

## IMPACT OF DIFFERENT TAX COMPONENTS, TAX BUOYANCY AND TAX MIX STRUCTURES ON ECONOMIC GROWTH AND FISCAL REVENUES IN MALAYSIA

**MUHAMMAD NAJIB BIN SAMAD** 

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**MUHAMMAD NAJIB BIN SAMAD** 

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in fulfillment of the Requirements for the Degree of Doctor of Philosophy

October 2018

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# DEDICATION

To my Mom, Esah and wife, Azwani



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Doctor of Philosophy

#### IMPACT OF DIFFERENT TAX COMPONENTS AND TAX BUOYANCY AND TAX MIX STRUCTURES ON ECONOMIC GROWTH AND FISCAL **REVENUES IN MALAYSIA**

By

#### MUHAMMAD NAJIB BIN SAMAD

October 2018 : Professor Annuar bin Md Nassir, PhD Chairman Faculty **Economics and Management** 

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This research is a study of the tax revenue (i) impact from different tax forms (that is, a given tax mix in Malaysia as at 2016) on the growth path of a country's national income as well as (ii) how the national income growth and total fiscal revenues impact on major tax revenue forms in terms of their buoyancy. Another contribution of this study is the identification of a desirable tax mix structure of direct and indirect tax ratios that is consistent with higher economic growth. These three issues have yet been explored for almost all developing countries, as is the case for Malaysia, a middleincome developing economy. It is known from existing studies that different forms of tax have different impacts – either favourable or unfavourable – on the growth rate of Gross Domestic Product (GDP), consequently, the total revenues to government are not steady across time under different tax form mixture and under different economic conditions. A steady stream of revenue would logically enable government to plan well so it is growth-promoting for development with greater confidence if a chosen tax mix does help to attain a steady revenue stream. In order to design an appropriate tax structure that can help to steady the revenues although economic growth is likely to be buffeted by crises, this study employs an appropriate econometric procedure to explore this issue. As for the first research objective, we apply Non-Linear ARDL (Autoregressive Distributed Lag) with asymmetric effect co-integration tests with annual data over 1960-2016. The regression yields Ordinary-Leased Square (OLS) estimators to investigate the relationship between different tax forms and economic growth. Appropriate tests are done to ensure that the estimates are robust and do not suffer from autocorrelation etc. Corporate income taxes (CIT) seem to have asymmetric effect on real GDP: a 1 percent reduction in the CIT affect the GDP to reduce by 0.65 percent in the long-run, all other things held constant. However, in the short-run reduction in CIT has lagged effect on the GDP to increase by 0.069 by one year and 0.083 in lagged year two. Hence, this study extends the test of asymmetric



effect to other major tax forms such as personal income tax (PIT), petroleum tax (PET), the real property gain tax (RPGT), Sales and Service tax (SST) cum Goods and Service tax (GST), Excise tax, Export and finally Import Duty. All eight different tax components are tested using models to estimate the asymmetric effect using regression technique with augmented growth control variables using total capital investments and total consumption. Findings reveal that PET significantly affect the GDP only in the short-run. Changes in PIT somehow did not have significance impact on GDP in the long-run as well as in the short-run. However, RPGT is usually considered the best tax type than can help optimize the GDP growth in the short-run. As for the buoyancy estimation of different tax forms, this study applies the ARDL cointegration approach, which could reveal long-run and short-run tax buoyancy. Instead of using bound test for cointegration, this study utilizes Error Correction Model (ECM) in order to determine long-run cointegration by using the Error Correction Term (ECT) values and testing for significance at less than 0.05. The tax revenue buoyancy is significant to GDP in the short-run with 1.24 at 0.01 significance level. This implies that total tax revenue is the short-run stabilizer that can be used as the stabilization function for planning fiscal policy. In terms of buoyancy to GDP in long run and short run, CIT shows the highest long-run tax buoyancy with 1.07 and even higher with tax reform dummy: the coefficient is 1.36. This means that growth in GDP can generate higher growth in CIT which can help the government to reduce the fiscal deficits in the long run. As for the short-run tax buoyancy, Petroleum taxes is the most buoyant with value at 4.70. The second most buoyancy is estimated for the export duty with 4.49 value; RPGT with 4.00, import duty with 2.46 and Excise tax is 1.78. All of these tax components are seen to be good tools that can help to stabilize the fiscal policy in the short-run. On the other hand, estimation of long run buoyancy to total revenue shows that Import duty is far more buoyant at 3.68. Second most buoyant to total revenues is Petroleum tax with 2.56 and thirdly is the RGPT with buoyancy value of 1.36. The buoyancy value of PIT seems to reach 0.98 without tax reforms and 0.82 with tax reforms. So, Import duty, Petroleum tax and RPGT seem to act as the total revenue stabilizer in the long-run. In the short-run, Petroleum taxes is by far the most buoyant with 3.21 to total revenue. Second buoyant item is the SST with 2.94. Both these tax forms are considered as effective short-run tools in order to help the total revenue stability. Other tax components which has buoyancy less than one are: RPGT with 0.60, Excise tax with 0.49, Export duty with 0.47, CIT with 0.31, PIT with 0.31 and Import Duty with 0.27 buoyancy. Thirdly, this study explores the desirable tax mix ratio that could promote higher economic growth. This is tested using the dynamic threshold regression, along with simulation of time series data. Direct tax and indirect taxes are two major tax revenue components that lie in the current tax mix structure. This is the first study to explore this issue by using an empirical approach to determine desirable tax mix structure ratios that are associated with GDP. The results reveal that at 95 percent confidence regions, real GDP is affected by 0.09 percent if direct tax ratio is less than 0.55. However, if direct tax ratio exceeded 55 percent share, evidence shows lower impact on real GDP at 0.07 percent initially and that could reach as low as -0.16. In summary, this study contributes to the literature in giving evidence on impacts of tax revenues components on GDP and their buoyancy to growth and also reveal on discovery on tax mix structure than can promote growth. Hence, this study can be a good reference on the evidence of taxes and growth from developing countries and for future studies. For policy, this study suggests that the government should

consider to (i) reduce in share of Personal Income Tax (PIT) due to its non-significance impact on growth, (ii) to increase share in Corporate Income Tax (CIT) because CIT showed impact to the GDP and can sustain revenues in the long-run, (iii) to increase share in SST/GST and Excise Tax as this taxes showed direct impact to GDP in the short-run, (iv) to have less share in Export and Import duty due to no significance effect on GDP and finally (v) to have constant share in RGPT as this tax can be used as a tool to spur economic growth in the property market. Finally, the ideal tax mix structure that enhance positive growth is within threshold 55% (Direct to Indirect Tax ratios).



