The Impact of Fiscal Policy on Economic Growth in Asean-5 Countries

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***Abstract*— The issues of fiscal policy dependency, vulnerabilities of domestic economy, frail financial uphold, and small fiscal multiplier motivated this study to examine the relationship between fiscal policy and economic growth in ASEAN-5 for the period of 1970–2016. Based on the nature of the data, the Autoregressive Distributed Lag (ARDL) approach has used. The results reveals that fiscal policy instrument namely government expenditure is statistically significant in ASEAN-5 economies except for Indonesia. Results also shows that implementation of non-tax in the long run results in expenditure being significant in ASEAN-5 except in Indonesia; tax and non-tax are significant in the Philippines, Thailand, and Singapore; and debt is significant in Indonesia and Thailand. The policy contributes to the Philippines and Thailand to increase the rate of non-tax in support of the growing expenditure. Results in case of Singapore highly recommends increasing the rate of tax and non-tax to decline its accrued debt. Government authorities should be transparent to ensure growth stability through prudent and effective policy in aggregate demand using the fiscal instrument in ASEAN economies.**

Keywords*—Fiscal Policy; Growth, ARDL; ASEAN-5*

1. Introduction

Economic growth and development is indispensable in order to ensure improved level of social welfare. Bringing up economic growth in a country requires appropriate policy prescription in macroeconomic policy. In achieving higher growth per capita, both convergent and divergent of fiscal policy stances are crucial. The robustness of fiscal policy are essential tools that could save a country from economic circumstances and political influences. The influences of these two devices depicted on three worldwide phenomena which are during the Great Depression, Asian Financial Crisis (AFC), and Global Financial Crisis (GFC). However, the trends of dismissing the fiscal policy tools to improve the economy from recession come to an end with the appearing of GFC in 2007. The worsening of economic activities during the GFC was different from the AFC as the economy worsened due to the pre-existing state of low-interest rate. Thus, the GFC has returned fiscal policy to the centre stage once again for two compelling reasons. The recession was anticipated to be a lengthy process thus contributing the conditioned stimulus having a sufficient time of positive impact on the economy. Moreover, ASEAN-5 fiscal stimulus packages was predominantly expenditure-based except for Indonesia. In Malaysia, expenditure amounted to 100% of the total stimulus, 80% in Singapore and the Philippines, and 70% in Thailand [1].

The growth of the economy is the primary concern of every policymaker, yet the systems constraints by the government might influence the growing diversity of each country. Thus, the fiscal tools like government expenditure, tax and debt continue to be a source of much debate. However, tax as the fiscal adjustment measurements are to a lesser extent acceptable by the central banks. First, the argument is from the view of tax efficiency, and second is the narrowness of the tax burden in emerging economies. The third is due to tax impact on inflation, as it is unacceptable to increase enough tax and regulate price to cut down the fiscal deficits in developing countries. Consequently, the extent that ASEAN-5 economy to provide a more efficient overall independent fiscal environment in protecting

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and increasing the growth in the country has become more imperative.

Fiscal policy is powerful tools in steering the economy in the right direction when used appropriately. The economic literature has yet to agree on impact of fiscal policy, particularly in developing countries. Furthermore, there is also an absence of debate and studies conducted in ASEAN-5 countries. Also, the uniqueness of each country that leads to the individualistic issues and strength will determine not only the role of fiscal policy but also the impact of this policy during economic stagnation and crisis.

This paper is organised into five Sections; the 1 section 1 focuses on an introduction on fiscal policy identification. Section 2 focuses on overview on empirical literature. Methodology and model specifications are discussed in Section 3, the results and discussions are presented in Section 4. Section 5 gives the conclusions.

