

# RESPONSIVENESS OF FISCAL CONSOLIDATION TOWARDS LONG TERM GROWTH IN INDIA AND SRI LANKA<sup>1</sup>

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## Abstract

Growth with stability is one of the goals of fiscal policy and making this growth process inclusive should be an important additional consideration. The two objectives need not be mutually exclusive. A brief investigation of the fiscal consolidation process in both the countries highlights a weak relationship between GDP growth and contractionary fiscal policy. Fiscal Consolidation process in Sri Lanka, which initially was successful in reducing the debt and deficit burden, has led to a larger decline in expenditure ratios as compared to tax revenues and tax revenues have declined despite increase in per capita income in the last 10 years. For India, initial success of fiscal consolidation process appeared to be inadequate in later years with growth slowdown; deficit and debt levels remained high while qualitative expenditure management exhibited structural rigidities. India and Sri Lanka appears to be following the same pattern of fiscal consolidation of broad reduction in almost all fiscal ratios with respect to GDP but Sri Lanka has been able to successfully maintain the capital expenditures and create a crowding in effect for private investment as compared to India. Given the country specific effects, India needs a larger expenditure restructuring.

*Keywords:* Fiscal consolidation, Fiscal sustainability indicators, Growth and inflation nexus, Public expenditure restructuring, Public investment.

## 1. Introduction

The present paper is an attempt to investigate the relationship between fiscal consolidation through reduction in debt and deficit ratios and stable Gross Domestic Product (GDP) growth with lower inflationary tendencies. The countries selected for the analysis are India and Sri Lanka. The motivation behind selecting the two countries as a starting point of investigation is the fact that with the adoption of fiscal consolidation process, Sri Lanka has been successful in observing desired changes in terms of public expenditure ratios in terms of higher capital expenditure ratio, and expenditure ratios on health

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and education through budgets. The trend analysis<sup>3</sup> across expenditure and revenue compositions show that India has been successful in reducing the Debt and Deficit ratios in terms of GDP but capital expenditure or social expenditure compositions appear to be very rigid. The paper uses public debt as a dependent variable regressed upon GDP growth, Inflation, Capital expenditure, Deficit and Tax Revenues as independent variables in a panel regression model with fixed effects from 1991 to 2016 to understand the impact of fiscal policy in promoting growth and controlling inflation. The aim is also to understand changes in the government's capacity to repay the debt and financing public investment. Model estimations show that only capital expenditures appear to be positively related to public debt whereas all other variables exhibit a negative relationship particularly GDP growth and deficit. It is important to note here that India has managed to maintain a higher growth rate and lower deficit levels; therefore, a low debt to GDP ratio.

In case of Sri Lanka, higher capital expenditure ratio as well as higher interest payments to revenue ratio results in a higher public debt to GDP ratio. Inflation is another variable which has a negative relationship with debt levels. The panel estimations suggest that fiscal variables and economic growth always have a lagged relationship and contractionary approach is not sufficient for increasing the growth. The present paper proposes to emphasize that the ongoing fiscal consolidation process has, to a larger extent, lead to instability in GDP growth and compressions in developmental expenditures. There has been an overemphasis on fiscal consolidation which ignores the role of fiscal policy for promoting growth and development. The paper aims to reemphasize the issue of compositional changes in public expenditure to increase the effectiveness of fiscal policy and manage the debt sustainability in the long run. Measures adopted for fiscal sustainability should not only ensure fiscal discipline but should also ensure adequate redistribution of public provisions and efficient allocation of resources.

## **2. Relationship between Fiscal Consolidation and Economic Growth**

Fiscal policy plays an important role in achieving short and long run goals of macroeconomic policies (Tanzi and Zee, 1997; IMF, 2010; Qasim et. al, 2015). Tanzi and Zee (1997) explained the implications of budget balance, tax and expenditure policy for long run growth from the Musgrave's perspective<sup>4</sup>. Long run growth is affected by three main factors, viz, a) state of technology, b) accumulation of productive resources, c) technical progress and fiscal

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<sup>3</sup>The basic data source for this paper has been the World Bank Open Data source (2017) accessed from <https://data.worldbank.org>. In order to make the data comparable, most of the fiscal variables have been taken as percentage to GDP or in US dollars.

<sup>4</sup>Musgrave's classic explanation deals with three important branches of fiscal policy, viz, efficiency in resource allocation; equity in income distribution and economic stabilization.

policy instruments are the channels which will affect the factors. IMF Global macroeconomic model proposition provides an explanation for the time dimension of fiscal policy through a macroeconomic model (IMF, 2010). The short run goal is to control the cyclical movements in the economic variables and the long run goal is to maintain debt sustainability.

Growth with stability has been the established traditional goal across sets of economists, such as Keynesian, Monetarist and New Keynesian. Making this growth process inclusive<sup>5</sup> should be an important additional consideration in designing the fiscal policy. The primary goal is to raise the level of economic growth through raising the level of output and employment, consequently, short run goal is to control the cyclical movements in the economic variables. The long run goal is to maintain price stability and growth stability. With the deepening of debate on effectiveness of fiscal policy since 1970, as fiscal policies across countries were leading to high deficits and crowding out of private investment, deficit and debt sustainability was also adopted as a medium to long term goal (Feldstein, 2009; IMF, 2010). Along with increasing deficits, most of the developing countries have observed large fluctuation in their GDP growth (Agenor et.al, 2000). Therefore, fiscal consolidation was recommended as adopted as a preferable policy choice by most of the countries. Fiscal consolidation shall be understood as fiscal adjustments, i.e. a policy process to rationalize government expenditures and receipts and also to control, more specifically, reduce deficits and debt. (Woo, 2013; Qasim, 2015). In order to achieve the above stated goals during the time of increasing instability in terms of GDP growth, inflation and private sector investments, International Monetary Fund (IMF 2010) recommends that developing and emerging economies should make fiscal adjustments in order to restrict their deficit and debt to GDP ratio. In some of the in depth empirical studies, such as, Agenor et.al, 2000; Bleaney et.al, 2001; Bose et.al, 2007; Woo et.al, 2013, it has been estimated that fiscal adjustments in expenditures as more effective than tax and transfer changes. At the same time, country wise data reflects that tax reforms have been increasingly prominent than otherwise. These papers analyze the distributional impact of the ongoing fiscal consolidation process on macroeconomic stability, economic growth and