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

#### IMPAK KOMPONEN CUKAI , LANTUNAN CUKAI DAN SRUKTUR CUKAI CAMPURAN KE ATAS PERTUMBUHAN EKONOMI DAN PENDAPATAN FISKAL DI MALAYSIA

Oleh

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Penyelidikan ini melibatkan kajian mengenai pendapatan cukai (i) kesan kategorinya yang berbeza ke atas peningkatan Keluaran Dalam Negara Kasar benar (mengikut skala campuran cukai langsung dan tidak langsung pada masa kini, 2016) dan sebaliknya (ii) bagaimana KDNK negara memberi kesan terhadap peningkatan kutipan cukai di dalam kategori yang berbeza. Selain itu, antara sumbangan kajian ini adalah di dalam mengenal pasti nisbah struktur campuran cukai (nisbah cukai langsung dan tidak langsung) yang boleh menyokong terhadap peningkatan di dalam KDNK benar melalui penggunaan data fiskal siri masa. Ketiga-tiga objektif kajian ini masih dilihat segar kerana kajian seumpamanya dari kalangan Negara pesat membangun masih terhad khususnya di Malaysia yang dikategorikan sebagai berpendapatan pertengahan atau sederhana. Rentetan dari kajian terdahulu, kajian ini dapat memberi petunjuk mengenai impak kategori jenis cukai berbeza terhadap KDNK, sama ada kesan secara positif (peningkatan) atau sebaliknya yang boleh mewujudkan ketidakstabilan di dalam penentuan jumlah pendapatan negara. Aliran punca pendapatan yang stabil serta menyokong di dalam peningkatan ekonomi dilihat mampu meningkatkan keupayaan kerajaan untuk merancang pelan pembangunan dengan lebih mampan jika pemilihan struktur cukai campuran adalah bersesuaian. Di dalam merangka struktur cukai yang boleh membantu menstabilkan pendapatan Negara sekalipun terkesan dari krisis ekonomi, kajian tesis ini mengaplikasikan kaedah ekonometrik yang bersesuaian bagi mengukur kesan impak tersebut. Bagi objektif kajian yang pertama, pendekatan Autoregresif Lat Tertabur Tidak Linear (Non-Linear ARDL Autoregressive Distributed Lag) dengan kesan ujian asimetrik pengintegrasian bersama diaplikasikan bagi tempoh 1960-2016. Dengan menggunakan pengukur Kuasa Dua Terkecil Biasa (OLS-Ordinary-Leased Square) untuk menyiasat hubungan atau kesan kategori cukai yang berbeza terhadap pertumbuhan ekonomi. Kaedah ujian yang bersesuaian dijalankan bagi memastikan



pengukuhan unjuran yang dibuat dan terhindar dari permasalahan multi kolineariti, auto korelasi dan lain-lain. Cukai korporat atau syarikat didapati mempunyai hubungan asimetrik dengan KDNK dalam jangka masa panjang. Pengurangan 1 peratus cukai korporat menyebabkan KDNK turut menurun sebanyak 0.65 peratus dalam jangka panjang dengan andaian faktor-faktor lain tidak berubah. Manakala pengurangan cukai korporat ini dalam jangka pendek menyebabkan KDNK meningkat 0.069 bagi satu tahun sebelum dan 0.083 bagi dua tahun sebelumnya. Kesan tahun kebelakangan ini menggambarkan cukai pendapatan tahun semasa adalah berpunca dari KDNK tahun sebelumnya. Seterusnya, kajian ini melihat ujian kesan asimetrik ini dari cukai yang lain termasuk Cukai Individu, Cukai Petroleum, Cukai Keuntungan Hartanah, Cukai Jualan dan Perkhidmatan atau kini dikenali sebagai Cukai Barangan dan Perkhidmatan, Cukai Eksais, Cukai Eksport dan Cukai Import. Kesemua lapan kategori cukai ini dikaji secara empirikal bagi menganggarkan menggunakan teknik regresi asimetrik dengan penambahan pemboleh ubah kawalan pertumbuhan iaitu; jumlah pelaburan modal dan jumlah penggunaan. Hasil kajian mendapati Cukai Petroleum memberi kesan terhadap KDNK dalam jangka pendek. Sebarang perubahan dalam Cukai Individu tidak memberi kesan signifikan terhadap KDNK dalam jangka pendek mahupun jangka panjang. Manakala Cukai Keuntungan Hartanah pula dilihat sebagai kaedah cukai terbaik di dalam memberi kesan positif terhadap KDNK. Manakala bagi menentukan anggaran lantunan cukai dari kategori cukai yang berbeza pula, kajian ini mengaplikasikan pendekatan ARDL Cointegration yang menentukan lantunan pemboleh ubah cukai dalam jangka masa pendek dan panjang. Disamping menggunakan kaedah bound test bagi menentukan kewujudan kointegrasi, kajian ini menggunakan pendekatan ECM (Error Correction Model) bagi melihat kewujudan kointegrasi jangka masa panjang di mana nilaian ECT (Error Correction Term) menunjukkan nilai-P yang signifikan iaitu kurang dari 0.05. Hasil kajian mendapati, lantunan jumlah cukai terhadap KDNK sebanyak 1.24 dalam jangka pendek iaitu pada 0.01 peratusan kadar signifikan. Ini bermakna jumlah cukai dilihat sebagai penstabil jangka pendek yang mampu untuk menstabilkan dasar perancangan fiskal. Manakala Cukai Korporat dilihat mempunyai lantunan cukai tertinggi terhadap KDNK dalam jangka panjang iaitu 1.07 dan 1.36 apabila dimasukkan pembolehubah kesan terhadap reformasi cukai. Ini bermakna pertumbuhan dalam KDNK membantu di dalam peningkatan di dalam Cukai Korporat dan secara langsung membantu pihak kerajaan mengurangkan defisit fiskal dalam tempoh jangka panjang. Keputusan bagi lantunan cukai jangka pendek mendapati, Cukai Petroleum merekod 4.70 yang tertinggi dan diikuti dengan Duti Eksport iaitu 4.49, Cukai Keuntungan Hartanah dengan lantunan sebanyak 4.00, Duti Import melantun pada kadar 2.46 dan terakhir Cukai Eksais pada 1.78. Kesemua cukai ini dilihat sebagai alat dasar fiskal yang baik bagi menstabilkan pendapatan dalam jangka pendek. Manakala, lantunan cukai terhadap jumlah pendapatan Negara pula menunjukkan Duti Import merekodkan lantunan tertinggi iaitu 3.68 diikuti Cukai Petroleum 2.56 dan Cukai Keuntungan Hartanah (CKHT) iaitu 1.36. Lantunan Cukai Individu pula hanya merekodkan lantunan sebanyak 0.98 tanpa mengambil kira reformasi cukai dan 0.82 selepas mengambil kira reformasi cukai. Oleh yang demikian, ketiga-tiga cukai iaitu Duti Import, Cukai Petroleum dan CKHT mampu bertindak di dalam membantu menstabilkan jumlah pendapatan dalam jangka panjang. Cukai Petroluem dilihat mengalami lantunan cukai tertinggi iaitu 3.21 terhadap jumlah pendapatan dalam jangka pendek. Ini diikuti dengan Cukai Jualan dan Perkhidmatan iaitu merekodkan lantunan 2.94. Kedua-dua cukai ini dilihat