2 Literature Review

Fiscal policy impacts may vary by time horizon, so that investigation of fiscal policy requires recognising that short-run and medium-run examination inspect the consequences of policy under the presumption of unaltered potential output. The medium-run analysis assesses the impact of changes in money related assets which makes the issue of how the spending shortfall is finance. Ultimately, the long-run analysis examines the effects of fiscal policy on an economy's rate of growth over time consequently permits technology, capital, and labour force to change [2]. [3] findings indicate that government expenditure has a negative effect on the economic growth of Malaysia during the period 1970–2014 with Ordinary Least Squares (OLS) technique. [4] expounds that there is a long-term relationships exist between national products and government development expenditure. Overall, the estimation analysis of ARDL's model for Wagner's law shows that the national product factor is still relevant in influencing government development expenditure in Malaysia.

The study of [5] confirms that extravagantly debt depicts negative influence on growth in 61 developing countries over the period 1969–98. Likewise, [6] reveal a negative relationship between government debt and growth in advanced countries during 1960–2009. Identically, he also shows evidence of a long-term effect of debt on economic growth from the variance decomposition and impulse response model. Correspondingly [7] found evidence of an adverse impact on debt with growth with Dynamic Arellano-Bond panel data during 1995–2012 in 48 countries of Sub-Saharan Africa. Furthermore the study of [8] discover public debt has a negative impact on growth in Malaysia over time during 1991–2013. Both the studies of [9]) and [10] found that external debt has a negative impact on growth in Malaysia and also the existence of short-run causality linkages between debt and growth. In a study by [11] also finds that external debt has significantly negative effect on Indonesia's economic growth during 1980–2012. [8] discovers public debt has a negative impact on growth in Malaysia over time during 1991–2013. Likewise, [9]) and [10] found external debt has a negative impact on growth in Malaysia over time and also the existence of short-run causality linkages between debt and growth.

In a study [12] determine that expenditure and taxation solitary affected growth when they were productive and distortionary for 22 OECD economy during 1970–1995. In detail, positively impact growth is the productive government spending whereas harmful to growth is the distortionary taxation. Following [13], the neoclassical believes that Foreign Direct Investment (FDI) could shock growth permanently. Additionally, FDI inflows was considered as a reliable and less volatile source for the developing countries [14], and [2015].

3 Methodology and Model Specification

This section presents the two different models employed in this study to address the relationship of fiscal policy in increasing the economic growth. Following the [16], [17], and [18] studies models, this study also investigating the impact of fiscal on growth, and using the growth equation as specified below:

$$lnGDP_t = \beta_0 + \beta_1 lnTE_t + \beta_2 lnT_t + \beta_3 lnTD_t + \beta_4 lnHC_t + \beta_5 lnFDI_t + \varepsilon_t \quad (1)$$

Where GDPC is the Gross Domestic Product per capita, the fiscal policy is formed from TE represent government expenditure, T represent a tax, TD represent debt, HC represent human capital, FDI represent a net foreign direct investment flow, ε is an error term, t is a time series. In Eq. (1), the constant is denoted by β_0, while the coefficients β_1, to β_5 are

show how much an increment in a unit in each variable of the regressors will affect the economic growth rate.

In examining the impact of non-tax on growth, the model follows the leads of [19] and is specified as Model 2 below:

$$lnGDPC_t = \beta_0 + \beta_1 lnTE_t + \beta_2 lnT_t + \beta_3 lnNT_t + \beta_4 lnTD_t + \beta_5 lnHC_t + \beta_6 lnFDI_t + \varepsilon_t \quad (2)$$

where the fiscal policy is formed from the TE represent government expenditure, T represent a tax, NT represent non-tax, TD represents debt, HC refers to secondary school enrolment, and FDI refers to foreign direct investment, is an error term and is a time series.

