9. TAX REFORM, INFLATION, FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH IN MALAYSIA

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Abstract

This study explores the dynamic linkage between financial development, inflation and economic growth on tax revenue condition for Malaysia. The Maki's cointegration test with various structural breaks, bootstrap rolling window causality applications and the Lind and Mehlum (2010) estimation to capture the U-shape condition of tax-led-growth fundamental theory used in this study.The major finding using quadratic estimates indicates an inverted U-shape effect between the economic growths towards the tax revenue. When discussing about the full sample causality analysis, we found that there is unidirectional causality running between taxation with financial development and inflation; and there is also a unidirectional causality running from GDP to taxation. Furthermore, by using the bootstrap rolling window causality, we found numerous sup-period predictive powers of causalities running between taxation, financial development, inflation and economic growth. Overall, the findings indicate a growth-led-taxation effect in Malaysia due to the inverted U-shape effect appeared in this study.

Keywords: economic growth, financial development, inflation, taxation

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1. Introduction

The emerging economy of Malaysia has gone through several unstable economic performance conditions lately reflecting from the currency depreciation and unexpectedglobal oil prices declining effect in recent years. We realize that the nation's annual GDP growth still remains at an average 4 to 5% for the past 5 years (Department of Statistics Malaysia, 2017). Based on the government official statistical report, Malaysia has also faced shortage of the petroleum tax revenue, for which the collection reached RM380 billion in 2010, and declined to RM300 billion in 2015. Indeed, we found that the inflation rate is also moving upwards, on average, from 3% in 2010 to 4.5% in 2015, and had stimulated consumer burden issues in Malaysia. Nevertheless, the tax revenue still plays a pivotal role to stimulate and sustain the overall economic performance of the country. Moreover, when the sources of tax revenue declined, the country faces unstable macroeconomic position. Finally, the country needs remarkable fiscal policy to overcome this unstable economic scenario and sustain development in the fast growing Asian region.

Since to date, many studies explored the dynamic relationship between taxation, inflation and growth worldwide. On the other hand, Bhatia (1960) indicates that there is linkages between inflation and growth, while Kormendi and Meguire (1985) used a huge growth literature and revealed that inflation had a negative relationship with growth and that inflation condition would influence the growth sustainability adversely. The relationship between tax revenue and economic growth has been a subject of interest to many researchers and policymakers. Meanwhile, Wibowo (2003) has put more attention to the relationship between taxation and economic growth in 45 states in the United States and found a negative relationship between taxes and economic growth in most of the states. However, Scully (2003) found relatively high tax-low growth regime to a relatively low tax-high growth regime is associated with a significant and with a lower increase in income inequality. Arnold (2008) has focused on the relationship between tax structure and economic growth for 21 OECD countries and found a similar result as Wibowo (2003) and Scully (2003). However, Angelopoulos et al. (2007) has found a contradictorily result, the empirical findings regarding to the effects of tax rates and labor income tax rates being negatively related to growth, whereas capital income and corporate income tax rates being usually positively related.

Across the region of Latin countries, Bittencourt (2012) studied the relationship between inflation and growth and found that inflation had a detrimental effect on growth in the region. Adrián Risso and Sánchez Carrera (2009) study on Mexico found that inflation had a significant negative effect on economic growth. On the other hand, Mollick et al. (2011) studied industrial and emerging economies and found strong output persistence in the industrial economies, in which partial and full inflation targeting regimes had a positive long-run impact on growth. Vaona and Schiavo (2007) used non-parametric and semi-parametric approaches to determine the relationship between inflation and output. The finding is in line with the work done by some of the previous researchers, the threshold estimates indicating that inflation has no effects on growth. Veronika and Lenka (2012) have done the research on the EU member states, for which the samples were created by two sub-groups, namely the EU-12 and the EU-15 countries. In the case of the old EU member states, in all the cases it was confirmed that there is a negative relationship between the corporate tax burden and the long-term economic growth, while the results for the new EU member countries were not clear. Ramot and Ichihashi (2012) found that statutory corporate income tax rates and personal income tax rates have different effects on the economic growth condition. The statutory corporate income tax rates are strongly negatively associated with economic growth and income inequality by controlling for various other determinants of growth and income distribution; meanwhile, the personal income tax rates have no impact on economic growth and on income inequality. Similarly, Ferede and Dahlby (2012), who examined the impact of the Canadian provincial governments' tax rates on economic growth concluded that the higher provincial statutory corporate income tax rate is associated will lower private investment and slows down the economic growth performance overall.