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<sup>5</sup>The term inclusive here is used to indicate two issues. One, along with the growth process, the revenue and expenditure composition is also changing and moving towards efficiency driven pattern from the development compulsions. In other words, it means that to a great extent automatic fiscal stabilizers are becoming significant. Second, fiscal policy is responsive about the development challenges across sectors and social categories. The sectors here indicate agriculture, industry and services whereas the social categories include rural, urban, and different income categories. Although this may seem to be the goal functional at the micro level but over the years have become an important challenge for the effective working of fiscal policy at the macro level.

inequality and finds that implementations as well as delays in expenditure side of fiscal consolidation has larger implications for growth and income inequality whereas tax based consolidation measures create a larger efficiency based impact for the economy. Growing literature on fiscal consolidation and fiscal adjustments leads us to an important question and need for country specific studies. Whether reduction in debt, deficit and public spending can stimulate and stabilize the economy while maintaining fiscal sustainability?

Before 1970s, when many countries<sup>6</sup> were adopting debt financed growth model, it led to repeated cyclical fluctuations and macroeconomic instability till 1980s. This phenomenon was attributed to fiscal indiscipline and uncontrolled expansion of public expenditures by the governments. Developing countries are criticized for higher level of public debt due to price instability; fiscal mismanagement; uncontrolled rise along with inefficient composition of public expenditures and lower levels of socio-economic development. Since 1990s, as more and more countries got affected by the fiscal indiscipline and cyclical fluctuations, the need to redesign fiscal rules and adopt measures of fiscal restructuring became important (Pereira and Rodrigues, 2001; Alesina, 2012; Kopits, 2012; Chakraborty and Charaborty, 2013; Teles and Mussolini, 2014). It has been rightly emphasized that growth impact of tax and expenditure policies in absolute terms appears to be weak. Comparatively, consistent policy related to budget balancing has a larger impact not only on long term stability but also upon responses of various economic agents, particularly, private sector. On the contrary, the fiscal adjustments and consolidation process significantly affected the domestic consumption demand, long term investment and savings levels of these economies.

### **3. Fiscal Consolidation and Economic growth relationship in India and Sri Lanka**

India and Sri Lanka are two of the important countries in South Asia having many of the common historical and religious features. They are definitely very different from each other in terms of their size of population and its demographic features, natural resources, land area, geographical position and political maturity. Moreover, there are wide differences in terms of socio-economic development, given the higher ranking of Human Development Index for Sri Lanka and information technology and skilled labor based economic advantages with India. One common factor for both the countries have been adoption of economic reforms, in the early 1990s (again the backdrop and planning has been very different) to move towards a middle-

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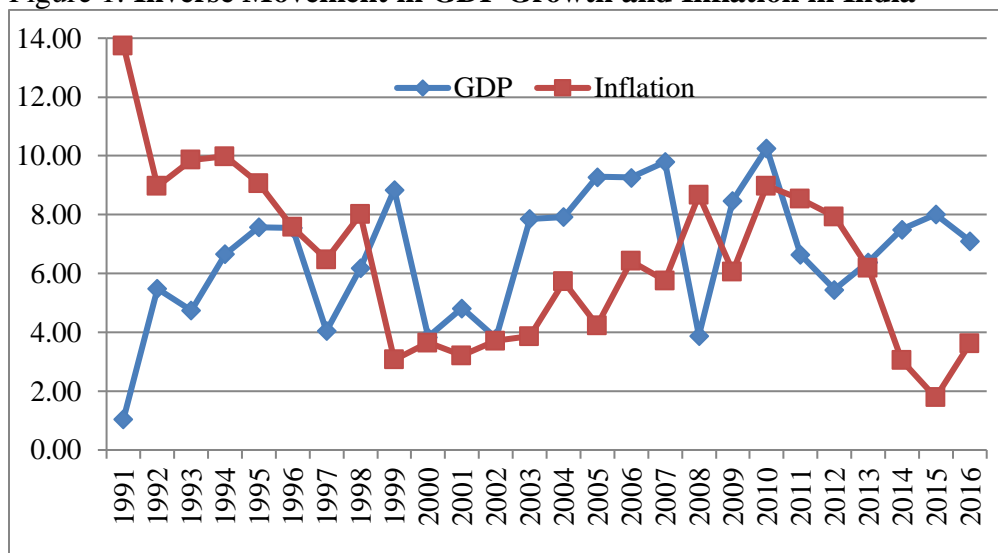
<sup>6</sup>Specifically this refers to the Latin American and OECD fiscal crisis, which led to formulation of Washington Consensus as explained in Pereira and Rodrigues (2001).

income country. Development process and macroeconomic management in Sri Lanka has been more episode based largely affected by civil war and border conflicts till 2009. ADB (2017) provides an extensive analysis and narration of the development experience and policy challenges for Sri Lanka since independence. Another important fact in this case has been the heavy dependence of the country on development and project aids from the International lending agencies such as IMF, World Bank, and many developed countries such as Australia, Netherlands, etc. Indian economic reforms were triggered by the balance of payment crisis in the year 1990. Joshi and Little (1996) provided a detailed description about the background and initiation of economic reforms in India.

Among the major South Asian countries, India and Sri Lanka were the two countries, which have observed a decline in their GDP growth from the previous peak level achieved during 2008-10 by India and 2010-11 by Sri Lanka (refer to Figure 1 and 2). In case of India, growth years were accompanied with very low headline inflation rates, whereas for Sri Lanka, high GDP growth years have been followed by low inflation years. Both the countries have adopted and strengthened measures of fiscal consolidation since 2001-2002. The process was substantially lengthy for Sri Lanka (2001-2015) than India (2002-2010). In case of India the upward movements in GDP is becoming short lived and therefore we can observe increasing fluctuations in major macroeconomic variables such as, GDP growth, Gross fixed capital formation, Gross savings, and capital expenditures.

