CAUTION, WATCH YOUR STEP:
INTERPRETING STRUCTURAL FISCAL BALANCE

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Abstract

In the aftermath of the global financial crisis of 2008, both developed and developing countries have begun anchoring their fiscal policy on a specific set of rules that target the structural balance in an effort to mitigate cyclical risk and fiscal volatility. Hagemann (1999) defines the structural or cyclically adjusted balance as government's actual fiscal position after controlling for the budgetary consequences of the business cycle and other exogenous factors, such as commodity price movements (Bornshortst et al, 2011). This research reviews the structure and key properties of univariate and multivariate methods for estimating a government's structural fiscal balance. It highlights a number of methodological challenges, including the degree of estimation uncertainty. A combination of approaches is proposed and applied to data to generate estimates for Jamaica and Fiji over the period 2008-2015. Besides the conventional output gap and fiscal elasticities, an assessment is made of other possible non-structural elements that can impact the budgetary position and fiscal policy decision. As a consequence, the output gap adjusted for changes in the terms of trade. The proposed structural balance methodology is applied for data for Fiji and Jamaica. The calculated structural balance fluctuated between that 17 per cent (2013) for Jamaica and 6 per cent (2014), for Fiji.

Keywords: Central Bank of Barbados; Fiscal Policy; Small States; Fiscal Rules; Structural Balances.

1. Introduction

Containing large fiscal deficit built-up in recent decades has been a grave challenge facing most countries. Only a few, namely Tuvalu, Macau, Qatar, Tonga, and Palau, have been successful in registering high and consistent surpluses, for any extended period, relative to gross domestic product (GDP). The plague of fiscal issues, such as Inflationary pressures, large public investments, fiscal easing, ballooning debt levels, and debt servicing costs have distinctively changed many countries fiscal positions. In 2016, Qatar ran its first budget deficit in 15 year with a fiscal deficit of 4.9 per cent of GDP moving from a large surplus of 12.3 percent of GDP in 2014 (IMF, 2017).[1]

"Caution". Fiscal deficit adds to a country's sovereign debt and as debt grows, deficit increases through the interest on the debt. Deficit is indexed to government spending tax plans; hence, rising debt would tend to depress capital formation and high national debt would imply that future taxes will have to be higher to pay interest charges. "Watch your step". Building a solid fiscal foundation is essential for promoting macroeconomic stability and containing fiscal pressures. An ideal solution is a crafted framework that has fiscal rule as its fundamental pillar. Fiscal rules are set of laws that can be introduced to tighten or to reinstate budget discipline and ensure fiscal responsibility and debt sustainability. A precondition for implementing a fiscal rule could include expenditure limits in absolute terms or in relation to growth rates for a particular time horizon; setting revenue ceilings or floors in an attempt to boost revenue or minimized excessive tax burden; outlining debt rules that are explicit limit or target for public debt as a percentage of GDP; and instating budget balance rules. Government budget has various components, "overall balance", "structural or cyclically adjusted balance", and balance "over the cycle". A government deficit can be thought as having a structural or cyclical component. Hagemann (1999) defines the structural or cyclically adjusted balance as government's actual fiscal position after controlling for the budgetary consequences of the business cycle and other exogenous factors, such as commodity price movements.

Structural budget balances have played an important role in the fiscal policy frameworks of some jurisdictions including the European Union. In 2015, the European Commission adopted a new fiscal targets framework based on the concept of general government structural balance, i.e., the nominal balance adjusted for cyclical components, as well as one-off factors. Structural fiscal balance rule has been criticized for transparency and stability. In small open economies, such as Jamaica, Barbados and those of many Eastern Caribbean islands, most categories of tax revenues fluctuate with the business cycle; import duties (depends on imports), income tax (dependent on income flows) and Value-Added-Tax (largely dependent on private consumption). Calculation of structural balance is therefore useful to reflect the fiscal stance of the economy, as it eliminates any temporary swings emanating from the business cycle. It provides a clear view of what the fiscal balance would have been if output was at its potential level.