From the OECD countries' perspective, Macek (2014) evaluated the impact of individual types of taxes on economic growth and found that the personal income taxes and social security contributions are the most harmful to economic growth among the countries involved in the study. Bleaney (2000) empirically examines the optimal tax condition for South African and found that inflation rate typically represents only a small proportion of the tax revenue. Hakim and Bujang (2012) indicate that the inflation rate has directly affected the components of tax revenue, especially with Goods and Services Tax (GST) items, whereby highest inflation rate in the low and middle-income countries have the highest percentage of GST to the total tax revenue ratio. High inflation rate in a country will force the government to increase the taxes on goods and services by increasing the price and stabilizing the consumption and aggregate expenditure. Qadir Patoli et al. (2012) also explored the impact of inflation on taxation in Pakistan and found that inflation and taxation were positively correlated and any change in inflation would cause tax evasion. Radnia (2013) has explored the relationship between inflation rates, oil production revenue and taxation and proved that taxation had a positive impact on economic growth and a negative impact on consumer price index, respectively.

According to Mahdavi (2008), inflation rate is one of the potential variables that influences the tax revenue and the tax policy of a country. For example, most of the low and middle-income countries will tend to increase the tax rate to reduce the high inflationary conditions in order to improve the nation's fiscal policy. In the case of a developing country such as Malaysia, Baharumshah and Soon (2014), Vinayagathasan (2013), Chaudhary et al. (2013) and Khan and Senhadji (2001) found a negative effect of inflation fluctuation on the output growth. The level of taxes has different effect on growth and other indicators caused by the macroeconomic variables, such as extent of corruption, which is adversely affected by the inflation rate in the African countries (Ghura, 1998). High inflation rate in a country will force the government to increase the taxes on goods and services by increasing the price and stabilizing the consumption and aggregate expenditure. Ott and Tatom (2016) found that a causal relationship between taxation and money demand is generally supported in the 60 countries making up the three higher income groups.

Furthermore, Denaux (2007) empirically investigated the relationship between endogenous growth, taxes and government spending by emphasizing several categories of government expenditure, along with numerous types of taxes using panel estimates for the North Carolina counties. The findings show that the state-level taxation policies affected the economic performance directly, and not the country level taxation policies. Zhau (2010) found that the more sustainable the international reserve level is, it will lower the taxation rate based on the uncertainty of future shock. Table 1 shows some selected literature on causality analysis worldwide.

Table 1

Selected Studies Examining Causality

Countries	Causal effects	Author(s)
Taxation and growth		
Malaysia	Tax ←/→ GDP	Taha and Loganathan (2008)
Malaysia	Tax ←/→ GDP	Abdul Aziz et al. (2010)
India	Tax ←/→ GDP	Mishra (2011)
Ghana	Tax −/→ GDP	Takumah (2014)
Nigeria	Tax −/→ GDP	Chigbu (2012)
Jordan	Tax ←/→ GDP	Al-Zeaud (2015); AbuAl-Foul and Baghestani (2004)
Fiji Islands	Tax ←/→ GDP	Gounder et al. (2007)
Turkey	Tax ←/→ GDP	Aslan and Taşdemir (2009)
OECD countries	Tax ←/→ GDP	Chang and Chiang (2009)
Various countries	Tax ←/→ GDP	Ott and Tatom (2016)
Taxation and inflation		
Nigeria	Tax ←/− Inflation	Adegbite and Azeez (2015)
Iran	Tax ←/− Inflation	Radnia and Rasoulpour (2015)
Taxation and financial		
OECD countries	Tax ←/− Finance	Bond and Xing (2015)
Malaysia	Tax ←/− Finance	Taha et al. (2013)

Source: Authors' compilation.

2. Model Specification

The data used in this study are the annual data covering the period of 1970 to 2015.We obtained the overall data from the World Development Indicators (WDI) of the World Bank (2016). Equation (1) shows the basic relationship between dependent (Tax) and the independent variables used in this study:

$$Tax = (FD, CPI, GDP, GDP2) \quad (1)$$

where: Tax series represents the total volume of tax revenues, FD is the financial development series; CPI is the consumer price indexes, with 2010 as base year (2010=100), GDP and GDP2 represent the per capita income and the squared value of per capita income, respectively. All series are measured in US dollar currency and were transformed into logarithms. For the purpose of identifying the FD series, we used the Principle Component Method (PCM), which comprises the private credit for the private sector, the domestic credit for the private sector and the money supply (*M2*). In the early stage, PCM was used by many researchers to capture the financial development indexes as proxy for financial sustainability.