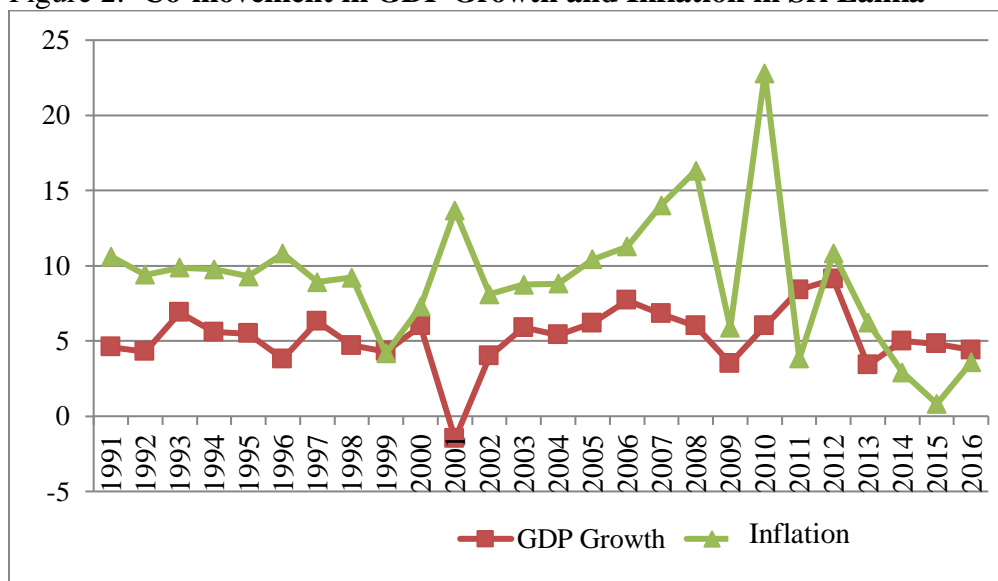
The below two figures reveal that, till 2011 Inflation rate in Sri Lanka has been much higher from the GDP growth rate given its larger dependence on institutional aid and borrowings. This also has resulted in a larger increase in money supply by the Central Bank in most of the years. These two series do not appear to be correlated at levels but they appear to be positively correlated with a lag of two years. Further Sri Lanka has observed a very short instance of GDP growth of above 5 percent but the gap between inflation and GDP growth has been narrowing down very sharply from more than 5 percent in 1990 to 3 percent post 2011-12 (the years with the highest growth between 8-9 percent). In case of India, there has been a trend reversal for GDP growth and inflation along with huge fluctuations. GDP growth has been largely above 5 percent and there has been a negative correlation between the two with one-year lag.

**Figure 1: Inverse Movement in GDP Growth and Inflation in India**



Source: The World Bank Open Data Bank, 2017

**Figure 2: Co-movement in GDP Growth and Inflation in Sri Lanka**



Source: The World Bank Open Data Bank, 2017

Interestingly, there have been continuous short-term fluctuations in major macro as well as fiscal variables. The two figures exhibit a tradeoff between inflation and growth in case of India while in case of Sri Lanka there has been a weak relation between the two rather there has been a co-movement in

the two macro variables. The inflation data is taken as the deflator-based inflation compiled from the World Development Indicators. It is important to note that since 2010, there has been a sharp decline in GDP growth and inflation in Sri Lanka. Both the countries have almost similar gross domestic capital formation to GDP ratio, whereas, gross domestic savings ratio has been slightly higher for India (Mintz and Smart 2006; Denes, M. et.al 2012).

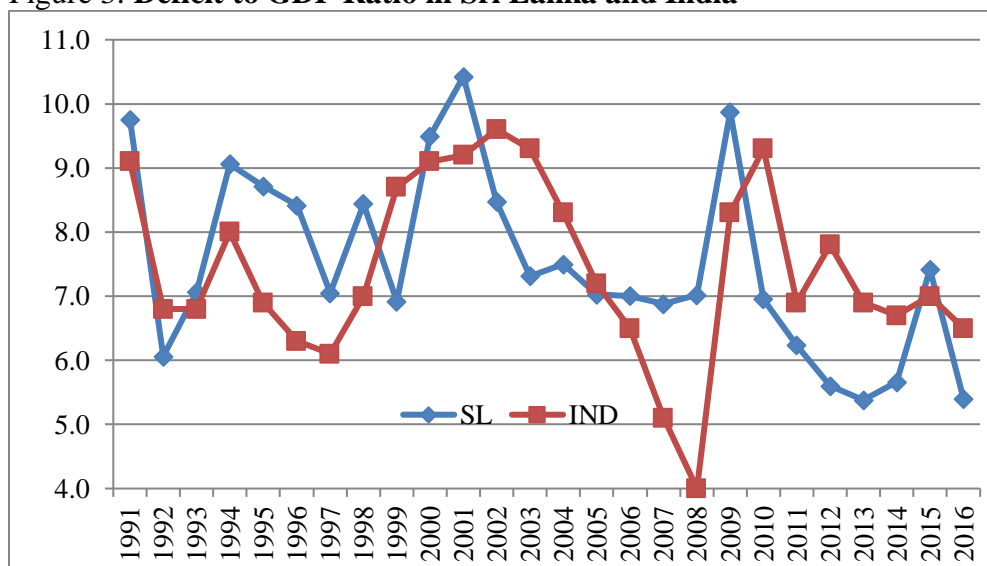
In this context, we find that the nature of fiscal policy has been the same for both the countries. Increasing the size of government expenditures to utilize the multiplier impact of income and employment increase has been visible before 1990s. Expenditure to GDP ratio has been substantially higher in case of Sri Lanka (more than 25 percent of GDP) than India (20 percent of GDP). At the same time both countries have tried to expand their tax revenues (depending more on indirect tax revenue generation policy) along with the rise in tax base in which again Sri Lanka appears to be more successful with a Tax GDP ratio of 17-18 percent (India had a Tax GDP ratio of 8-9 percent during early 1990s). Another important feature to be pointed is the much larger share of capital expenditure with respect to GDP in Sri Lanka of more than 10 percent as compared to 4.5 percent in India during the early 1990s. The gross investment ratio has remained largely between 25-26 percent in both the countries. During the late 1980s both the countries experienced unsustainable increase in their debt and deficit levels crowding out the private sector investment through higher interest rates and declining GDP growth. This was the time period where fiscal consolidation was adopted as a policy across many of the developed and developing countries to maintain macro stability. Agenor et. al, 2000; Alesina, 2012; Kopits, 2012; Acosta and Morozumi, 2013 and many others provide extensive literature survey and empirical analysis for the same context). This led to adoption of fiscal consolidation based reforms for both the countries (Mishra and Khundrakpam, 2009). The annual reports and the Fiscal Reforms update of the Reserve Bank of India (RBI, 2013) Central Bank of Sri Lanka (CBSL, 2015) provides the context and the rationale of the fiscal reforms adopted by the Government.