sebagai alat dasar fiskal yang efektif bagi jangka pendek untuk menstabilkan jumlah pendapatan Negara. Lain-lain cukai yang menunjukkan kadar lantunan di bawah paras 1 adalah CKHT dengan 0.60, Cukai Eksais dengan 0.49, Duti Eksport merekod lantunan 0.47, Cukai Korporat dengan 0.31, Cukai Individu dengan 0.31 dan Duti Import dengan lantunan 0.27 sahaja. Parameter lantunan cukai yang lebih tinggi merupakan petanda produktiviti cukai pendapatan yang lebih tinggi dan lantunan cukai dalam jangka pendek yang tinggi dapat membantu di dalam menstabilkan pendapatan fiskal. Manakala bagi objektif ketiga, kajian ini meneroka bagi memperolehi nisbah struktur campuran cukai (pemboleh ubah diwakilkan oleh nisbah cukai langsung dan tidak langsung) yang dikehendaki bagi meningkatkan pertumbuhan ekonomi. Ini dilaksanakan dengan menggunakan pendekatan Regressi Threshold dan turut disokong dengan kaedah simulasi data siri masa dimana model regresi mudah OLS biasa digunakan. Cukai langsung dan cukai tidak langsung adalah dua komponen cukai utama di dalam struktur campuran cukai semasa. Ini adalah antara kajian awal bagi menganggarkan dengan menggunakan pendekatan empirik untuk menentukan nisbah struktur campuran yang ideal serta boleh memberi kesan kepada KDNK pada kadar yang lebih tinggi. Hasil kajian mendapati, kesan terhadap KDNK benar merekodkan peratusan sebanyak 0.09 peratus jika kadar cukai lansung di bawah paras 55 peratus di dalam struktur cukai campuran. Sunggunpun begitu, jika kadar cukai langsung ini melebihi paras 55 peratus dari struktur cukai semasa, bukti menunjukkan kesan pada KDNK benar yang lebih rendah iaitu pada kadar 0.07 peratus dan berupaya untuk jatuh sehingga ke -0.16 peratus. Kesimpulan penemuan dari kajian ini menyumbang di dalam memberi bukti empirikal mengenai kesan kategori jenis cukai terhadap KDNK dan kesan lantunan cukai tersebut dari pertumbuhan KDNK. Selain itu, ia juga merungkai penemuan mengenai struktur cukai campuran yang mampu mendorong terhadap peningkatan dalam KDNK. Rentetan itu, kajian ini berupaya menjadi rujukan yang baik mengenai kesan cukai terhadap pertumbuhan KDNK dari kalangan negara yang sedang pesat membangun dan kajian seumpamanya di masa hadapan. Bagi tujuan polisi, kajian ini mencadangkan pihak kerajaan perlu memberi pertimbangan untuk: (i) mengurangkan nisbah Cukai Individu kerana ia tidak memberi kesan signifikan terhadap KDNK, (ii) meningkatkan nisbah peratusan Cukai Korporat di dalam jumlah cukai kerana ia memberi kesan signifikan terhadap KDNK dan mampu menjana sumber pendapatan negara dalam jangka panjang, (iii) meningkatkan nisbah peratusan Cukai Jualan dan Perkhidmatan dan Cukai Eksais kerana kedua-dua cukai ini memberi kesan langsung terhadap KDNK dalam jangka pendek, (iv) mengurangkan nisbah Duti Import dan Eksport kerana ketiadaan kesannya terhadap KDNK, dan (v) menetapkan nisbah CKHT pada kadar yang malar sebagai alat pemangkin pertumbuhan ekonomi khususnya di dalam meningkatkan sektor hartanah. Akhirnya, struktur campuran cukai yang ideal yang meningkatkan pertumbuhan positif KDNK adalah dalam lingkungan 55% (nisbah Cukai Langsung kepada Cukai Tidak Langsung).

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## LIST OF ABBREVIATIONS

ARDL	Auto Regressive Distributed Lag
CIT	Corporate Income Tax
CYTS	Current Year Tax System
DT	Direct Taxes
DSGE	Dynamic Stochastic General Equilibrium
ECT	Error Correction Term
ECM	Error Correction Model
GDP	Gross Domestic Products
GST	Goods and Service Tax
IDT	Indirect Taxes
IMF	International Monetary Fund
IRBM	Inland Revenue Board of Malaysia
IT	Indirect Taxes
ITA 1967	Income Tax Act 1967
NARDL	Non Linear Auto Regressive Distributed Lag
OAS	Official Assessment System
OECD	Organisation of Economic Countries Development
OLS	Ordinary-Leased Square
OTC	Other taxes on consumption
PIT	Personal Income Tax
PRO	Property Taxes
РТ	Petroleum Tax
PYTS	Previous Year Tax System
RMCD	Royal Malaysian Customs Department

C

- RPGT Real Property Gain Tax
- RGDP Real GDP
- SAS Self-Assessment System
- SST Sales and Service Tax
- TR Total Revenue
- VAT Value-Added Tax

#### **CHAPTER 1**

#### BACKGROUND TO TAXATION AND IDENTIFYING RESEARCH GAP

#### **1.1 Background of study**

This research is about the tax revenue impact from different tax forms (that is, a given tax mix in Malaysia as at start of 2016) on the growth path of that country's national income as well as how income growth affects tax revenues in aggregate and in different tax forms in terms of their buoyancy. These two issues have yet been studied for most developing countries, interestingly also in the case of the middle-income Malaysia despite the importance of the knowledge one needs on these two topics. There are several studies, which relate to taxation and economic growth in Malaysia, but those are not analysing the idea of volatility of tax revenues. That means that an attempt to conduct an analytical study of different tax components is desirable to shed light on how different tax form mix has what effect on growth and on tax buoyancy. So, this study aims to analyse the impact of different tax components on Gross Domestic Product GDP and on revenues.

It is known from existing studies on developed countries that different forms of tax have different – either favourable or unfavourable – impacts on the GDP growth as well as, consequently, on the total government revenues to be not steady under different tax forms, i.e., tax buoyancy. From a public policy point of view, a steady stream of revenue is growth-promoting and would also strengthen the government's ability to plan for development with greater confidence if a chosen tax mix does help to steady the revenue stream. The resulting findings of this thesis are likely to provide new knowledge to understand the tax impact on economic growth and how much faster the economic growth may help boost tax revenues. Such findings may help to fill the knowledge gap on the impacts on fiscal economic in a typical middle-income economy by also providing potential for application.

While all governments are allocating more and more funds to development expenses, it is especially true in this case, it is important because of Malaysia's planned goal to achieve high-income country status. Increases in revenue are needed to meet the operating expenditures and debt services as well as the increasing development cost. This is also in line with a country's longer term vision to become high-income status nation by increasing GDP per capita by spurring faster development of the economy: currently at the prevailing exchange rate the per capita income is below \$10,000.00. As an overall note, the tax revenues have been beneficial for several past years to put in place innovations on economic goals.



An economist, Yeah Kim Leng, affirms<sup>1</sup> that the government is confronted by a sluggish global economy since 2015 and there is a prospect of revenue shortfall caused by sharply lower oil prices. At the same time, the government also faced challenge of turning around the annual fiscal deficits at 8 percent of the GDP, which has been growing steadily for some years since 2010. After recovery from the 1998 Asian financial crisis, the share of direct taxes increased to become between 55-57 percent of the total government revenue.

Direct tax declined slightly to 51 percent in year 2015 due to large reductions in the revenues from tax on petroleum incomes (this country is an oil and gas producer): see Table 2.11 and 2.12 in Chapter 2 section 2.6 (Current Malaysia Tax System). In the major direct tax components, the share of corporate income tax increased steadily from 19 per cent in 2009 to 27 per cent in 2013. While the share of personal or individual income tax remained stable at 11 per cent. The situation in 2014 did not lead to significant falls in the total revenue because the newly introduced new tax form from April 2015 raised a net RM27 billion for the year 2015, which amount is predicted to reach RM39 billion for year 2016.<sup>2</sup> Goods and Service Tax (GST) was established by the government effective April 2015: it has been reset at 0 percent with effect from June 2018 so this is no longer a source for revenue.