First, as a normal procedure when dealing with time series data, we get along with the unit root test. In this study, we employ the Augmented Dickey and Fuller (ADF) (1981), and the Ng and Perron (NP) (1995) to capture the stationary condition. Once performed the unit root test, we proceed with the Maki (2012) cointegration test to capture the long-run cointegration with various structural breaks. As we know, the standard cointegration tests are not able to capture the existence of structural breaks and most likely provide biased results. This test is based on four different models of Maki's cointegration, as follows:

Model 1: Level shift

$$y_t = \mu + \sum_{i=i}^{k} \mu_i K_{i,t} + \beta x_t + \varepsilon_t \qquad (2)$$

Model 2: Level shift with trend

$$y_t = \mu + \sum_{i=i}^{k} \mu_i K_{i,t} + \beta x_t + \sum_{i10}^{k} \beta_i x_i K_{i,t} + \varepsilon_t \qquad (3)$$

Model 3: Regime-shifts

$$y_t = \mu + \sum_{i=1}^{k} \mu_i K_{i,t} + \delta_x + \beta x_i + \sum_{i=1}^{k} \beta_i x_i K_{i,t} + \varepsilon_t \qquad (4)$$

Model 4: Regime-shifts with a trend

$$y_t = \mu + \sum_{i=1}^{k} \mu_i K_{i,t} + \delta t + \sum_{i=1}^{k} \delta_i t K_{i,t} + \beta x_t + \sum_{i=1}^{k} \beta_i x_i K_{i,t} + \varepsilon_t \qquad (5)$$

where: yt and xt represent the estimated variables with I(1) condition, Ki series represents a dummy series in all four regression models in order to test for the cointegration condition with multiple breaks and εtare the equation error. The third Maki's model is called the regime-shifts model, which allows for structural breaks of β in addition to ε, while the fourth Maki's cointgeration model represents the regime-shifts with a trend and Equation (5) constitutes structural breaks of levels, trends, and regressors. The dummy series of the Maki (2012) cointegration test can be defined as follows:

$$K_{i,t} = \begin{cases} 1 \\ 0 \end{cases}, \text{ when t>Tb and otherwise} \qquad (6)$$

where: Tb represent the break point for the regressions to determine the cointegration condition with structural breaks and we should refer the critical value to test for the null hypothesis of "no cointegration" under structural breaks computed by Monte Carlo simulations (see Table 1 from Maki, 2012). The next step is to estimate the quadratic relationship; we employed the Lind and Mehlum (2010) test by using the following model:

$$Tax = \beta GDP + \gamma GDP^2 + ZC + \mu_i \qquad (7)$$

The null and alternative joint hypotheses of the U-test can be define as:

$$H_0: (\beta + \gamma 2GDP_{min} \leq 0) \cup (\beta + \gamma 2GDP_{max} \geq 0) \qquad (8)$$

$$H_1: (\beta + \gamma 2GDP_{min} > 0) \cup (\beta + \gamma 2GDP_{max} < 0) \qquad (9)$$

where: GDPmin and GDPmax are the minimum and maximum values of the per capita income, respectively. Based on Eq. (8) and (9), if the null hypothesis is rejected, this will confirm the existence of an inverted U-shape effects of GDP-led-taxation for this study.

Next, we continue with the bootstrap rolling window application. The bootstrap estimation is based on the bivariate VAR(p) fundamental process. We used the residual based bootstrap method with numbers of Monte Carlo simulations. The following Eq. (10) indicates the bivariate relationship processes:

$$y_t = \gamma_0 + \gamma_1 y_{t-1} + \cdots \cdots + \gamma_p y_{t-(p+1)} + \varepsilon_t \qquad (10)$$