India and Sri Lanka although quite different in terms of size (mainly in terms of population and land area which have larger implications for any government budget), both have adopted several fiscal consolidation measures since the decade of 1990s, appears to be almost at the same level in terms of Public Debt-GDP ratio, interest payments as percent of revenues, GDP growth and deficit levels in the current time period. Persistence of deficit in the government budgets has always been a concern for fiscal discipline. The figure 3 below presents a comparative trend of deficit GDP ratio for both the countries. The most important difference in the two countries is related to the adoption of the concept of deficit. India has stopped using the budget deficit policy and shifted to a broader concept of Fiscal Deficit in the reform process

of 1991. Fiscal deficit which indicates the annual borrowing requirement in the government budget has been the most important indicator for maintaining fiscal discipline under the Fiscal Responsibility Budget Management Act (FRBM) for India. Sri Lanka continues with the overall budget deficit concept and follows a traditional deficit management policy of larger dependence on the Central Bank and money supply changes.

Thus, with limited comparability it is important to note that both countries exhibit a cyclical pattern in deficit to GDP ratio reduction. The deficit reduction process has been the major highlight of the fiscal consolidation program and has been stronger in case of India. In both case there appears a negative correlation, although not significant, between deficit and growth, but more importantly, deficit appears to be positively correlated with total government expenditure and revenue component of expenditures. Further in case of Sri Lanka, as it is the overall budget deficit, it exhibits a significant negative correlation (with one year lag) with gross savings and investment levels, indicating the possibility of crowding out of private investment. Various reports on Fiscal Management (CBSL, 2015; IMF, 2016; Ministry of Finance, Sri Lanka (MOF), 2017) mention persistence of upwards pressures on the overall interest rates in the economy. As compared to gradual reduction of interest rates in India, Sri Lanka exhibits sharp upward and downward, mostly short-lived movement in interest rate before 2012.

Figure 3: Deficit to GDP Ratio in Sri Lanka and India



Source: Source: The World Bank Open Data Bank, 2017



Moreover, it's not only the deficit levels which matters, but financing of this deficit and compositional changes in the government expenditures is a larger policy challenge. Capital expenditures and revenue surpluses, which could have created a multiplier effect, is in fact getting crowded out with rising debt levels. Fiscal consolidation and discipline is one of the important challenges for the policy makers in both the countries, although the degree of the challenge differs. The public debt to GDP ratio for the general government in India has remained above 70 percent for last two decades. The capital expenditure to GDP ratio has declined from 6 to 2 percent whereas revenue expenditure has risen from 11 to 14 percent. Ratio of Interest payments to GDP has also remained on 2 percent level and gross fiscal deficit is still above the 3 percent target of Fiscal Responsibility and Budget Management (FRBM) Act. Sri Lanka debt to GDP ratio has remained above 70 percent for last many years. The capital expenditure is around 4 to 5 percent of GDP while revenue expenditures are 12 to 15 percent of GDP in the last five years. The deficit levels are comparatively higher at the level of 7 percent from their medium-term target of 3.5 percent till 2020. In India, capital expenditure has remained around 20 percent of the revenue expenditure for the last two decades. In Sri Lanka, this ratio has been above 35 percent for the last decade. Further, there have been marginal changes in the allocation pattern of expenditures under various heads.

Fiscal policy in India as well as Sri Lanka aims towards strengthening the fiscal consolidation process in the medium term to control the growing burden of deficit, interest payments and debt. Sri Lanka has adopted Fiscal Management (Responsibility) Act in 2003 with an aim to reduce deficit to 3.5 percent of GDP and Debt GDP ratio at 70 percent (CBSL, 2015; 2017). India also enacted the Act<sup>7</sup> in 2003 with an aim to reduce fiscal deficit to 3 percent

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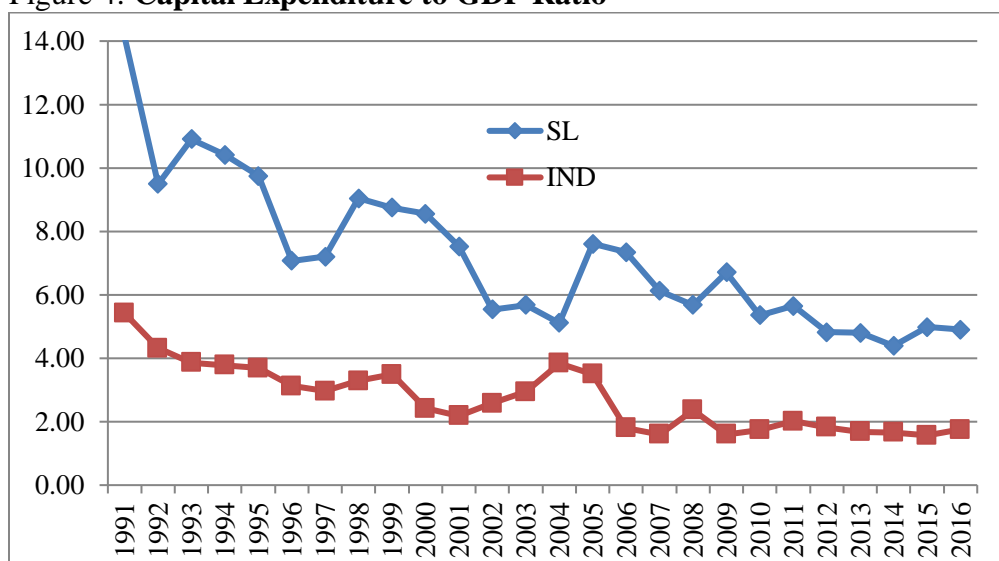
<sup>7</sup>The FRBM Act, 2003 stipulated the norms for usual and occasional Central Government's borrowings, debt and deficits levels. It also proposes for incorporating transparency as a guiding principle for budgetary operations of the Central Government and medium term fiscal policy conduct. FRBM Rules, 2004 framed under FRBM Act, 2003 encompasses an annual target based reduction and management for fiscal and revenue deficits; government guarantee provisions in form of contingent liabilities and others as a fixed percentage of GDP upto 2008-09. This Act revolves around the following targets and strategies:

- a. Maintaining Fiscal deficit GDP ratio at 3.0% with 0.3% of annual reduction per year.
- b. Elimination of Revenue deficit to GDP ratio with 0.5% of annual reduction.
- c. A limit of 0.5% of GDP on the quantum of guarantees that the Central Government could assume annually.