[1] According to Standard & Poor's (S&P), from 2010 to 2015 Qatar was one of the fastest-growing economies in the world, posting average annual GDP growth of 8.6%. Qatar has a surplus-liquidity economy, and given the nation's solid macroeconomic fundamentals and substantial fiscal and hydrocarbons reserves. The country currently faces a number of economic challenges as a result of the rapid decline in the price of oil and the fact that most of its long-term gas export contracts are indexed to oil prices. In 2017, its fiscal deficit continues to widen. The government views its expenditure as necessary as a medium-term means of boosting growth across the non-energy economy.

This paper examines the structural balance fiscal rule conceptual, economic, and measurement dimensions. Emphasis, in this study, is placed on the measurement aspect. The significance of adopting such a rule ought to be understood in the context of the characteristics of the country's fiscal institutions. Likewise proposed measures should also take this into consideration. The analysis described in this paper highlights the many limits of the method and proposes a method which is most suited for small island development states such as Barbados, Jamaica and Fiji.

The remainder of the paper is organized in five (5) sections. In the following segment (Section 2), we present issues with budgetary forecasting. A number of methodological approaches for the estimation of structural balances and challenges, including the degree of estimation uncertainty, are then discussed and critiqued in Section 3. The estimation procedure is outlined in Section 4, followed by the results and data set in Section 5. Conclusions are then drawn and presented in Section 6.

2. Slips and slide: Fiscal forecasting and Structural balances

The structural fiscal balance concept unavoidably underpins aspects of fiscal forecasting and monitoring. Essentially, fiscal forecasts provide useful information about the magnitude of potential change, but the exact values and recommended adjustments could effectively be wrong. Inaccurate forecast of government budget balances can hinder resource allocation and may cause an under-realization of fiscal targets. Interpretation of structural budget therefore requires caution.

'Slips and slide' - that is, an overvaluation or underestimation of government fiscal stance - is highly probable since forecasted numbers are reflective of model-based assessment and qualitative judgment. The qualitative forecasting aspect is usually highly susceptible to political influence, especially information about governments' plans. Excessive reliance on qualitative judgment tends to lead to error. Quantitative methods rely predominantly on available data that are closely related to the revenue source.

In general, inaccuracies may be due to technical issues, such as data accuracy, forecasting methodology, process, fiscal objectives and the economic cycle. On the fiscal side macroeconomic modes are generally not sufficiently developed. Budget forecast converts economic variables into forecasts of fiscal variables; hence, inaccuracies in economic forecasts are usually translated into fiscal forecasts. The fiscal sides of macroeconomic models are generally not sufficiently developed and detailed for a comprehensive analysis of fiscal developments and policies.

Government targets have been criticized by commentators for being biased and unrealistic in some instance as they are generally assumed to be politically motivated targets. A key question which must therefore be considered when providing advice on structural budget balances is: how reliable are the budgets estimates as indicators of the fiscal policy stance? Forecast evaluation is therefore necessary. There are several statistical methods available to evaluate forecast performance. They include among other, the commonly used Mean Squared Error is the most widely used measure for its statistical properties. The average dollar amount or percentage points by which forecasts differ from outcomes, that is, the Mean Percentage Error.

Alternatively, Mean Absolute Error (MAE) can be used. The MAE provides the average of percentage errors by which forecasts differ from outcomes.

3. Literature Review

A change in government's budget balance may primarily be as a result of government's actions, as well as fluctuations in an economic activity. Government tax revenues tend to fluctuate with economic activity: rise when there is a boom and fall in recession, in which case government's spending remains large. As a consequence, government budget balances tend to improve during economic upturns and worsen during economic downturns. There are two distinctive notions of fiscal balance: the structural budget balance, which results from the deliberate actions of the policy makers, and the cyclical budget balance, which results from fluctuations of the economic activity. Historically, many countries have suffered a pattern of procyclical fiscal policy: spending too much in booms and then forced to cut back in recessions. A solution to fiscal procyclicality is to target the structural budget balance (Frankel, J, 2011). Structural balance estimates can be interpreted as the part of the fiscal position which would prevail if the economy operated at its potential (ECB 2012). This raises a few questions: how do we conduct an assessment of the cycle, as well as the size and nature of temporary measures.

