend increase dramatically.

Figure 7(b) shows that, since 1976, government revenue and government spending change significantly over time. From figure 7(b), we can perceive that government revenue and government spending always change in order to adjust to each other.

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Figure 7(a), Sri Langka: Government Revenue and Government Spending, 1966-2001 (in Millions of Rupees)

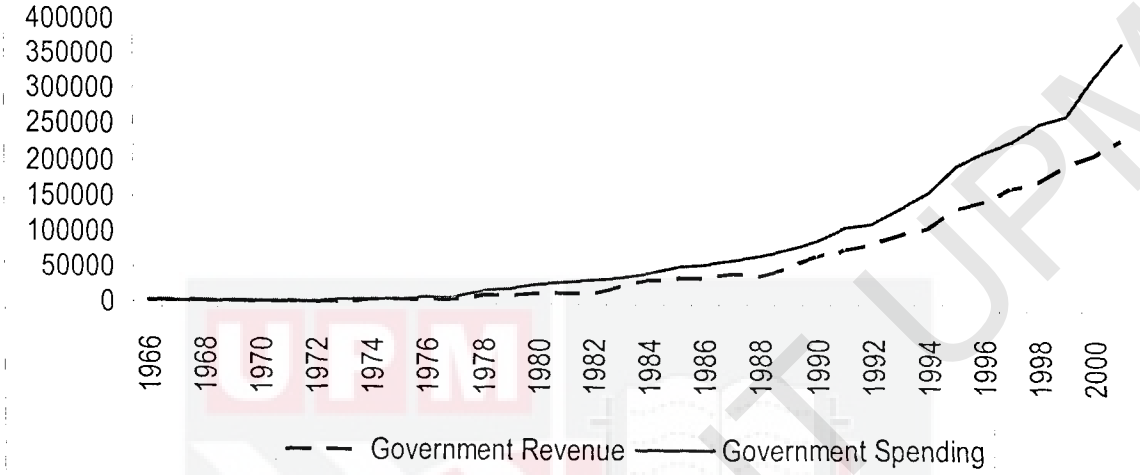
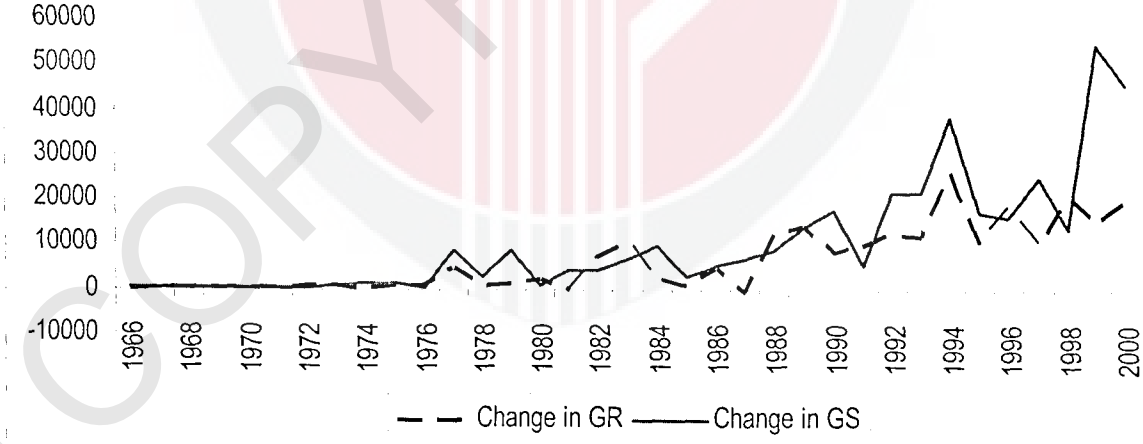


Figure 7(b), Sri Langka: Change in Government Revenue and Government Spending, 1966-2001 (in Millions of Rupees)



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1.2.8 Thailand

In 1950, after a century of zero growth of output per head of population, Thailand was one of the poorest countries in the world. In the next four decades, the economy has transformed. Rapid and sustained growth of output was achieved simultaneously with low inflation and only moderate growth of external debt. The incidence of poverty fell dramatically. Despite the international turnmoil caused by the two oil shocks of the 1970s, Thailand did not experience a single year of negative growth, even in per capital term – an achievement unmatched by any other oil-importing developing country.

Figures 8(a) and (b) exhibits the Thailand government revenue and expenditure condition. The government increases its spending over the years to cover the rapid development the country. However, at the same time, government manages to generate revenue to cover up the increasing spending. The revenue and spending for government Thailand before 1980 are move closely to each other. Since year 1981 to 1988 government spending seem to growth faster the than the revenue.

After year 1988, before the Asian financial crisis, Thailand government manages to balance it fiscal account and generate more income than its spending. Unfortunately, after the Asia financial crisis, government revenue falls below the government spending. From figures 8(a) and (b) we can see that, lately, Thailand is catching up with the economy, where we can see that the different between government revenue and government spending is become lesser.