In February 2009, the Central Government revised the targeted fiscal parameters and further amendments were introduced again in 2012-13. This included extension of the deadlines till March 31, 215 and adoption of new FRBM rules. The deadline for meeting fiscal and revenue deficit targets was extended to March 31, 2015. Recently in 2014-15, the deadline was extended till March 31, 2018 followed by a further postponement of targets till March 31, 2021. Effective Revenue Deficit replaced the earlier revenue deficit which means revenue

of GDP, along with zero revenue deficit and 60 percent of Debt-GDP ratio. Perhaps both the countries have observed a positive, although weak, impact of fiscal consolidation on GDP growth, inflation control and debt-deficit ratio reduction. The Debt GDP ratio has declined to the level of 79.29 in 2016 (from its highest level of 86.6 percent in 2009) in Sri Lanka and 63.4 in India in the year 2016 (from its highest level of 83.3 percent in 2003-04). In both cases, there has been a substantial decline from their previous highest levels. Interest payments in both the countries preempt almost 34-36 percent of current revenues and expenditures. Similarly, fiscal deficit to GDP ratio in case of India has declined from its highest level of 9.3 percent in 2009-10 to 6.5 percent in 2015-16. Budget deficit in Sri Lanka has declined from 9.9 percent in 2009 to 5.6 percent in 2016.

Figure 4: Capital Expenditure to GDP Ratio



Source: Source: The World Bank Open Data Bank, 2017

deficit net of central transfers. In the year 2018-19 new FRBM framework and amendment to FRBM rules were introduced which proposes that Fiscal deficit will be considered as an operational target; and will be reduced by 0.1% or more of the GDP at the end of each financial year beginning with 2018-19. The Central Government is required to follow a declining debt GDP ratio path to reach a target of 40% of GDP for Central Government and for the General Government 60% of GDP by 2024-25. According to CAG Report 2016, “The existing legal framework in India covered some of the requirements of a good legal framework. However, some aspects of an ideal legal framework for management of public debt were not present in legislations governing public debt in India.

In terms of fiscal variables both countries present a contractionary approach where major fiscal variables ratio to GDP has been exhibiting a declining trend such as expenditure, tax and deficits. This gets reflected in the declining Deficit<sup>8</sup> GDP ratios presented in Graph-3. There has been difference in terms of levels, for instance, in Sri Lanka, government expenditure to GDP ratio has declined from 32 percent to 19 percent and in case of India from 16 percent to 13 percent. Tax to GDP ratio and Capital expenditure to GDP ratio, if taken as a parameter of fiscal performance, Sri Lanka has been performing better than India.

The fiscal consolidation process encompasses revenue enhancing measures as well as expenditure restructuring in both the countries. Both the countries have adopted Fiscal Responsibility and Budget Management framework to adopt rule based fiscal policy. The idea behind fiscal consolidation has been availability of more resources for investment and growth and larger provision of public services through private sector. But, an important question arises here that in order to reduce the debt and deficit burden, the policies somewhat ignore the traditional principles of social welfare maximization and crowd in effect of public expenditures for developing countries in particular. In the context of slowdown of private consumption expenditure as well as investment growth rates, government expenditures would have supported the declining GDP growth in the last four quarters. Along with this growth decline, major economic indicators, such as, gross savings, investment to GDP ratio and few others have also been declining.

Most of the fiscal variables do not exhibit any significant causal relationship with GDP growth other than public debt in both the countries. In fact, the impact of fiscal policy on growth depends, particularly in the context of developing countries to a great extent, on the level and nature, i.e. composition of public expenditure (ADB:2014).The endogenous growth model proposed by Barro (1995) explained fiscal policy as an important determinant of long run growth. According to Barro increase in “utility-enhancing” public consumption and reduction in “production-enhancing” public spending may lead to low growth regardless of the level of total spending. This indicates only increase in government expenditures or higher expenditure ratios are not important but their impact on the future production capacity of the economy has to be consistently analyzed. Deverajan et al (1996); Bleaney et.al (2001), Favero and Giavazzi (2007), Bhatt (2010), Denes, M. et.al (2012), Reinhart and Rogoff (2010), IMF (2013) and

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<sup>8</sup> It has to be noted that India uses Gross Fiscal deficit as an indicator of fiscal discipline and Sri Lanka uses overall budget deficit as an indicator of fiscal discipline. This may lead to some difficulty in terms of understatement of the deficit scenario.

Roy(2014) adopted the Barro's framework with different specifications to find out the effect of public expenditures on economic growth and fiscal sustainability. These researchers classified the public expenditure in a specific way as productive and unproductive expenditures. These researchers explored and analyzed the effects of reallocations of public expenditure on the same independent variables. Productive expenditures (that is capital expenditures) would contribute for higher GDP growth whereas unproductive expenditures (revenue expenditures) would contribute to inflation.

In this light, if we compare India and Sri Lanka, we find that in terms of ratios, Sri Lanka has higher government expenditure, revenue's deficit and debt ratios. There is the same phenomenon of domination of revenue expenditure over capital expenditures and huge gap between expenditures and revenues. But, in case of Sri Lanka Capital expenditure to GDP ratio has been significantly higher than India. In terms of share of capital and revenue expenditure in total government expenditure, India has maintained 80:20 ratio and Sri Lanka 27:73. Not even this, Sri Lanka has maintained a higher level of health and expenditure ratios over the years as compared to India. This has resulted in a better performance in terms of Human Development Index and Poverty reduction. There have been several studies in the context of developing Asia including India and Sri Lanka where it has been found that higher government expenditures on health education and social security has a positive relation with GDP growth and human development indicators.