3.1 Estimation Procedures

3.1.1 *Augmented Dickey-Fuller Unit Root (ADF) Test*

The ADF test is conducted on two equations depending on the behaviour of the data as below:

$$\Delta Y_t = u + \alpha y_{t-1} + \sum_{i=1}^{p} \beta \Delta Y_{t-1} + \varepsilon_t \quad (3)$$
$$\Delta Y_t = u + \beta_t + \alpha y_{t-1} + \sum_{i=1}^{p} \beta \Delta Y_{t-1} + \varepsilon_t \quad (4)$$

Where Eq. (3) is a model with intercept and Eq. (4) is a model with both intercept and trend. Y_t is variable of interest, Δ is the first difference operator, u is intercept trend, t is time trend. y_{t-1} is lag variable of interest, Δy_{t-1} is first difference lagged and usually taken to eliminate the problem of serial correlation [20], and $\mathcal{E}$ is the white noise process with $\varepsilon_t \sim iid(0, \sigma^2)$. p shows the of lags number with Akaike Information Criterion (AIC) in ensuring white noise process of the residuals.

3.1.2 Autoregressive Distributed Lag (ARDL)

Thus, the ARDL model suggested by [21] into Eq. (1) and Eq. (2) can be converted in terms of the model in this study as follows:

$$\Delta lnGDPC_t = \alpha + \sum_{i=1}^{p} \beta_i \Delta lnGDPC_{t-i} + \sum_{i=1}^{q1} \delta_i \Delta lnTE_{t-i} + \sum_{i=1}^{q2} \gamma_i \Delta lnT_{t-i} + \sum_{i=1}^{q3} \eta_i \Delta lnTD_{t-i} + \sum_{i=1}^{q4} \lambda_i \Delta lnHC_{t-i} + \sum_{i=1}^{q5} \theta_i \Delta lnFDI_{t-i} + \rho_1 lnGDPC_{t-1} + \rho_2 lnTE_{t-1} + \rho_3 lnT_{t-1} + \rho_4 lnTD_{t-1} + \rho_5 lnHC_{t-1} + \rho_6 lnFDI_{t-1} + \varepsilon_t \quad (4)$$

$\beta_i, \delta_i, \gamma_i, \eta_i, \lambda_i$ and θ_i are the coefficient estimates of all the first differences variables in the Eq. (4) and explain the short run effects, while the second part long-run effects are described by the estimates of $\rho_1, \rho_2, \rho_3, \rho_4, \rho_5$ and ρ_6 and the Error Corrections Model (ECM), the model can be described as below:

$$\Delta lnGDPC_t = \lambda_0 + \sum_{i=1}^{p} \lambda_{1i} \Delta lnGDPC_{t-i} + \sum_{i=1}^{q1} \lambda_{2i} \Delta lnTE_{t-i} + \sum_{i=1}^{q2} \lambda_{3i} \Delta lnT_{t-i} + \sum_{i=1}^{q3} \lambda_{4i} \Delta lnTD_{t-i} + \sum_{i=1}^{q4} \lambda_{5i} \Delta lnHC_{t-i} + \sum_{i=1}^{q5} \lambda_{6i} \Delta lnFDI_{t-i} + \lambda_7 ECM(-1) + \nu_t \quad (5)$$

By specifying the long run growth model in Eq. (3), and ECM in Eq. (5) and Eq. (5), the short-run and the long-run effects of all the right-hand side variables. Above descriptions applies likewise to another model in this study:

$$\Delta lnGDPC_t = \lambda_0 + \sum_{i=1}^{p} \lambda_{1i} \Delta lnGDPC_{t-i} + \sum_{i=1}^{q1} \lambda_{2i} \Delta lnTE_{t-i} + \sum_{i=1}^{q2} \lambda_{3i} \Delta lnT_{t-i} + \sum_{i=1}^{q3} \lambda_{4i} \Delta lnNT_{t-i} + \sum_{i=1}^{q4} \lambda_{5i} \Delta lnTD_{t-i} + \sum_{i=1}^{q5} \lambda_{6i} \Delta lnHC_{t-i} + \sum_{i=1}^{q6} \lambda_{7i} \Delta lnFDI_{t-i} + \lambda_8 ECM(-1) + \nu_t \quad (6)$$