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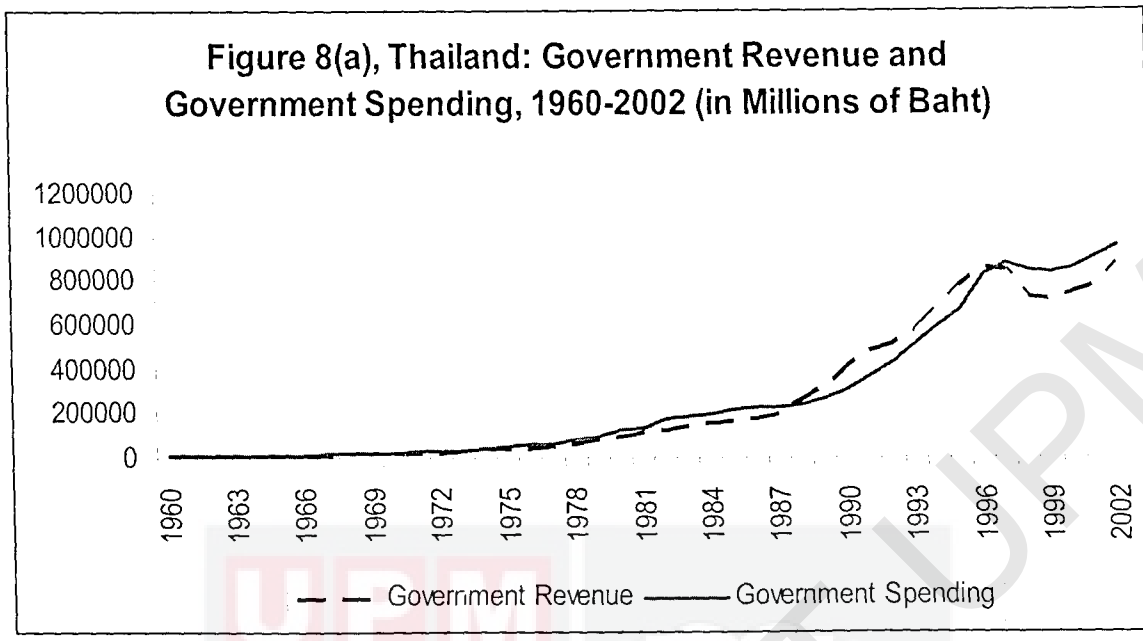

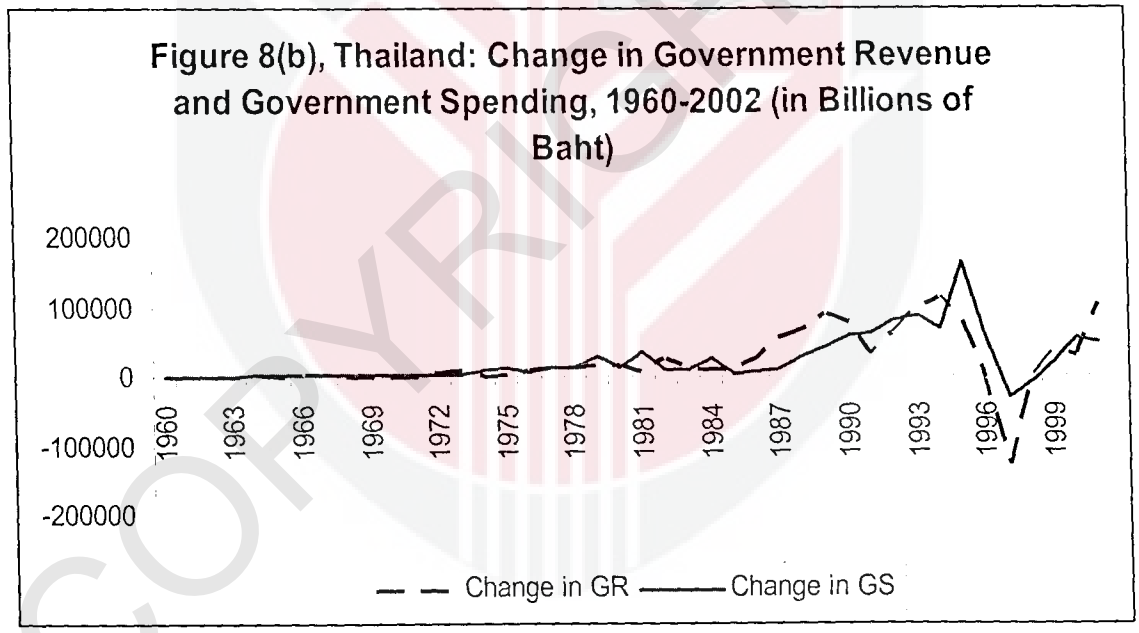

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1.3 Statement of Problem

Much of the empirical work under taken so far focuses almost exclusively on the US and other developed countries of the G7 group. Although a number of studies have documented the relationship between the government revenue and government spending, these studies have typically focused in the western countries. We have to take into consideration that the history, economy and social background in Asia countries are very different from western countries, even among the Asian countries themselves. Owing to these differences, it is possible that Asian countries may have different causality between government revenue and government spending. Asian countries have their own ways in financing their government spending patterned. Thus, the main purpose of this study is to fill the gap in the literature and examine the long-run relationship between government spending and government revenue in selected countries in Asia.

1.4 Objective of Study

1.4.1 General Objective

The general objective of this study is to investigate the causal relationship between the government revenue and government spending in selected Asian countries for the data span from year 1960 to 2002.

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1.4.2 Specific Objectives

The specific objectives of this study are as below:

i) To determine the long-run relationship between the government revenue and government spending in the selected countries; and

ii) To determine the relationship of the causality between revenue and spending in the selected countries;

1.5 Significance of Study

Unlike previous studies which focus exclusively on the revenue and spending experience of the western countries or in the more develop countries, this study is focused on the Asia countries. This study incorporates with multi countries in Asia including countries in East Asia, South Asia and Southeast Asia. The sample period chosen is covering the range from year 1960 to 2002. As compare to the previous studies, this study covers more countries with recent history of rapid growth in government revenue and government spending in the Asian countries.

This study sheds light on the existing knowledge of the research community about the causality between the government revenue and government spending in Asian countries. It is also believed to have more reliable results and interpretations. This is because the approach adopted in this study is more robust.

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