At the core of structural balance estimation is the derivation of fiscal fluctuation, that is, the "Output Gap". This method allows for the separation of the potential output, which is also known as permanent component (or trend of a series), from the output gap, which is its cyclical (or transitory component). The relative difference between actual gross domestic product (GDP) and potential GDP is commonly referred to as the business cycle or the output gap. A positive gap is an indication that there are inflationary pressures; hence, effective production is greater than a potential production. The revere is also true. The output gap can thus be defined as the component of real output that is associated with changes in inflation. Pagan (2003), however, points towards this practice as unrepresentative of business cycle. In fact, the potential output and output gap are never directly observable.

Measuring potential output is not simplistic and there is no single method for investigating structural balances. Essentially we do not observe potential output directly from data and there is no indicator that tells us what the output gap is. It is therefore necessary to use a set of assumptions in conjunction with statistics and economic theory for estimation of the gap. Economic literature has proposed two groupings of measurements: univariate and multivariate methods. The chosen appropriate method needs to consider several country-specific factors, including data availability, the fiscal regime, and the economic structure of the country.

3.1 Univariate Methods

The univariate method uses smoothing techniques and only requires GDP data. The approach contains several techniques such as the Band-Pass (BP) method of Baxter-King, Hodrick-

Prescott (HP filter), Linear Trend, Beveridge Nelson (1981) method, and the "wavelet filters" (Scacciavillani and Swagel, 1999).

The most frequently used univariate technique is the HP filter crafted by Hodrick and Prescott (1980). It is a simple smoothing procedure. This is a model-free based approach to decomposing a time series into its trend and cyclical components. Conceptually, the HP filter is an algorithm that "smooths" the original time series y_t to estimate its trend component, τ_t. The cyclical component is, as usual, the difference between the original series and its trend, i.e.,

$$y_t = \tau_t + c_t \qquad \text{Equation 1}$$

a given series y_t is the sum of growth component τ_t and cyclical component c_t where τ_t is constructed to minimize:

$$\sum_{1}^{T}(y_t - \tau_t)^2 + \lambda\sum_{2}^{T-1}[(\tau_{t+1} - \tau_t) - (\tau_t - \tau_{t-1})]^2 \qquad \text{Equation 2}$$

The first term is the sum of the squared deviations of y_t from the trend and the second term, which is the sum of squared second differences in the trend, is a penalty for changes in the trend's growth rate. The larger the value of the positive parameter λ, the greater the penalty and the smoother the resulting trend will be.

If, $\lambda = 0$, then $\tau_t = y_t$, t = 1,…,t.

If $\lambda \to \infty$, then τ_t is the linear trend obtained by fitting y_t to a linear trend model by OLS. Hodrick and Prescott suggest that $\lambda = 1600$ is a reasonable choice for quarterly data and that suggestion is usually followed in applied work. The main assumption of this method is that there is prior information, that growth component varies "smoothly" over time. The key aspect of the HP filter is that it decomposes the time series into trend and cyclical component. HP allows for variation of growth rate of trend.

Authors such as Singleton (1988) have shown that the HP filter can provide an adequate approximation of a high-pass filter when it is applied to stationaiy time series. An ideal high-pass filter would remove low-frequency, or long-cycle, components and allow high-frequency, or short-cycle, components to pass through (St-Amant & van Norden, 1998). The HP filter would appear to be an adequate approximation of a high-pass filter in that it removes most low frequencies and passes through most higher frequencies including business-cycle frequencies. Guay & St-Amant (1996) conduct a systematic investigation of the HP filter's ability to capture business-cycle frequencies, i.e., the area delimited by the spectrum of an original series at frequencies between 6 and 32 quarters. Their main finding is that, when the peak of a series is at zero frequency and the bulk of the variance is located in low frequencies, which is the shape described by Granger as typical for macroeconomic time series, the HP filter cannot capture business cycle frequencies adequately. Harvey and Jaeger (1993) interpreted HP filter in terms

of structural time series models. They show the possibility of "spurious sample cross correlation" between spurious cycles (Harvey, 1989).