The ARDL approach has several advantages, as first, this method avoids the uncertainty of unit root pretesting. Second, both short and long-run dynamics will be captured when testing for the existence of cointegration. Third, the ARDL cointegration has been established in assisting to correct residual serial correlation and endogeneity bias [22] and [23]. Tests like [24] and [25] and Autoregressive Conditional Heteroscedasticity (ARCH) will be conducted in this study to ensure the efficiency, robustness and biases exempted. Test of normality is also performed to verify the normal distribution of the residuals that associated with the regression model [24] For correct specification of the equation, [25] test is conducted, and the ARCH effect is to reassert if the model suffers from heteroscedasticity.

4 Results and Discussion

The ADF results show that all the series are non-stationary at the level under both intercepts and intercept with trend models except total government expenditure, tax, money and FDI inflow for ASEAN-5 in Table 1.

The empirical results show that, we cannot reject the existence of unit in almost variable at significant statistical level except HC (Indonesia, Philippines,

and Singapore), TE (Malaysia), and T (Malaysia, Philippines, Thailand). The ADF Test is carried out again in first difference approach and the results demonstrated that almost all series are stationary at 1% significance level. Overall, results given in Table 1 show that there are mix results of stationarity between I(0) and I(1) for the five ASEAN countries. The ambiguities in the order of integration of variable lend support to use the ARDL bounds approach rather than one of the alternative cointegration test.

Table 1. ADF unit root test results (ASEAN-5)

Series	Intercept with trend			
	Indonesia		**Malaysia**	
	I(0)	*I*(1)	*I*(0)	*I*(1)
LGDPC	-2.32	-4.14**	-2.43	-4.68***
LTE	-2.16	-4.88***	-3.22*	-4.94***
LT	-1.52	-3.75**	-3.52**	-4.18**
LNT	-2.89	-7.05***	-2.32	-5.29***
LTD	-1.97	-4.74***	-2.73	-3.76**
LFDI	-1.38	-4.85***	-3.52*	-6.52***
LHC	-1.89*	-3.68**	-2.53	-4.38***
	Philippines		**Singapore**	
	I(0)	*I*(1)	*I*(0)	*I*(1)
LGDPC	0.92	-3.85**	-1.63	-6.94***
LTE	-1.19	-3.50*	-2.79	-3.30*
LT	-4.68***	-4.63***	-3.18	-4.53***
LNT	-2.81	-5.21***	-2.83	-5.72***
LTD	-1.12	-6.40***	-2.33	-4.72***
LFDI	-2.87	-6.53***	-4.35***	-6.94***
LHC	-4.08**	-3.54**	-4.02**	-5.43***

	Thailand	
	I(0)	*I*(1)
LGDPC	-1.67	-3.65**
LTE	-1.60	-4.90***
LT	-3.33***	-3.76**
LNT	-2.07	-3.59**
LTD	-1.93	-3.49***
LFDI	-2.50	-5.30***
LHC	-2.56	-4.12*

Note: ***, ** and * represent significance level at 1%, 5% and 10% respectively.

4.1 ARDL estimates

4.1.1 Bounds test results, growth

It is evident from Table 2 that the value of the F-statistic is greater than the upper bound level which confirms there is a cointegration between fiscal variables with growth. At 1% significant level for Indonesia, Philippines, Singapore, and Thailand, while 5% significant level for Malaysia in examining the impact of fiscal policy (without and with the inclusion of non-tax) on growth.