In this study, we employ the Akaike Information Criterion (AIC) technique to capture the optimal lag length. According to Balcilar et al. (2010), the white noise process with zero mean and covariance matrix is represented by the $\varepsilon_t = (\varepsilon_{1t}, \varepsilon_{2t})$. To explain the causal relation, we split the y series into couples of sub-vectors, for example y1t represents the taxation series and y2t represents the financial development. Equation (11) represents both series in a single matrix form:

$$\begin{pmatrix} y_{1t} \\ y_{2t} \end{pmatrix} = \begin{pmatrix} \alpha_1 \\ \alpha_2 \end{pmatrix} + \begin{pmatrix} \alpha_{11}(L) & \alpha_{12}(L) \\ \alpha_{21}(L) & \alpha_{22}(L) \end{pmatrix} \begin{pmatrix} y_{1t} \\ y_{2t} \end{pmatrix} + \begin{pmatrix} \mu_{1t} \\ \mu_{2t} \end{pmatrix} \qquad (11)$$

Furthermore, for the purpose of econometric analysis, the variable is represented in the following form:

$$\alpha_{ij}(L) = \sum_{k=1}^{p+1} \alpha_{ij,k} L^k, i, j = 1,2 \text{ ....} \qquad (12)$$

where: L is the lag operator defined as $L^k x_t = x_{t-k}$. Based on this condition, the null hypothesis of no rolling window causality is tested using some specific restriction. This full sample causality tests are based on modified LR statistics and the residual based bootstrap technique which has been clearly discussed by Balcilar et al. (2010), Li et al. (2016) and Yang and Wu (2015). These studies employed the rolling bootstrap estimation to reduce the non-constancy parameter and pre-test bias of the estimated series. In order to test the long-run cointegration relationship, we used the Fully-Modified Ordinary Least Square (FM-OLS) application proposed by Phillips and Hansen (1990), where this condition is valid for first order integrated series or well-known as I(1).

3. Empirical Findings

Since we use financial development series, we therefore report the financial development index analysis with the eigenvalues and eigenvectors (Table 2). Based on the PCM analysis, we find that the first component is the single series, which is higher than 2 and is explaining 95% of the variation of the dependent variable, while PC2 and PC3 are only able to explain very small variation and this clearly indicates that the principal component has a minimum explanatory power. Therefore, we use the financial development series to represent the overall financial sustainability of Malaysia for the entire period of this study.

Table 2

Principle Component Analysis for the Financial Index

	Eigenvalues	Difference	Variation (%)	Cumulative (%)
PC1	2.852	2.704	0.950	2.852
PC2	0.147	0.146	0.049	2.999
PC3	0.000	-	0.001	3.000

Note: PC1 - Bank credit amounts, PC2 - Private credit and PC3 - Money supply.

In the presence of principal component establishment, a series of financial development indexes can be created for the empirical estimation. We found that the series has the same fluctuating condition in the early 1990's and later 2000 periods. For this reason, we can say that during these sub-periods the country's financial development was not in a stable condition because of internal and external financial instabilities which slowed down the overall financial operations in Malaysia. The basic needs of time series analysis are the stationary identification. In order to get the stationary level, we employ the ADF and NP unit root tests. The results are shown in Table 3 and we find that all of the series are integrated with I(1) order in the presence of lag lengths, respectively.

Table 3

Results of Unit Root Test

Variables	ADF Statistic	NP	
		MZa Statistic	MZt Statistic
At level			
Tax	-1.992	-0.927	-0.712
FD	-1.639	-0.276	-0.168
CPI	-1.570	-5.910	-1.820
GDP	-2.393	-0.827	-0.221
At first difference			
ΔTax	-4.922*	-19.136*	-3.091*

Variables	ADF Statistic	NP	
		MZa Statistic	MZt Statistic
ΔFD	-6.297*	-20.999*	-3.238*
ΔCPI	-8.668*	-19.060*	-3.082*
ΔGDP	-7.828*	-14.701*	-3.565*

*Note: * indicate significance level at 1%. The lag length selection for ADF and NP tests are based on SIC.*

Once we found that all series are integrated of order one or I(1), we are now safe to pursue the Maki cointegration and the bootstrap rolling window causalities. As shown in Table 4, the Maki (2012) cointegration statistical values have rejected the null hypothesis of no cointegration with various structural year breaks at 10% significance level. The year breaks are slightly falling in the late 1970's, 1980's, 1990's and the years 2002 and 2003.