The path of the revenue has been anything but steady in this economy perhaps due to the different forms of tax having opposite effects on the economic growth, and may be also overdependence on how the underlying economy is performing. There have been economic slowdowns leading to crises at different times buffeting the national income, which also buffeted the revenue streams to become unsteady. Economic and financial crises occurred often: 1985-1986, 1997-1998 and 2008-2009. The impacts of these events led to substantial reductions on the total revenues while these events also required more money to help recover the economy to growth path. Figure 1.1 is a representation of the economic crises effects showing declining growth rate of direct tax, indirect tax as well as the GDP growth rate. The summary of those years that been affected by economic crises is discussed further in next paragraphs where Table 1.1 and Table 1.2 are to be referred.

<sup>&</sup>lt;sup>1</sup>Speech delivered to an audience at the National Tax conference on 9<sup>th</sup> August 2016 in Kuala Lumpur Convention Centre, jointly organized by the IRBM and MIT (Malaysian Institute of Taxation)

 $<sup>^2</sup>$  This new tax form is scheduled to be withdrawn from 1 June 2018 by the new government that came to power in May 2018. It will revert back to the Sales and Services tax that existed prior to the introduction of the new tax form in April, 2015.



Figure 1.1 : Graph on the Direct Tax (DT), Indirect Tax (IDT), and GDP Growth Rate, 1971-14

(Source : Department of Statistics, Malaysia)

Table 1.1 shows a summary of the resulting growth rates in Direct Tax (DT), Indirect Tax (IDT) and GDP in the years in which the economic crises occurred. In year 1985 (the year saw a major slowdown, so a crisis occurred), only direct tax revenue shows positive growth rate by 9.64 per cent, and the indirect tax and GDP were in negative territory. The effect is felt in the next year, 1986, when all three are in negative region when the crisis effect showed its full impact. While in the year 1998, only GDP showed positive growth of 0.51 per cent but the tax revenues from both sources recorded negative growth. The worst impact was on revenues from indirect tax forms: a huge negative impact amounting to 33.95 per cent. In the year 2009, which saw the full impact of Global financial crisis, it is seen that all three items are in negative region in the year after the crisis hit in 2008.

Impact factors on:	1984	1985	1986	1996	1997	1998	2007	2008	2009
Direct Tax	9.50%	9.64%	-6.53%	13.89%	17.72%	-1.37%	12.71%	18.36%	-4.58%
Indirect Tax	6.33%	-7.32%	-18.98%	12.91%	8.28%	-33.95%	2.85%	19.35%	-8.55%
GDP	12.93%	-2.61%	-7.58%	14.05%	11.06%	0.51%	11.77%	15.64%	-8.42%
(Common	. Domontroo	nt of Statio	tion Malaria	2)					

# Table 1.1 : Statistics on Growth Rate of the Direct Tax, Indirect Tax, and GDP during Economic Crisis

(Source : Department of Statistics Malaysia)

We now examine the overall impact on revenue in money terms: see also Table 1.2. The statistics in the table reveal that the amount of direct tax, indirect tax, total Federal revenue and GDP were seriously declining, although not immediately affecting the amount collected as non-tax revenue (another form of revenue thus a pseudo-tax source) as well as the non-revenue items. The year 1998 also saw a similar effect with the growth rate as seen in Table 1.1. The GDP increased to RM283.243 billion in 1998 compared to RM281.795 billion in year 1997.

2009
RM
billion
78.375
28.129
50.789
1.346
110 10
158.639
679.938
_

# Table 1.2 : Statistics on the Collection of Direct Tax, Indirect Tax, GDP and GDP Per Capita during Economic Crisis

(Source : Author computed from statistics published by Department of Statistics, Malaysia)

At the end of year of 2009, the GDP declined but the tax collected on the basis of earnings of 2007 (tax collection is restated a year prior) almost all factors showed increases in non-tax revenue and non-revenue items. Total tax revenue decreased to RM158.639 billion in year 2009 from RM159.794 billion in 2008. The same thing is true for GDP. The volatility of the economic situation has produced serious impacts to the revenue collection over some 32 years in this economy. Where does this pattern of serious impacts arise from is a matter that needs further investigation, as proposed in this study. Does it arise from the different directions of tax form impact on revenues? This is an important research problem that need to be investigated.

The statistics in Table 1.3 reveal the scenario where the indirect tax collection exceeded the direct taxes over the period 1970 to 1990. Starting from the year 1980 to 1989, direct tax has overtaken the indirect tax when average direct tax contributed 39 per cent while indirect tax contributed 37 percent. This scenario remains the same for the rest of following years until in recent years (2016). The direct tax contributes more than 50 percent of total government revenue.

The evolution of changes in the federal revenue is due to the structural changes in the economy where in the early years of 1960s the economy was based on agriculture that led to higher contribution from indirect taxes. After the economy became industrialised, therefore changed to manufacturing-based activities, this helped in bringing more contribution from the direct tax income to the federal revenues. A full description of the evolution of tax system is provided in Chapter 2.

Years	1970 – 1979	1980-1989	1990-1999	2000-2009	2010-2015
Direct Tax	33%	39%	43%	50%	54%
Indirect Tax	50%	37%	35%	23%	20%
Non Tax Revenue	16%	21%	21%	26%	25%
Non-Revenue	1%	3%	2%	1%	1%
Total	100%	100%	100%	100%	100%

#### Table 1.3 : Average Percentage of Major Tax Components

(Source : Author's computation from data by Department of Statistics Malaysia)

This raises the next question on whether the higher economic growth can help bring down the fiscal deficits in recent years (relative to pre-2006), and could support the revenue growth. A simple way to understand this is to compare the percentage increase in direct tax as well as the indirect tax collection with the percentage increase in Gross Domestic Product (GDP). Based on data from Table 1.4 for 2000-2015, the performance of direct tax collection is found to be inconsistent with the increase in GDP. This same goes to the indirect tax. The increase in GDP may not reflect the same level of increases in direct tax and indirect tax, indirect tax and GDP is crucial only in the year 2001 where direct tax shows growth of 44.39 per cent but the GDP shows negative growth of 1.07 per cent. Before year 2000, the tax assessment for the current year was based on the income tax, it is wise to relate the tax of a given year to the national income of the previous year. So tax collection for year 1998 was meant for taxable income for previous year 1997.

However, the Inland Revenue Board Malaysia (IRBM) as the sole income tax administrator in the country had implemented the new Self-Assessment System. The new laws adopted the Current Year Tax System (CYTS) from Previous Year Tax System (PYTS) starting in the year 2000. PYTS was in place before the new CYTS came into force. The CYTS was introduced in year 2000. However, the indirect tax case is computed based on current year. The same scenario is true in year 2014 where indirect tax shows it increased by 42.16 per cent but the GDP only shows a growth of 8.61 per cent.

5





Table 1.4 : Direct and Indirect Tax Growth rate as Share to GDP from 2008 –2012

(Source : Authors own computation using data from Department of Statistics Malaysia)

Based on the tax buoyancy analysis to be done, this study will also try to answer how much a faster economic growth will foster government tax revenues in terms of their buoyancy estimation. Tax buoyancy can help to understand when changes in GDP will have impact on changes in tax revenue. A tax buoyancy value less than 1 would represent that an additional increase in GDP would increase tax revenue less than the increase in GDP. In the case when tax buoyancy exceeding one, however, revenue would increase by more than GDP. This scenario would potentially benefits in reducing the deficits ratios. The effects of tax buoyancy varies in the short-run as well as in the long run. In the short-run, buoyancy is closely related as the stabilizer for the fiscal policy while in the long-run it will help to improve the fiscal balances. That is because in the long-run, buoyancy will help to determine economic growth on long-term fiscal sustainability (Belinga *et al.*,2014).