Table 2. Fiscal Policy - Bounds Test

Model 1		
Indonesia	(F-stat)	6.42***
Malaysia	(F-stat)	4.27**
Philippines	(F-stat)	5.97***
Singapore	(F-stat)	6.53***
Thailand	(F-stat)	7.37***
Critical Values	Lower bound	Upper bound
10%	2.46	3.65
5%	2.92	4.27
1%	4.03	5.60
Model 2		
Indonesia	(F-stat)	5.82***
Malaysia	(F-stat)	3.55*
Philippines	(F-stat)	7.32***
Singapore	(F-stat)	6.49***
Thailand	(F-stat)	6.17***
Critical Values	Lower bound	Upper bound
10%	2.33	3.54
5%	2.76	4.12
1%	3.79	5.41

Note: ***, ** and * represent significant at 1%, 5% and 10%

4.1.2 Estimation of long-run relationship, growth

Table 3 presents the long run results of the ARDL Model. Results of Model 1 suggests that there are negative impact of government expenditure to the economic growth for Malaysia (-0.20) and Singapore (-0.65). While, there is positive impact for the Philippines (0.59). There is also a positive impact of the tax for Thailand (0.39) and Singapore (0.6). The estimated coefficients for debt is 0.29 in Indonesia, but -0.06 in Singapore. Results also show that debt increase growth in Indonesia while vice versa in Singapore. This study is in line with [26] that says budget deficits might serve. The estimated coefficients for human capital is 0.76 in Singapore. There is a positive relationship between human capital and growth in Singapore. This study is in line with [27] stated that Singapore had a positive impact of education expenditure on economic development. The estimated coefficients impact for FDI are 0.09, 0.14 and 0.25 in Indonesia, Thailand, and Singapore, respectively. These results are in line with [28], and [29] findings.

Model 2 is examine the impact of fiscal policy with the inclusion of non-tax on growth, the estimated coefficients for government expenditure are 0.57 (Malaysia), 0.49 (Philippines), and 0.18 (Thailand). While, there is a negative impact of government expenditure (-0.43) on growth in Singapore. The estimated coefficients for the tax are -0.34 (Philippines) and -0.13 (Thailand), but tax 0.38 in Singapore. Therefore, tax decrease growth in Philippines and Thailand but vice versa in Singapore

and there is a long run cointegration between tax and growth. Tax exhibiting negative impact and government expenditure showing a positive impact on growth in Thailand.

Table 3. Long Run Elasticity (ASEAN-5)

Model 1	Indonesia	Malaysia	Philippines
LTE	0.06 (0.69)	-0.20* (-1.89)	0.59*** (4.66)
LT	0.06 (0.74)	0.17 (1.29)	-0.12 (-1.38)
LTD	0.29*** (6.00)	0.06 (0.70)	0.75 (1.57)
LHC	0.02 (0.21)	0.17 (0.81)	-0.86 (-1.24)
LFDI	0.09* (1.76)	0.03 (1.28)	-0.05 (-1.55)
C	-0.06 (-0.05)	4.67 (1.43)	8.90* (1.80)
	Singapore	**Thailand**	
LTE	-0.65*** (-3.12)	-0.22 (-1.37)	
LT	0.63*** (4.47)	0.39*** (3.36)	
LTD	-0.06* (-1.78)	-0.01 (0.10)	
LHC	0.76*** (10.64)	0.01 (0.12)	
LFDI	0.25*** (3.58)	0.14*** (4.89)	
C	4.35** (1.23)	3.46** (2.74)	
Model 2	**Indonesia**	**Malaysia**	**Philippines**
LTE	0.32 (1.03)	0.57* (2.00)	0.49*** (8.07)
LT	-0.10 (-0.42)	0.04 (0.26)	-0.34*** (-4.15)
LNT	-0.06 (-0.80)	-0.28 (-1.59)	0.37*** (4.12)
LTD	0.20** (2.25)	0.30 (0.23)	0.05 (0.30)
LHC	0.05 (0.45)	0.23*** (4.74)	-0.29 (-1.01)
LFDI	0.10 (1.62)	0.10 (1.75)	0.04 (0.19)
C	0.23 (1.55)	4.33 (1.23)	7.02** (2.90)
	Singapore	**Thailand**	
LTE	-0.43*** (-4.47)	0.18*** (3.38)	
LT	0.38*** (5.05)	-0.13*** (-3.05)	
LNT	0.20*** (5.36)	0.20*** (5.84)	
LTD	0.01 (0.60)	0.27*** (7.66)	
LHC	0.69*** (20.89)	-0.09*** (-3.60)	
LFDI	0.03 (0.60)	0.04*** (5.01)	
C	0.50** (11.58)	3.50*** (11.58)	

Note: ***, **, * represent 1%, 5% and 10% significant level, respectively. t-statistics in ( ).