Table 4

Maki (2012) Cointegration Test Results

Model	Statistic	CV (10%)	Break periods
0	-5.835*	-5.714	1977; 1989; 2003
1	-6.017*	-5.974	1978; 1992; 1997
2	-7.974*	-7.481	1984; 1989; 2002
3	-8.393*	-7.977	1978; 1985; 1997

*Note: * indicate the significance level of 10% and the estimation is based on GAUSS program.*

The U-test results in Table 5 show clearly that the upper bound slope represented by GDPmin is negative (-1.939), and the lower bound represented by GDPmin is positive (3.274), and are significant, respectively, while the SLM statistics which equals 12.040 has rejected the hypothesis of no inverted U-shape at the 1% level. This indicates an inverted U-shape condition between GDP and taxation for this study. From our point of view, this inverted U-shape effect is found in the long-run, caused by the comprehensive fiscal policy handled by the federal government to increase tax collection by emphasizing the self-assessment personal taxation and numbers of indirect tax collection enforcement in the last two decades. The GDP-led taxation condition are consistent with Taha et al. (2013), Taha et al. (2008) and Abdul Aziz et al. (2000) previous findings, which focused on Malaysia' fiscal situation.

Table 5

The SLM U-shaped Test

Estimated figures	Tax
Slope at GDPmin	3.274* (18.734)
Slope at GDPmax	-1.939* (12.038)
SLM test for U-shape	12.040* [0.000]
Extream point	5.445
95% confidence interval (Fieller's method)	[4.995; 6.765]

*Note: *, **, and *** denote significance at 1%, 5% and 10%, respectively. ( ) and [ ] represents SLM statistic values and the p-values, respectively. This SLM U-shape test is based on STATA program.*

In the first stage before handling this test, we determine the optimal lag order using the VAR model. The optimal lag order is equal to 2 based on the AIC. Table 6 reports the results of estimated full samples bootstrap LR statistics, as well as the bootstrap p-values according to the causality null hypothesis. We also test the serial correlation based on the multivariate effects of the fundamental model of this study and do not find any serial problem through this estimation.

Table 6

Full Sample Bootstrap Granger Causality Test

Causality directions	LR-statistics	Bootstrap p-values
Tax –/→ FD	4.594***	0.083
Tax ←/– FD	4.826	0.263
Tax –/→ CPI	5.912***	0.082
Tax ←/– CPI	0.028	0.990
Tax –/→ GDP	1.639	0.495
Tax ←/– GDP	16.130*	0.003

*Note: *, **, and *** denote significance at 1%, 5% and 10%, respectively. The p-values are obtained through 2000 Monte Carlo simulations.*

Table 6 shows that the null hypothesis of taxation does not cause financial development has been rejected at the 10% significance level. The results also indicate that there is only unidirectional causality running between those variables. Moreover, we also found that taxation and inflation series have a unidirectional causality effect with taxation. Meanwhile, the causal relation of GDP does not cause taxation is rejected, and the growth-led taxation condition is confirmed. Usually, problems arise when the estimated parameters come from unstable bilateral causal relationships. We examine the stability of the bivariate causality parameter based on Nyblom (1989) and Hansen (1992) ideas. First, we trimmed both ends of the sample by 15% and applied the fraction of the estimation period from 15 to 85%. Based on the results in Table 7, the estimated Lc system statistics has rejected the null hypothesis of parameter constancy for all three conditions of causality analysis at 10% and 5% significance level, respectively. This allows for unstable estimated parameters of the estimated VAR models, which are based on full sample application (Li et al., 2016; Nyakabawo et al., 2015; Yang and Wu, 2015).

Andrews and Ploberger (1994) suggested three additional parameter stability tests which have the same hypothesis, with different alternative hypothesis. The short-run stabilities of regime-shift are based on Sup-LR, while the stability condition is based on Exp-LR. We realize that the Mean-LR values are found to be not in a stable mode only when tax revenue causes FD; and the null hypothesis was rejected at 5% and 10% significance levels, respectively. This allows a predictive power of parameter constancy only for the Tax equation causality with FD, which indicates the unstable condition of the parameter in the short run. Therefore, the Granger causality test based on the VAR model between Tax and FD series in Malaysia are not reliable because the parameter stability does not stay constant over the estimation period. We may find that all other sequential equations of the taxation series to FD series indicated a stable mode in the short-run period. However, the tax revenue effect towards the CPI and GDP series found to be not in a stable mode in the short-run.