In the Wagner's Law framework and panel Granger causality test, Wu and Lin (2010) found that government expenditure supported economic growth even across different levels of development, except for low-income countries (with a per capita gross national income of less than \$936) which, according to the authors, was most likely due to lack of governance. Bose, Emranul, and Osborn (2007) examined a panel of 30 developing countries and found only Capital Expenditure and education expenditure to GDP ratio positively and significantly correlated with GDP growth. This was in contrast to Devarajan et.al (1996) who found a positive relationship between the share of current expenditure and per capita income growth in developing countries but a negative relationship between capital public expenditure and growth.

The authors explained that if these expenditures are productive and their initial shares are higher, then, compositional changes lead to increment in growth. The importance of reallocation of government expenditures towards human and physical capital, social and economic infrastructure have been emphasized upon for explaining cross country differences of growth and development. Acosta Ormaechea and Morozumi (2013) showed that at per capita income level (PPP terms) of \$20,000 there appears a non-monotonic relationship between the level of development and government expenditure and at higher levels of income the relationship slightly flattens.

#### 4. Model Estimations and Discussion

The above explanations are largely confined till 2000. The two countries selected in the present study have in fact implemented fiscal consolidation process effectively post 2000. Therefore, the present paper attempts to estimate the relationship between certain fiscal variables and GDP growth in a Panel OLS framework during 1991-2016. For comparability most of the data has been taken from World Development Indicators. The variables which have been considered for the present study are mentioned in the Box1.

**Box1: Selected Variables for Investigating the Relationship between Fiscal Consolidation and Economic Growth During 1991-2016**

- GDP Growth at constant prices
- Gross Domestic Capital Formation and Gross Domestic Savings
- Revenue Expenditure/GDP ratio to analyze the short term fiscal behavior approach of the Government
- Capital Expenditure/GDP ratio to analyze the long term fiscal behavior approach of the Government
- Deficit/GDP ratio. In case of India it is the Gross fiscal Deficit and for Sri Lanka Overall Budget Deficit
- Tax/GDP ratio and Interest Payments/Revenue ratio to analyze the capacity of government to spend.
- Nominal Lending Rate and Domestic Public Debt/GDP ratio to reflect the inter-temporal fiscal constraint
- Total Government Expenditure/GDP ratio
- Certain variables were included to emphasize upon the difference in capacities and responsibilities of the Individual Governments, such as, annual Population Growth, Population density, Head Count Poverty ratios, Unemployment Rate, Per Capita Monthly Household expenditure and GNI Per Capita (US\$)

Source: Compiled by the author from the World Development Indicators, available at [www.data.worldbank.org](http://www.data.worldbank.org), 2017

It was found that the non-fiscal variable lack a robust and significant relationship with GDP growth as well as Public debt although these are the controlling instruments but could not be modeled properly which can be an important question to investigate further. Sri Lanka appears to be in a better situation as compared to India in case of per capita income and expenditure; therefore lower poverty levels and population growth. The fiscal variables, although all are not robust, in the modeling, yet indicate a weak relation between fiscal variables and economic growth and thus emphasize upon the weakness of rule based fiscal policies.

All the variables are taken as log difference and are found to be stationary at the first difference level. Various models were tested and it was observed that neither through time series and nor through panel robust relationship appears if GDP growth or deficit GDP ratio is taken as a dependent variable. Therefore, public debt to GDP ratio has been taken as a dependent variable. All the variables appear to be significantly explaining public debt to GDP ratio except tax revenues. It is only capital expenditures which appears to be positively related to public debt whereas all other variables show a negative relationship particularly GDP growth and deficit. It is important to note here that India has managed to maintain a higher growth rate and lower deficit levels and hence a lower debt to GDP ratio. In case of Sri Lanka, higher capital expenditure ratio as well as higher interest payments to revenue ratio (refer to Figure 4 and 5 above) results in a higher public debt to GDP ratio. Inflation is another variable, which has a negative relationship with debt levels.

Given the endogeneity issues with the fiscal variables the Panel Data analysis with fixed and random effects appears to be the most suitable method. The rationale regarding the selection of model has been explained in detail by Agenor et.al (2000); Bhatt (2010); Woo et.al (2013); Kithsiri and Ehlepola (2015) and Qasim etal (2015) the paper proposes to Estimate the following relationship:

$$\begin{aligned} \text{Public debt/GDP}_t &= \alpha + \beta_1 \text{Public Debt/GDP}_{t-1} \\ &+ \beta_2 \text{CapitalExpenditure/GDP}_{t-1} + \beta_3 \text{GDP Growth} + \beta_4 \text{Inflation} + \beta_5 \\ &\text{Deficit/GDP}_{t-1} + \beta_6 \text{Tax/GDP}_{t-1} + \beta_7 \text{Inflation}_{t-1} \end{aligned}$$

After conducting OLS regression for individual countries<sup>9</sup>, the following variables are tested (through Eviews9) in the framework of Panel regression with fixed effects and random effects. Fixed effect panel is helpful in controlling the country specific effect in terms of political stability, sufficient availability of revenue generating capacity and size of the country. Random effect panel helps in understanding the exogenous time specific shocks for the economy. One such shock has been the global slowdown since 2007 at regular intervals. One fact which clearly emerges from the trend analysis of the selected data has been the global slowdown impact with a lag for both the countries and which has been temporary, given the larger domestic size of aggregate demand.

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<sup>9</sup>The results are not report here as the objective is to analyse the impact of fiscal consolidation growth in a panel framework.