The estimated coefficients for non-tax are 0.37 (Philippines), 0.20 (Thailand and Singapore). Therefore, there is a long-run cointegration between non-tax and growth in the Philippines, Thailand, and Singapore. The results of this study is in line with [30] that the effect of the post-government service and tax in Singapore shows a significant positive relationship with their nation's development. The estimated coefficients for debt are 0.19 (Indonesia) and 0.27 (Thailand). There are a long run cointegration and positive relationship between debt and growth in Indonesia and Thailand. The estimated coefficients for human capital are 0.23 (Malaysia) and 0.69 (Singapore). Human capital is -0.09 in Thailand. There is a long run cointegration between human capital and growth and is positive in Malaysia and Singapore but negative in Thailand. There is a long run cointegration and positive relationship between foreign direct investment and growth in Thailand (estimated coefficient, 0.04).

4.1.3 Estimation of ECM

Table 4 show the short run relationship between dependent variable and independent variables. In Model 1, the negative sign of the ECM term confirms the expected convergence process in the long-run dynamics of growth and fiscal policy. The speed of adjustment that will correct annually after the shock the quickest is Malaysia, followed by Indonesia, Philippines, Thailand, and the slowest in Singapore respectively by 80%, 36%, 34%, 23% and 17%. In the short-run of Model 1, the proportion of change in growth explained with tax by 22% and 20% in Malaysia and Thailand, respectively, debt by 18% and 11% in the Philippines and Indonesia, respectively, and human capital by 13% in Singapore.

In Model 2, the negative sign of the ECM term confirms the expected convergence process in the long-run dynamics of growth and fiscal policy with the inclusion of non-tax. The error correction term is coming out negative and significant at 1% level of significant for Malaysia, Philippines, Thailand, and Singapore while 5% level of significant for Indonesia.

Table 4. Short run relationship (ASEAN-5)

Model	Indonesia	Malaysia	Philippines
Model 1 - ECT	-0.36*** (-4.30)	-0.80*** (-3.15)	-0.24*** (-3.28)
Model 2 - ECT	-0.31** (-2.39)	-0.44*** (-4.21)	-0.38*** (-4.85)
	Singapore	**Thailand**	
Model 1 - ECT	-0.17*** (-3.52)	-0.23** (-2.73)	
Model 2 - ECT	-0.35*** (-3.17)	-0.97*** (-5.19)	

Note: ***, **, * represent 1%, 5% and 10% significant level, respectively. t-statistics in ( ).

The speed of adjustment that will correct aftershock annually the quickest in Thailand, followed by Malaysia, Philippines, Singapore, and the slowest in Indonesia, respectively by 97%, 44%, 38%, 35% and 31%. Crisis represented by dummy significant by 1%, 5%, and 10% level of significant respectively in Indonesia, Thailand, and Malaysia. In the short-run, the proportion of change in growth majorly described with human capital by 57% and 29% in Singapore and Malaysia, respectively, government expenditure by 18% and 11% in Thailand and Philippines, respectively, and with tax by 11% in Indonesia.

4.1.4 Diagnostic Test

The diagnostic checks applied in ASEAN-5 countries for the two Models of Eqs. (1) to (2), and results are shown in Table 5.