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This study will focus on the key components of taxes as to their effects on the national income, including direct taxes and indirect taxes. Direct taxes consists of corporate tax, individual tax, petroleum tax, real property gains tax (RPGT) and stamp duty. As for the regression purposes, Stamp Duty and RPGT should be combine as more than 60 percent stamp duty agreements are related to the disposal of properties. While, indirect tax include sales and service tax, duty and customs excise, import and export tax, and current GST. The regression model will incorporate GST and SST as one

variable since the GST only started at recent year 2015 and was zero-rated from June 2018.

According to PricewaterhouseCoopers (Taxation Services Division Report, 2010), although the Malaysian economy and the society have evolved fundamentally over the past 30 - 40 years, but the tax systems has not been changed in coping with increasing complexities in business operations within the changing economy. The report also added that the principles and rules of income tax contained in the tax laws introduced in 1948 and as consolidated in 1968 need re-examination. Thus, a modernisation plan for tax reforms is needed to increase a country's future economic growth and dynamism.

#### 1.2 An Overview of Tax System

Britain has ruled this country till 1957, hence it played an important role in implementing the Western style tax regime to the country starting from 1921 to the last day of colonial rule in 1957. Prior to year 1976, the Inland Revenue Department administered the tax law. With effect from March 1996, the department was separated from government as a statutory authority known as the Inland Revenue Board of Malaysia (IRBM). The pre-existing income tax laws were enacted into a new consolidated act of Parliament, and the Act was renamed the Income Tax Act 1967. As at 2016, IRBM is responsible for the tax revenue collection under this law.

Besides tax collection, IRBM is given the additional task of collecting other forms of tax under the Petroleum (Income Tax) Act 1967, Real Property Gains Tax Act 1976, Promotion of Investments Act 1986, Stamp Act 1949 and Labuan Business Activity Tax Act 1990. Apart from these forms of income taxes, there are other indirect taxes such as sales tax, service tax, excise duty, imports duty, export duty and the new GST. These have now come under the GST Act implemented from April 2015. The indirect taxes is under the authority of the Royal Malaysian Customs Department (RMCD). Table 1.5 is a summary of all forms of taxes forming the government revenue at current year (2016).

Federal Govern	ment Revenue		
Direct Taxes:	Non Tax Revenue:		
a) Income Taxes	PETRONAS Dividend		
Companies	• Petroleum Royalty & Gas		
Individuals	• Motor Vehicle Licence and		
• Petroleum	Road tax		
• Withholding and others	Bank Negara/Central Bank Dividend		
b) Others	• Others		
Estate Duty			
Stamp Duty			
RPGT/Real Property Gain Tax	NonRevenue:		
• Others	Revenue from Federal Territories		
Indirect Taxes:			
Export Duties	a second a s		
Import Duties			
• Excise Duties			
• Sales Tax			
Service Tax			
• Goods and services tax			
• Others			

**Table 1.5 : Tax Forms of Government Revenues** 

(Source : Ministry of Finance, Malaysia as at October 2016)

The GST is one type of tax on consumption, also an indirect tax charged on imports and on the value added to goods and services sold by one business to another, or to the end consumer. It is the final buyers who bear the tax, not the intermediate seller. GST replaces the earlier sales and service tax introduced in January 2007.GST is broad-based tax covering a comprehensive range of business transactions. In year 2015, GST collection was RM27 billion and the Customs Department has anticipated to collect RM39 billion in year 2016. In the same year of 2015, the sales and service tax has dropped to only RM5.2 billion and RM3 billion due to the new implementation of GST.

#### **1.3** Income Tax System

Sia (2008) confirms that the income tax system has been transformed from the Official Assessment System (OAS) initiated by Britain in 1947, requiring tax payers to submit returns officially so that the officials could check the tax due: this system lasted till 2000. It was replaced by Self-Assessment System (SAS) from 2001. The main purpose of the IRBM in moving to SAS is to encourage voluntary tax compliance. Lai and Choong (2009) noted in their study that under the SAS, the burden of assessing tax liability has been shifted from the shoulders of tax assessors to the taxpayers. To

comply with SAS voluntarily, taxpayers need to possess a good understanding of the tax laws, particularly the income tax laws and changes in tax legislations.

Section 3 of the Income Tax Act 1967 defines that any individuals who has income accruing in or derived from Malaysia or received in Malaysia from outside Malaysia for a given year of assessment is liable to tax. While a non-resident individual is subject to tax on income accruing in or derived from Malaysia. However, with effect from the year of assessment 2004, Schedule 6 Income Exemptions from tax, Para 28(1) of the Income Tax Act 1967 noted that incomes received in Malaysia by an individual for a year of assessment that is derived from sources outside is exempted from tax.

According to the Malaysian Tax and Business Booklet 2014/2015 by Price Waterhouse Coopers, income tax is levied on income that is accrued in or derived from Malaysia and it excludes income of a resident company carrying on a business of air or sea transport, banking and insurance, which is assessable on a world-income basis.

Income tax was assessed on the income earned in the preceding year under the Official Assessment System (OAS) that was in place before the implementation of the new Self-Assessment System (SAS) in year 2000. As a way to modernize and streamline the tax administration, the assessment of income tax was changed to the current year basis effective at the same time. The OAS was changed to the SAS in stages as Table 1.6.

<b>Table 1.6 :</b>	Period of	Implementation	Self-Assessment	System b	y Category of
Taxpayers					

Tax payer categories	Year of Implementation
Companies	2001
Business, partnerships& cooperatives	2003
Salaried group	2004
(Source : Sia 2008)	

To facilitate the changeover, all income received in 1999 was waived and income and losses incurred in 1999 will be allowed to be carried forward.

#### 1.4 Research Gap/Problem

As described in an earlier sub-section, economic crisis has had significant impacts on economic growth while also affecting the national income in terms of tax collection in particular, as evidenced in the previous sections. Global economic uncertainty as well as a decline in global crude oil prices in the years 2014 also affected the petroleum tax collection. Based on the Economic Statistics of Malaysia in 2014-2015, the petroleum tax contributed 12 percent in 2014 to the total revenues and dropped to 5 per cent in 2015. This study takes into account the effects on different tax forms or components on economic growth and then proceeds to assess the impacts on overall tax revenue as to its stability in terms of its buoyancy.

Tanzi (2000) stated that in developing countries the establishment of effective and efficient tax systems faces some disturbing challenges. Among those challenges are having complex economic structure that makes taxes difficult to impose, inefficient tax administration as well as insufficient information.

The International Monetary Fund (IMF) working papers on Malaysia had highlighted some issues in this regard. It noted that in order to achieve fiscal targets, it should take into account such things as projected decline in oil-related revenues, higher nondiscretionary spending on pensions, take stock of potential revenues and expenditure measures that can be used in designing a balanced, growth and equity-friendly consolidation strategy (Asia and Pacific Department, IMF, 2014). Among major problems are the issue of how the government need to expand its income base as this will help in sustaining long term revenue to support the economics growth aims such as:

- a) The increasing of the fiscal deficit;
- b) The need in sustaining government's revenue in the long term;
- c) The increasing demand in public and private expenditure; and
- d) The need for globalisation and attraction for foreign investments to the country.