**Table 1: Test Results**

<b>Dependent Variable: Debt GDP Ratio</b>					
	<b>Pooled OLS</b>	<b>Fixed Effects</b>	<b>Random (Period) Effects</b>	<b>GMM</b>	<b>Generalized Linear Model</b>
Constant	13.704 (0.0015)	4.286 (0.660)	13.906 (0.000)**	-1.1107 (0.944)	13.906 (0.000)**
Debt GDP <sub>t-1</sub>	0.999 (0.000)**	1.005 (0.000)**	0.974 (0.000)**	1.1025 (0.014)*	0.974 (0.000)
CAPEX <sub>t-1</sub>	0.6423 (0.0639)*	1.535 (0.481)***	0.550 (0.059)*	0.9243 (0.6221)***	0.550 (0.059)
GDP Growth	-0.696 (0.003)*	-0.213 (0.546)	-0.6579 (0.003)*	-0.0697 (0.870)	-0.6579 (0.003)
Inflation	-0.566 (0.000)**	-0.669 (0.005)*	-0.5674 (0.000)**	-0.7289 (0.009)	-0.5674 (0.000)**
Inflation <sub>t-1</sub>	-0.0238 (0.843)***	0.285 (0.182)***	-0.0360 (0.750)***	0.0345 (0.924)	-0.0360 (0.750)
Deficit GDP Ratio <sub>t-1</sub>	-0.249 (0.526)*	0.1011 (0.881)	-0.138 (0.673)***	0.984 (0.452)	-0.138 (0.673)
Tax <sub>t-1</sub>	-0.498 (0.189)***	-0.749 (0.483)***	-0.445 (0.203)*	-1.1053 (0.607)	-0.445 (0.203)
Dummy1	-1.118 (0.559)	--	--	--	
Wald test	0.346605 (0.5593)				
Hausman Test			11.923755 (0.1031)		

Note: Figures in bracket ( ) indicate the p significance level at \* (1%) \*\* (5 %) and \*\*\* (10%)

The null hypothesis in the estimations has no impact of fiscal consolidation (i.e., reduction in the public debt GDP ratio) on GDP growth and inflation whereas a positive impact on capital expenditure and tax GDP ratio. Further, the null hypothesis in terms of random and fixed effect has been significant fixed effect impact on fiscal consolidation. The test results of five alternative models, viz Pooled OLS, Fixed and Random Panel estimations, Generalized Methods of moments and Generalized Linear Model have been presented in the Table 1. To assess the best fit, Wald Test and Hausman Tests are also reported in the same Table 1, which indicate that random effect model significantly affects the hypothesized relationship. Country level effects significantly affect the fiscal consolidation impact on growth and inflation in case of the selected countries. May be inclusion of large number of similar

countries will make the fixed effect significant. The random period effect appears to be more significant in the estimated model.

Public debt GDP ratio has been one of the important variables for fiscal consolidation as rising levels of debt does not only increase the liabilities for the government but at the same time limits the annual borrowings and expansionary fiscal policy in times of GDP slowdown. Public debt is also more important than deficit ratio as the former reflects the long-term impact of fiscal consolidation process. The results shown in the above table indicates that GDP growth, inflation and tax revenues are significantly and negatively related with public debt to GDP ratio. In this way, GDP growth appears to be the most important variable in controlling the debt GDP ratio in the period random model. Therefore, it can be explained that fiscal variables are less responsive in strengthening the consolidation process until the expenditure compositions change significantly (Agenor et.al, 2000; Woo et.al, 2013; Chakraborty and Chakraborty: 2013; 2016). Capital expenditures does not exhibit a significant relationship with debt GDP ratio as there has been substantial reduction in these expenditures in order to control the deficit levels.

Given the less robust relationship between, GDP growth, fiscal variables and the fiscal consolidation process the paper argues for a larger focus on the fiscal sustainability parameters for India and Sri Lanka. Apart from the traditional sustainability parameters explained in the Table 2 from A to L. Table 2 presents an indicator analysis of fiscal consolidation process and its impact on fiscal sustainability indicators as proposed by IMF and Reserve Bank of India. Last seven indicators, F to L, have been added to the list in order to clearly bring out the structural problems of the fiscal consolidation process itself. There are two time periods which have been selected for analyzing the impact fiscal consolidation process has on fiscal sustainability.

**Table 2: Fiscal Sustainability and Consolidation: Major Indicator Analysis (2003-2009 and 2009-2016), According to Reserve Bank of India Indicators**

Indicators	Sri Lanka 2003-2009	Sri Lanka 2009-2016	India 2003- 2009	India 2009-2016
A. Rate of nominal GDP (Y) growth should be more that growth in DEBT (D)	Y:9.3 D:10.58 D>Y	Y:8.4 D:12.05 D>Y	Y:14.6 D: 11.63	Y:13.4 D: 12
B. Real GDP growth greater than real interest rate	5.9>2.3	4.9>4.0	8.7>5.7	7.3>4.3
C. Primary Balance Surplus	-	Deficit of 1.5% of GDP	Deficit of 0.3%	Deficit of 1.9%



Table 2 Continued

D. Primary Balance adequate to meet Interest Payments	negative	negative	negative	negative
E. proportion of repayments to Gross Markets borrowings falling over time	-	-	84	66
F. declining interest payments to GDP ratio	no	yes	no	yes
G. Interest Payments to Revenue Expenditure ratio declining over time	35.2	34.7	34.25	28.45
H. Interest Payments to Revenue Receipts declining over time	35	37	28.6	24.6
I. increasing non tax revenues to revenue expenditure ratios	9.2	12.6	21.2	18.46
J. Increasing per capita developmental expenditures in rupees	16334	25777	1954	7408
K. Increasing per capita tax revenues in rupees	32575	69669	4829	11814
L. Declining Gap between Gross Domestic Capital Formation and Gross Domestic Savings ratio	Investment 2% greater	Investment 7% greater	Savings 3 % greater	Investment 1% greater

Note: Compiled by the author on the basis of Annual Statistics available with Reserve Bank of India and Central Bank of Sri Lanka, 2017.

The first time period of 2003-09 can be considered as the initial phase of fiscal consolidation whereas the 2009-16 periods is the second phase, where both the countries have been successful in increasing their revenue generating capacity and overall infrastructure capacities to support GDP growth. Why does fiscal sustainability become an important concern? The main argument of the paper is about questioning the overall contractionary fiscal policy propagations adopted by most of the developing countries for the last many years. This has led to a larger compromise in terms of reduction of those expenditures by the governments, such as, education, health, agriculture and social security, which appears to be more crucial in the time of GDP slowdown and competitive political pressures.