Table 5. ASEAN-5 ARDL Diagnostic Test

Model 1	**Indonesia**	**Malaysia**	**Philippines**
A Serial Correlation	1.12	0.83	0.82
	(0.29)	(0.78)	(0.37)
B Functional Form	0.02	1.76	3.24
	(0.89)	(0.11)	(0.07)
C Normality	5.42	1.25	2.11
	(0.07)	(0.54)	(0.35)
D Heteroscedasticity	0.18	0.37	2.55
	(0.67)	(0.69)	(0.11)
	Singapore	**Thailand**	
A Serial Correlation	0.76	0.68	
	(0.48)	(0.41)	
B Functional Form	0.23	0.01	
	(0.80)	(0.94)	
C Normality	1.59	0.81	
	(0.45)	(0.67)	
D Heteroscedasticity	0.68	2.31	
	(0.52)	(0.13)	
Model 2	**Indonesia**	**Malaysia**	**Philippines**
A Serial Correlation	2.21	3.18	0.08
	(0.14)	(0.11)	(0.78)
B Functional Form	0.27	1.02	0.18
	(0.61)	(0.34)	(0.96)
C Normality	24.69	1.98	0.54
	(0.00)	(0.37)	(0.76)
D Heteroscedasticity	0.20	2.65	0.77
	(0.66)	(0.11)	(0.38)
A Serial Correlation	**Singapore**	**Thailand**	
B Functional Form	0.07	1.30	
	(0.80)	(0.25)	
C Normality	3.46	11.57	
	(0.08)	(0.00)	
D Heteroscedasticity	1.87	1.46	
	(0.39)	(0.48)	
	0.05	2.12	
	(0.83)	(0.15)	

Note: A: Lagrange multiplier test of residual serial correlation
B: RESET test using the square of the fitted value
C: Based on a test of skewness and kurtosis of residuals
D: Based on regression of squared residuals on squared fitted values

The ECM indicates that there is no evidence of serial correlation, functional form, normality and heteroscedasticity tests. Here, we cannot reject the null hypothesis at the 95% of confidence level in the Breusch-Godfrey Serial Correlation LM Test, Ramsey Regression Equation Specification Error Test (RESET), Jarque-Bera normality test, and heteroskedasticity test ARCH.

5. Conclusion

Economic growth, not redistribution, is the single utmost powerful mechanism for generating long-haul economic growth. A well-specified function of fiscal policy is an essential tool for stimulating growth. Examining the impact of fiscal policy with and without the inclusion of non-tax in growth, Malaysia will have benefited with the implementation of non-tax, as human capital is showing sign of over education likewise with Singapore. Thus, implies Malaysia and Singapore could spend less in expenditure for education and spend it on a more productive sector. Malaysia has to revise its non-tax as a source of revenue in its policy implication of increasing growth.

Results in case of Singapore suggest to reduce its present debt as the adverse effect of the debt could be much more significant mainly if high public debt increases lead to expectations of future confiscation and financial repression in the future. Although there is no evidence of the debt on growth in Malaysia, it does not imply that debt does not matter to growth. The finding of this study note that higher levels of the upper expenditure will have full growth benefits only in Singapore as the expenditure financed by increases in indirect taxes. However, higher expenditure allocation in Thailand is not suggested as distortionary taxation depresses growth in the long run, though expenditure funded by indirect taxes.

Results of negative human capital impact to growth for Thailand leads to under education in the country; this implies Thailand shall spend more on the education sector. With the inclusion of non-tax, this study also found that human capital is increasingly essential to Philippines revenue. Since foreign direct investment causes growth in Thailand, policymakers could enhance the liberty of capital into the country to encourage the growth of the economy.

In ASEAN-5 countries, fiscal policy still face the critical challenge in debt. The debt ratios in ASEAN -5 are still relatively high by emerging market standards. Likewise even emerging economies with relatively low debt levels remain vulnerable to shocks given their narrow and volatile tax bases and risks of spillovers from advanced economies. State utilisation during economic stimulation in ceasing the downward spiral in the growth during the crisis is depicted mainly in their government expenditure and debt.

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