Each of those mentioned factors (a-d) can be examined to support the need for a study details out in the following paragraphs.

#### a) The increasing of the fiscal deficit:

Malaysia has experienced the unsustainable fiscal deficit from 1970s till 2016. This has been continuing for the past 18 years. The Malaysian Institute of Economic Research (MIER) fears that if the current account slips into the negative zone for period 2016-2017, Malaysia could potentially be facing twin deficits (for both fiscal and current account) for the for the first time since 1992 (The Edge, Oct 19<sup>th</sup>, 2016). The government budget surplus occurred only for period between 1993 till 1997

before deficits became the norm in 1998. See Table 1.7. The percentage overall deficits to GDP in 2009 is the highest by 6.7 percent reducing over the years until it reached only 3.1 percent in 2015 (notably after the new GST tax brought in). The Malaysian Economic report 2016/2017 reaffirms that the government is committed to making sure that fiscal deficit declines to 3.1 percent and below.

With the aims of realising balanced budget in the future, the stability of fiscal revenues income is expected to help in making sure balance budget can be achieved. The IMF report (April, 2017) claims that the authority's medium-term fiscal policy is appropriately anchored on achieving a near-balanced federal budget by 2020. The baseline assumes continued expenditure restraint and a slight improvement in the revenue collection. Nevertheless, achieving near-balance will require additional measures amounting to about 1 per cent of GDP: See Figure 1.2. An illustration of the scenario shows a mix of revenue and expenditure policies as a possible way forward, while different combinations of policy measures are also feasible. Based on the IMF report as relevant to Figure 1.2, there is anticipation of increases in corporate tax revenue by 0.1 (per cent to GDP) due to higher compliance.

	Overall	9/- to		Overall	9/- to
Years	Surplus/Deficit		Years	Surplus/Deficit	
	(RM'million)	GDI		(RM'million)	GDI
1970	-475	-3.8	1994	4,408	2.3
1971	-1,050	-8.0	1995	1,861	0.8
1972	-1,371	-9.5	1996	1,815	0.7
1973	-1,049	-5.5	1997	6,626	2.4
1974	-1,381	-5.9	1998	-5,003	-1.8
1975	-1,901	-8.4	1999	-9,487	-3.2
1976	-1,705	-6.0	2000	-19,715	-5.5
1977	-2,476	-7.5	2001	-18,422	-5.2
1978	-2,249	- <mark>5</mark> .8	2002	-20,253	-5.3
1979	-1,535	-3.2	2003	-20,928	-5.0
1980	-3,704	-6.8	2004	-19,419	-4.1
1981	-9,015	-15.4	2005	-18,724	-3.4
1982	-10,421	-16.3	2006	-19,109	-3.2
1983	-6,933	-9.7	2007	-20,658	-3.1
1984	-4,775	-5.9	2008	<mark>-35</mark> ,594	-4.6
1985	-4,407	-5.6	2009	<mark>-47</mark> ,424	-6.7
1986	-7,506	-10.3	2010	<mark>-43</mark> ,276	-5.3
1987	-6,153	-7.6	2011	-42,509	-4.7
1988	-3,290	-3.6	2012	-41,951	-4.3
1989	-3,410	-3.2	2013	<mark>-38</mark> ,584	-3.8
1990	-3,437	-2.9	2014	-37,414	-3.4
1991	-2,640	-2.0	2015	-37,249	-3.1
1992	-1,243	-0.8	2016	- <mark>3</mark> 8,783	-3.1
1993	354	0.2	NA	- /	_

 Table 1.7 : Malaysian Government Budget Deficits and Its Percentage to GDP

 between 1970 – 2016

(Source : Author own calculation based on data by the Department of Statistics, Malaysia. Federal Government Financial Position as at December 2015)

#### b) The need in sustaining government's revenue in the long term:



With regard to tax policy, the IMF (April, 2017) committee strongly argued that there is a need to mobilize additional government revenues: See Figure 1.2. Tax collection and compliance could be improved through increased information sharing between agencies. The GST provides an incentive for business to register in order to reduce the cost of inputs. Information related to transactions and GST payments are valuable for agencies to increase corporate income tax compliance by reducing informality and misreporting. Upgrading the GST framework would represent a growth-friendly approach to revenue mobilization. The committee also suggest that the government could start by reducing the number of exempt and zero-rated items, which would also help reduce the scope for evasion and enhance the efficiency of tax system. The list of items in these categories is broad by international standards, and it includes fuel, tourism and passenger transport.

With the existing coverage of the GST, a rate increase of 0.5 point would raise revenue by an estimated 0.25 percent of GDP; with a wider base, the revenue impact of any increase in the GST rate would be even larger.

Malaysia: N	Aedium-Term	Fiscal	Consolidation	Scenario,
	201	17-20	1/	

Fiscal measures	Impact (percent of GDP)
Already in the baseline	1.1
Higher projected revenue (from higher compliance in corporate income tax)	0.1
Expenditure growth restraint (as indicated by the authorities)	1.0
Aditional measures	0.9 - 1.4
Revenues GST of which, removal of exemptions of which, increase in rate (0.5 percentage point increase in the rate from 6.0 percent to 6.5 percent)	<b>0.6 - 0.9</b> 0.4 - 0.6 0.2 - 0.3
Expenditure Subsidy rationalization	0.3 - 0.5
Total balance improvement	2.0 - 2.5
Source: IMF staff estimates. 1/ An illustrative scenario shows a mix of revenue and expenditure policies as a forward, while there could be various different combinations of policy measure	i possible way s.

**Figure 1.2 : Malaysia Medium-Term Fiscal Consolidation Scenario for 2017-2020** (Source : IMF Country Report No. 17/101 for Malaysia)

#### c) The increasing demand in public and private expenditure:



Macek (2014) is making convincing statement that the public finance crisis is usually solved by two concrete channels – channel of reducing the public spending, and the channel of increasing taxes. The first could mean that public spending must not exceed the budget determined, and the second aim is to restore the economic growth. This country had undergone significant changes in its government revenue growth in terms of the contribution from the sources of income. Since 1960, the contribution of indirect tax exceeded the collection of direct tax. Hence, starting in 1991, direct tax collection (39 per cent shares in total revenues) was higher than indirect taxes (34 per cent shares in total revenues) by 5 per cent. This is due to the fact, prior to 1980s, economic development was heavily reliant on the agricultural sectors, whereby indirect taxes contributed to the revenues. With the implementation of industrialisation under the so-

called New Economic Plans since 1980s, industrial-activities have taken charge of the economy so direct tax now forms almost half of the revenue in 2014.