Table 7

The Parameter Stability Tests

Causality direction	Equation for series: Tax		Equation for series: (FD/CPI/GDP)	
	Statistics	Bootstrap p-values	Statistics	Bootstrap p-values
Tax vs. FD				
Sup-LR	5.911**	0.022	1.161	0.850
Exp-LR	1.318***	0.051	0.134	0.973
Mean-LR	2.013***	0.076	0.255	0.975
Lc	0.386***	0.067		
Tax vs. CPI				
Sup-LR	2.850	0.288	2.423	0.382
Exp-LR	0.524	0.423	0.493	0.449
Mean-LR	0.923	0.442	0.881	0.455
Lc	0.420***	0.067		
Tax vs. GDP				
Sup-LR	3.586	0.146	2.874	0.282
Exp-LR	0.880	0.141	0.601	0.291
Mean-LR	1.528	0.145	1.031	0.310
Lc	0.846**	0.045		

*Note: *, **, and *** denote significance at 1%, 5% and 10%, respectively. The p-values are calculated using 2000 bootstrap repetitions. The parameter stability test for all parameters are based on VAR(2) jointly estimates.*

When we look at the overall parameter stability tests, we found both short and long-run parameters using the full sample period showed an unstable condition due to structural change over the estimation period. This is a meaningful result to gather the residual based on the rolling window estimates. Figures 1 to 3 show the plots of the bootstrap p-values of the rolling window estimates. After trimming 15 years observations from the beginning of the full sample, the rolling estimates start move from 1985 to 2014. Figures 1(a) and 1(b) report the rolling bootstrap p-values of the LR-statistics with the null hypothesis has been rejected at the 10% significance level, mainly in the periods of 1986-1991 and 2010. This indicates that taxation has a significant positive impact on financial development, with two sub-periods of predictive power. The first sub-period corresponds to the effects of structural economic reformation of several government economic policies and the unstable economic condition reflected from global oil price crises. The second predictive power in 2010 corresponds to the effects of global economic slowdown worldwide. In Figure 1(b), we found that the FD does not have any significant predictive power with tax revenue for the entire sample periods used in this study.

Moreover, Figure 2(a) reports the estimation results of relationship between Tax and CPI, and significant causality running from Tax to CPI appeared in 2013. Figure 2(b), however, shows the causal effect running from CPI to Tax and does not indicate that there is causality. This happens because Malaysia initially has faced a fluctuating inflation rate from 1980 until 2014. Based on the finding of Figure 3(a), the null hypothesis Tax does not cause GDP is not rejected at the 10% significance level, while in Figure 3(b) the GDP has a significant magnitude impact on Tax during the periods of 1986-1988, 1990-2001; and 2013-2014, respectively. We can conclude that the growth indicator has a powerful predictive power of causality effect on taxation, as compared to inflation and financial development, which does not cause much of the taxation for Malaysia for the entire period of this study.

Figure 1(a). Bootstrap P-values of LR Test Statistics, Testing the Null Hypothesis Tax Does Not Granger Causes FD

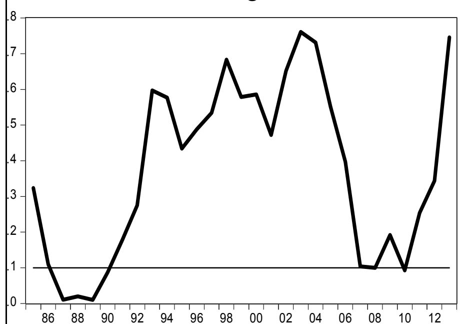


Figure 1(b). Bootstrap P-values of LR Test Statistics, Testing the Null Hypothesis FD Does Not Granger Causes Tax

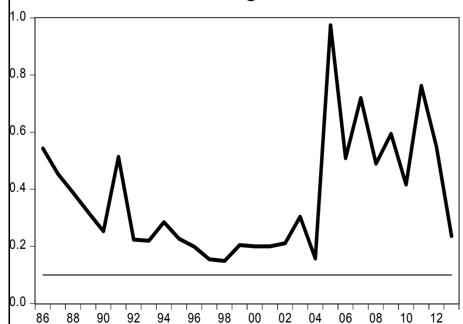


Figure 2(a). Bootstrap P-values of LR Test Statistics, Testing the Null Hypothesis Tax Does Not Granger Causes CPI