Indicators A to E are the theoretical measures focusing more on the two non-fiscal variables, i.e., GDP growth, inflation and interest rate changes. In case of Sri Lanka, nominal growth has been lower than debt liabilities growth; higher real growth ensures fiscal sustainability. Primary surplus balance is one of the measures where both the governments have not been very successful. The fiscal consolidation process broadly does not target compositions of

expenditure and revenues in the fiscal policy rules. The above analysis shows that Sri Lankan government has a better fiscal capacity, which allows them for a higher debt and deficit GDP ratio as compared to India. One of the major concerns for the countries has been slowdown in GDP growth despite decreasing trend of deflator based Inflation. It is often argued that numerical limits of deficits and Debt-GDP ratio are alluring as there appears a weak empirical relation between Debt-GDP ratio and macroeconomic stability (Bhatt, 2010; IMF, 2010; Chakraborty and Chakraborty, 2013; 2016; Chowdhury,2017). As it was explained in Dornert's sustainability approach, when there is spare capacity or unemployment in the economy, public debt does not create any burden in the long run although there can be some intergenerational redistributions. Leibfritz et.al (1994) provides an elaboration in this context stating that if public debt is growing excessively, than GDP growth rate has to be sufficiently higher to sustain these debt levels. If GDP growth is somehow slow than fiscal consolidation, plans are stressed upon.

For developing countries, rising deficit and debt is inevitable due to required provision of higher level of public welfare services. Limiting the expenditure levels relative to GDP would also restrict the public investment for capital formation, which affects the long run growth process. Tax revenues in these countries are conditioned by several structural limitations such as, lower incomes and business levels. It is interesting to note that per capita tax revenue levels are much higher for Sri Lanka as well as per capita developmental expenditures. Although both countries are facing problems in reforming the tax structures but Sri Lanka has been successful in promoting private sector savings and investment in a consistent manner as compared to India (Heviya and Loayza, 2013; IMF,2016). Broadly, it can be concluded on the basis of Table 2 that during 2009-2016, traditional fiscal parameters have exhibited a larger improvement but compositions of public expenditure and revenues are the biggest concern for fiscal consolidation process. Reduction in interest rates or inflation or deficit ratios have been mostly succeeded by years of sharp increase and therefore long run stability in GDP growth, inflation and debt liabilities all indicate towards a need for restructuring expenditure and revenues.

## **5. Conclusion**

The granger causality and panel estimations both suggest that fiscal variables and economic growth always have a lagged relationship and contractionary approach is not sufficient for increasing the growth. The important question particularly in case of developing Asia arises here that in order to reduce the debt and deficit burden, the suggested rule based policies somewhat ignore the traditional principles of social welfare maximization and crowding in effect of public expenditures. For both the countries since 2011, there has been a

slowdown of private consumption expenditure as well as investment growth rates, and government expenditures would have supported the declining GDP growth in the last four quarters. Along with this growth decline, major economic indicators, such as, gross savings, investment to GDP ratio and few others have also been declining. But as the reports and studies of Navendu et.al (2004), Mintz and Smart (2006), Central Bank of Sri Lanka (2015; 2017), IMF (2013; 2016), and the World Bank (2016) suggested that there has been an unanimous acceptance of contractionary fiscal policies and it is reinforced by the financial aid provided by these Institutions to implement the fiscal consolidation process. World Bank report mentions that decline in fiscal revenue and high level of public debt along with post conflict situations during 2013-15, the fiscal consolidation process has to be enforced through expenditure cuts. Given the burden of non-discretionary expenditures as interest payments and wages-pensions, development spending has to be sacrificed. There are multiple factors, which result in increase in debt and primary deficit ratios of developing countries, such as political commitments, real interest rates, exchange rate movements, refinancing and rescheduling of debt repayments, higher unemployment and lower level of per capita expenditures.

As the countries look forward for inclusive and sustainable and yet higher growth, fiscal policy should be used as an active instrument. That is, while sustaining high growth is a key objective of fiscal policy, making this growth more inclusive should be an important additional consideration. Inclusive growth in both the countries here means larger fiscal space for the government to spend for developmental expenditures. For India, development expenditures specifically in terms of health, education, electricity, roads and agricultural support services are appearing to be urgent and for Sri Lanka, support for agricultural and non-farm small industry, technological up-gradation require a larger amount of fund allocation from the budgets. The above mentioned objectives, of high and inclusive growth, need not be mutually exclusive; public investments in education and health can augment overall human capital and thus foster growth while augmenting the productive capacity of the low income sectors of the economy. One conclusion which can be clearly drawn from the fiscal consolidation process in both the countries is the contractionary fiscal policy with weak relationship with GDP growth, due to the structural rigidities in the fiscal consolidation process. Major rigidities have been in terms of unchanged pattern of tax revenues and revenue expenditures. Another has been the increasing share of interest payments in total revenues which further affects the financing of important government expenditures. (Refer to Table 2, G and H). It is important to note that share of interest payments in revenue receipts has exhibited a gradual improvement for

India, but this is not accompanied with adequate increases in tax revenues and reduction in unproductive administrative expenditures.

In case of Sri Lanka fiscal consolidation, which initially was successful in reducing the debt and deficit burden, has led to a larger decline in expenditure ratios as compared to tax revenues and tax revenues have declined despite increase in per capita income in the last 10 years (Kithsiri, and Ehlepola, 2015). In case of India initial success of fiscal consolidation process appeared to be inadequate in later years as the growth slowed down, deficit and debt levels remained high while qualitative expenditure management exhibited structural rigidities (Dholakia, 2005; Mishra and Khundrakpam, 2009; RBI, 2013). Therefore, the government has focused on expansion of tax base and improvement in tax administration (through reforms in such as GST, VAT and NBT) together with the management and restructuring of government expenditure. A series of measures, such as adoption of ICT and e-governance, have been implemented to improve the management and delivery of social welfare expenditure and stimulating private investments for public provisions.

An important observation in the case of Sri Lanka is the fact that government has been more successful in reducing or controlling the deficit and debt despite the lower GDP growth and larger dependence on international funding agencies. India took 20 years to reduce its debt stock from 84 percent to 64 percent whereas Sri Lanka has achieved a 10 percent reduction in the span of 8 years given the difficult scenario. Sri Lankan government although does not use the concept of fiscal deficit but still appears better in terms of managing the developmental and infrastructure expenditures without affecting the fiscal space. Therefore, the pressure in terms of fiscal rules, contraction in deficit and expenditures are not very appropriate when development objectives are pressing and urgent such as stable growth with equitable distribution.

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