Based on Figure 1.3, (IMF, April 2017) in the period 2014–2017, oil revenue fell by 3.6 per cent of GDP in this period. Several measures, including the introduction of the GST and subsidy rationalization, counteracted the lost revenue and ensured a gradual consolidation of 0.4 per cent of GDP in this period. For the 2016, the deficit of the Federal budget was 3.1 per cent of GDP, similar to 2015. A revenue decline of 1.6 per cent of GDP was driven by oil related revenue. In 2017 at the time of writing this thesis, the deficit is targeted to be 3.0 per cent of GDP.

s, 2014–17 proves balance
-3.6
5.4
1.4
4.0
1.9
1.0
0.8
0.3
1.4
0.4

**Figure 1.3 : The Malaysia Fiscal Developments for period 2014-2017** (Source : IMF Country Report No. 17/101 for Malaysia)

# d) The need for globalisation and attraction for foreign investments to the country:

As an open economy, international taxation is an important aspect for fiscal policy. The authorities have worked to secure its taxing rights as a source country, while also promoting inward foreign direct investment (FDI). Building on past progress, further improvement in the international taxation framework, including strengthening anti-avoidance rules, can raise revenue and Malaysia should continue to pursue international cooperation. (IMF Report, April 2017)

Among other issues that need to be consider when comparison of tax burden or the tax revenue in the share of GDP is still lower compared to the OECD average tax revenue to GDP (of OECD Countries): See Table 1.8. Developing countries usually have a much lower tax-to-GDP ratio than developed countries. The tax-to-GDP ratio in many developing countries is only half of what it is in the developed world. (Alink and Kommer, 2011). In achieving high income country status, Malaysia needs to associate with benchmarking its tax revenue to GDP ratio to the level where the average of OECD countries have achieved. In OECD member countries, the average of total tax revenue as a percentage of GDP has been relatively stable during the last 15 - 20 years. The 1987-2015 average tax to GDP ratio in OECD countries is higher than in Malaysia, which has 16.98 per cent average. This shows a signal that tax revenue is still at lower state and need to be adjusted as a percentage of GDP to a proper level at a future time when the country achieves the same level of income as the OECD group.

The increase in the tax revenue at the end will help to finance growing welfare costs. Based on the statistics in Table 1.8, the tax to GDP ratio started recording slightly higher ratio from 1987 till 1999 from 15 per cent to 19 per cent. Starting from year 2000, the ratio reduced to17 per cent to 13 per cent (this is largely due to the currency effect) while the OECD average ratio ranges from 31 per cent to 34 per cent. Le *et al.*(2012) differentiate tax among high income, middle income and low income countries based on tax efforts and their tax collection matrix over 1994 to 2009. The result hints that Malaysian tax turned out to be low in terms of tax effort as well as low in tax collection.

Years	Malaysia Total Tax Revenue/GDP	Total Tax Revenue/GDP – OECD Average	Difference between Malaysia Tax/GDP ratio to OECD average ratio	
1987	15.38%	32.66%	-17.27%	
1988	15.92%	32.64%	-16.71%	
1989	15.84%	32.47%	-16.63%	
1990	17.84%	31.96%	-14.12%	
1991	19.12%	32.48%	-13.36%	
1992	19.09%	32.73%	-13.63%	
199 <mark>3</mark>	18.53%	33.13%	-14.60%	
1994	19.18%	33.07%	-13.89%	
1995	18.73%	33.30%	-14.57%	
1996	18.63%	33.58%	-14.95%	
1997	19.03%	33.56%	-14.53%	
1998	16.01%	33.71%	-17.70%	
1999	15.08%	33.93%	-18.86%	
2000	13.24%	33.96%	-20.73%	
2001	17.44%	33.48%	-16.04%	
2002	17.45%	33.23%	-15.78%	
2003	15.50%	33.15%	-17.66%	
2004	15.20%	33.40%	-18.20%	
2005	15.43%	33.56%	-18.13%	
2006	15.08%	33.71%	-18.63%	
2007	14.82%	33.77%	-18.94%	
2008	15.21%	33.17%	-17.97%	
2009	15.66%	32.43%	-16.77%	
2010	13.33%	32.57%	-19.24%	
2011	14.79%	32.95%	-18.16%	
2012	15.61%	33.44%	-17.83%	
2013	15.31%	33.81%	-18.50%	
2014	14.84%	34.18%	-19.34%	
2015	14.25%	34.27%	-20.02%	
2016	N/A	N/A	N/A	
Average	16.17%	33.24%	-16.98%	

# Table 1.8 : Statistics on Malaysia Tax Revenue to GDP Comparative to OECDAverage Tax Revenue to GDP from 1987-2015

(Sources : Author own calculation based on data by the Ministry of Finance, Malaysia and OECD Statistics)

#### e) Other factors:

Yet another issue dealing with the income tax leakages, may have some impact on total revenue collections: tax incentives and rebates. The statistics in Table 1.9 show total incentives claimed by companies which include special deduction, double deduction, special allowance as well as income transferred to the exempt account. Among special allowance are Investment Tax Allowance, Reinvestment Allowance, Pioneer Status Allowance, Allowance for Increased Agriculture Exports, Increased Exports Allowance for Malaysian International Trading Company, Value of Increased Export of Services, Special Incentive for Exports, Allowance for BioNexus status company and many more. Tax incentives amount are deemed to be gross amount that are subject to company statutory tax rates and other deduction allowed before determine the taxable income for a company. Based on Table 1.9 for from 2001 till 2016, companies claimed tax incentives amounting to RM947.22 billion which was 62.30 per cent on average. However, this tax incentive amount has exceeded company tax collection by 190.84 per cent on average which leads to the leakages from total tax revenue from period referred.

-	YEAR	Total Tax Revenue	Total Company Tax Collection	Total Incentives Claimed	Number of Claims	Percentage of Incentives Claimed from Total Tax Revenue	Percentage of Incentives Claimed from Total Company Tax Collection
-		(RM) million	(RM) million	(RM) million			
	2001	61,491	20,771	68,482	17,920	111.37%	329.70%
	2002	66,860	24,642	75,583	17,139	113.05%	306.72%
	2003	6 <mark>4,891</mark>	23,990	32,853	17,567	50.63%	136.94%
	2004	72,049	24,388	122,830	17,702	170.48%	503.65%
	2005	80,595	26,381	102,015	18,505	126.58%	386.70%
	2006	86,631	26,477	49,282	37,225	56. <mark>8</mark> 9%	186.13%
	2007	95,168	32,149	49,983	62,263	<mark>52.5</mark> 2%	155.47%
	2008	112,898	37,741	41,108	70,891	36.41%	108.92%
	2009	106,504	30,199	40,637	80,757	<mark>38.1</mark> 6%	134.56%
	2010	109,515	36,266	44,235	93,394	40. <mark>3</mark> 9%	121.97%
	2011	134,885	46,888	47,291	104,646	<mark>35</mark> .06%	100.86%
	2012	151,643	51,288	52,954	115,310	34.92%	103.25%
	2013	155,952	58,175	50,042	121,385	32.09%	86.02%
	2014	164,205	24,423	49,473	132,963	30.13%	202.57%
	2015	170,018	63,679	58,873	186,476	34.63%	92.45%
-	2016	183,553	63,193	61,581	213,121	33.55%	97.45%
	Total/	1 816 858	500 650	0/7 <b>111</b>	1 307 264	62 30%	100 84%
	Total/ Average (Source	1,816,858 re : Author ow	590,650 n calculation b	947,222 pased on data b	1,307,264 by the Inland R	62.30% evenue Board Malay	190.84%

# Table 1.9 : Total Incentives Claimed by Corporate Tax Payers and Percentage to Total Tax Collection and Company Tax Collection

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Last perspective would be the growing of informal or shadow economy is among major factors that contribute to reducing the government income through tax collections. Based on report by the Tax Justice Network (2011), Malaysia is ranked in fourth place in the ASEAN-5 countries, with a total of US\$11.24 billion lost from tax evasion activities. Undeniably, the total tax revenues for the government will depend upon the size of the tax bases, the level of the rates used within the tax system, the administrative efficiency and the level of tax compliance rate. The taxes should be able to cover the expenditure needs of the government over time. So, this basic assumption must support the statement when revenues should rise with the national income, and the whole tax system should evolve to increase the revenue yield over time.