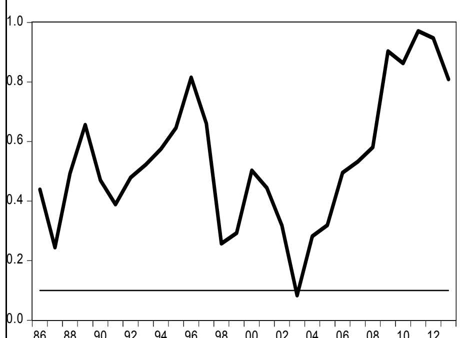


Figure 2(b). Bootstrap P-values of LR Test Statistics, Testing the Null Hypothesis CPI Does Not Granger Causes Tax

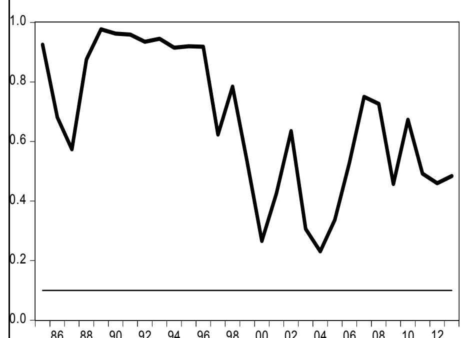


Figure 3(a). Bootstrap P-values of LR Test Statistics, Testing the Null Hypothesis Tax Does Not Granger Causes GDP

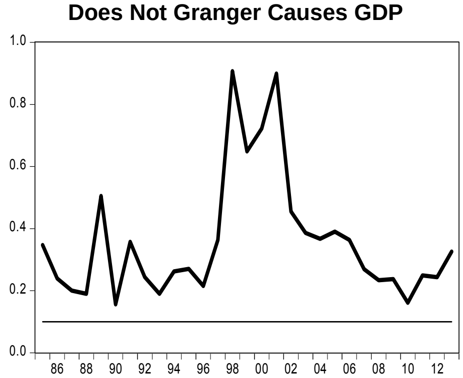
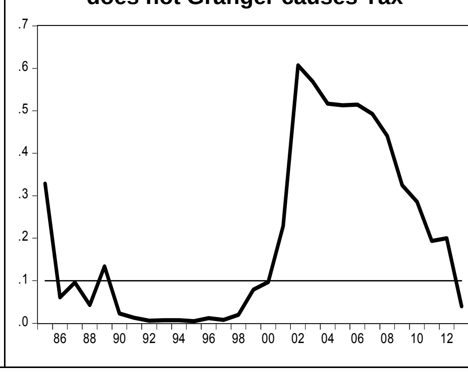


Figure 3(b). Bootstrap p-values of LR test statistics, testing the null hypothesis GDP does not Granger causes Tax



Overall, we found that GDP caused taxation during 1986-1988, 1990-2001 and 2013-2014, which may be seen as coinciding with Malaysia's political, oil price crisis and financial reforms that have slowed down the overall economic performance as a long-run effect. For example, during the first sub-period of 1986 until 1988 we faced global oil price crises, when the crude oil price increased and this has slowed down the countries' productions because of rises in the overall production cost. Meanwhile, the period of 1990-2001 was the hardest period for the Asian economies, including Malaysia, when the currency instability condition appeared. The 2013-2014 sub-period effect is caused by the fiscal policy reformation conducted by the federal government, and we found that more flexibility in tax collection has been introduced and the economic performance has led to tax collection performances.

4. Conclusion

This study provides several interesting findings for the future direction of up-coming studies. First; the taxation and financial development has uni-directional causality and there is a significant causality running from taxation to financial development, with two sub-periods of predictive power. Second, an increase in tax collection will lead to financial development, but, unfortunately, there is no causality predictive power running from financial development to taxation. Generally, the current fiscal condition in Malaysia has promoted an increased demand for domestic money, rising the size of the financial sector as a share of GDP. The relation is strongest for towards high-income nation by the year 2020. Third, financial development will increase revenue for the government, especially from corporate tax and firms' profits tax. We also found that inflation has caused significantly taxation, where the economic stability condition has harmed taxation in Malaysia. Higher inflation results in higher nominal interest rates and a higher real tax burden on interest income from tax collection. Finally, we found the growth-led taxation effects with an inverted U-shaped effect. The more the growth is, the taxation performance will decline once reaching the optimal level.

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