In the case where there could be insufficient tax revenues received, the government needs to make borrowings, or printing money, selling assets or slowing down the economic vibrancy of the country. Therefore, the tax system should be buoyant; in that case, when tax revenues should rise at a rate equal to or greater than the growth of the national income. To achieve this, the government should adopt tax policies that include growing sectors of the economy in the tax base (Jenkins *et al.*, 2000).

#### 1.5 Research Questions

- a) What is the impact of different tax forms on economic growth in a small middleincome economy with classical tax form mixture using data up to year 2016, when the tax structure was slightly changed?
- b) What are the long-run and short-run buoyancy coefficients of direct tax components (corporate tax, personal income tax, real property gain tax), and indirect tax (sales and service tax cum GST, Excise Duty, Import Duty and Export Duty) components on the economic growth and on the total revenue of the central government budget?
- c) What is the desirable tax structure mix policy in terms of direct to indirect tax ratio that is promoting economic growth by using historical data from 1960-2016?

These three issues are of importance to this economy as it is hoped to transit to the high-income economy from its middle-income status in the next few years.

#### **1.6** Research Objectives

There are several studies (to be mentioned later in Chapter 3) which relate to taxation and economic growth, but those are not aimed at addressing the volatility of tax revenues. That means that analytical study of different tax components has not been done yet for this (and many developing countries). So, this study aims to analyse the impact of different tax components on the GDP and also gauge the buoyancy of major tax categories on GDP growth and revenue. Next, this study also embarks on estimation of a desirable tax mix ratio that can help to promote positive GDP growth. The aims of this research are therefore: estimate (i) the impact of major individual types of taxes on the long and short run economic growth, (ii) the buoyancy of those individual tax forms over the test period of 1960-2016 and finally (iii) explore a desirable tax mix ratio (direct to indirect tax ratio) that is associated with high GDP growth. This study will employ time series data using econometric methodology to estimate the responses of the changes in tax forms on the change in GDP and vice versa (buoyancy estimation) as well as in testing for a desirable tax mix ratio.

The tax forms are direct as well as indirect. Components of direct tax are personal income taxes (PIT), corporate income taxes (CIT), Petroleum Tax (PET), Duty Stamps, Real Property Gain Tax (RPGT), and others. On the other hand, indirect tax consists of Export Duty (ED), Import Duty (ID), Sales and Service Tax (SST), and others. However sales and service tax has been replaced with the Goods and Services Taxes (GST) with effect from 1<sup>st</sup> April 2015.

Therefore, the objectives of this study are:

- a) To determine the effects of different tax forms (direct tax categories as well as indirect tax categories) on the economic growth in the country over the long run using data on tax forms across different tax-paying sectors.
- b) To determine the tax buoyancy parameters of each forms as response to discretionary measures taken by the government.
- c) Next, by using historical time series data, to determine desirable threshold in tax structure in terms of direct to indirect tax ratios that can give positive impact to economic growth or at least help to promote higher GDP.

These research questions are meant to address the knowledge gap on the dynamics of tax regimes in place in this small middle-income economy with a classical tax structure maintained right up to year 2016. Such findings we hope to get would help address two practical problems in this economy. First, by knowing the negative effect(s) of some form(s) of tax, we would be able to estimate the impact of such negative-form-tax on (i) the economy and (ii) the total revenues. Second, the Income Tax authority would be able to evaluate tax buoyancy of different tax forms impacting on growth in GDP. Thirdly, with historical time series data, this study will identify what will be the maximum threshold of tax structure (direct to indirect tax structure) that can give positive impact to economic growth.

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#### 1.7 Research Hypothesis

Based on a study by Evborokhai (2003), hypotheses are built to serve as a tentative answer to the problem under investigation. In this section, hypotheses are stated in general. The details of each hypothesis are further explained in chapter 4 under the section 4.6.

#### Based on research objective 1:

H(0): There is no relationship between different taxes form (decomposes into 2 different tax forms; direct tax and indirect tax categories) on the GDP.

H(A): There is a positive or negative relationship between different tax forms on the GDP.

#### Based on research objective 2:

H(0): The measurement of long run and short run tax buoyancy coefficients of different tax categories shows value of 1 (means than an increased in GDP will compensate the same increased level in the tax revenue categories).

H(A): The coefficients of tax buoyancy not equal to 1 to GDP and total revenue in short run as well as long run buoyancy. (There are eight embedded hypothesis from eight different tax forms)

#### Based on research objective 3:

H(0): There is no relationship between the rate of growth of real GDP and the tax structure in terms of direct to indirect tax forms?

H(A): There is positive or negative impact of tax structure on the economic growth. Next, is it possible to determine the threshold of tax structure that would have positive impact on real GDP by using historical data in time-series.

#### 1.8 Significance Contribution of Study

This study lays emphasis on the theory-suggested impacts of different components of tax types on the economy (that is on real GDP growth and the total government revenue over a long test period). It is original proposal in a country with almost the classical tax forms kept intact from 1960 till it was changed only slightly in 2015 after which the change was dropped in June 2018. Hence, this study is likely to contribute to a detailed understanding of how the classical tax system has been affecting the revenue streams while also it may help to establish the volatility in revenue stream to be traceable to (a) economic status of growth/declines in crisis periods.

Ahmed and Mohamed (2010) claim that the fiscal deficit is the core issue of most developing countries over the past several decades. The reason behind the large increase in fiscal imbalance is the rapid expansion in expenditure side by governments despite the low revenue collection. In the belief of the governments to get re-elected

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on promises based on borrowed money to plug the budget deficits, expenditure has gone unlimited. In the present studies, try to explore the determinants of buoyancy of taxes: i.e. the total tax and its components may have differential impacts. By studying such opposite trends, one may be able to change the tax form mixtures to bring in greater buoyancy to the revenue stream: this is a practical possibility if all goes well.

In order to design an appropriate tax structure that can help to hold steady the revenues while the economic growth is likely to be buffeted by crises, we employ an accurate econometric procedures to estimate the impacts. This study is using threshold regression technique in order to determine appropriate tax structure (ratios of direct to indirect tax ratio) that can help in promoting the economic growth at least with positive impact on real GDP. Hence, this study will help in policy making decisions in adjusting tax revenue as a percentage of GDP to a proper level (with regard to the first objective). Next, this study will help in normalizing tax revenue composition by way of raising the revenue proportion of direct tax and indirect tax in searching for a best mix of tax forms that could be neutral to growth in GDP.

#### 1.9 Organization of the Study

The organisation of the remainder of this proposal is as follows. The following chapter 2 provides an evolution of taxation, tax reforms and current tax structures. Chapter 3 will review the theoretical and empirical studies on the relationship between economic growth and taxation as well as the relationship between tax revenue forms and stability. Also this chapter 3 provides details on the grounded theories that lie between taxation and economic growth. Chapter 4 details out data sources and variables used in the analysis. This section highlights some empirical methodology to gauge on the relationship between tax structure and growth, and the links between taxes and progressivity are exposed. This part also clarifies on the test model specification, regression techniques and preliminary test that includes stationarity or unit root test.

Hypothesis testing and findings on objective one along with the descriptive findings are presented in chapter 5. On the other hand, chapter 6 presents the findings on hypotheses two and three. Finally chapter 7 summarizes the study and present the conclusions where recommendations include policy implications, limitation of study and proposal for future study.

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