Some of the most common shortcomings of the HP filter are a lack of theoretical foundation for the decomposition of the growth rate, the data may exhibit trends or cycles in the growth rate, and, most significantly, the end-point problem.[2]

Engle (1974) was one of the first to introduce band pass filters to economics. The Band Pass (BP) Filter method proposed by Baxter and King (1995) is a general time-series method that can be used for measuring the business cycle. It involves the construction of moving averages that isolate the periodic components of an economic time series which lie within a specific band of frequencies. While an ideal high-pass filter removes low frequencies from the data, an ideal band-pass filter removes both low and high frequencies. Baxter and King (1995) propose a finite moving-average approximation of an ideal band-pass filter based on Burns and Mitchell's (1946) definition of a business cycle. The BK filter is designed to pass through components of time series with fluctuations between 6 (18 month) and 32 (96 month) quarters, removing higher and lower frequencies. The method requires 6 objectives be met: 1) the filter should extract a cyclical component within a specified range of periodicities, and leave the characteristics of this component undistorted; 2) the ideal band pass filter should be not introduce phase shift, i.e., the filter should not change the timing of the turning points in the series under analysis; 3) the filter should be optimal approximation to the band pass filter; 4) approximation of the filter should result in a stationary time series thus to be able to eliminate the quadratic trend from the series; 5) the method should yield business cycle component that are unrelated to the length of the sample period; and 6) the method should be operational.

This approach allows some cyclical flexibility, which is to correct for the influxes of economic cycle on changes of government finances that may better underlying the structure of the economy (Galí and Perotti, 2003). The basic concept of this method is to extract the information from relevant frequencies of concern. Another popular way to measure business cycles involves application of bandpass and high-pass filters. The filter can produce spurious cycles.

The simplest method to calculate potential output is a linear trend. This method is preferred by some research because it is easy to construct and straight-forward to interpret. The linear equation is:

$$Y_t^* = \alpha + \beta\tau \qquad \text{Equation (3)}$$

where Y* is potential output, α is the intercept, β is the coefficient for the slope or the trend of potential output and τ is a time trend.

Unlike the HP Filter, which uses a time-varying trend, the Linear Trend model is design to fit a linear trend through the observed GDP data. A linear trend can be a powerful tool if the model is designed to account for breaks in the trend. The Chow-test is useful for identifying a break at in

[2] A good summary of them is offered by Ravn and Uhlig (1997)

the series. A simple log-linear trend serves as an approximation of the output gap. The output gap could be measured as the residuals of a regression of log output on a linear time trend. This method is simple model does not adequately describe the behaviour of output.

The Linear Trend approach has theoretical underpinnings. It is a simple statistical procedure that does not rely on economic theory. The growth of potential output is linked to many economic factor can be explained by economic theory. There are no convincing reasons that these components are constant over time especially if a country has undergone structural reforms. The linear trend assumes that potential output grows at a constant rate. Another shortcoming is that it assumes constant growth rate of potential output, but growth of potential output varies over time.

3.2 Multivariate Methods

Multivariate method includes multivariate filters and Dynamic Sytems of General Equilibrium models, these often identifies the production factors, such as the labor and capital factors, and specifies. The parameters are estimated by using some statistical inference methods. Multivariate approaches are theoretically more robust than the univariate methods, because they incorporate the behavior of agents and the constraints of the production factors (Abdelmonaim Tlidi, 2013). On the downside, it is more complex than the univariate method because the empirical implementation of such a production function requires a considerable effort (Chagny and Döpke, 2001).

Another method that can be used to estimate potential output is an aggregate production function. This is a structural approach derived from the Cobb-Douglas specification defined as:

$$Y_t^* = K_t^{*\alpha} L_t^{*1-\alpha} \qquad \text{Equation (4)}$$

where Y is output, which depends on the level of total factor productivity (also referred to as the level of technology); the labour force, L; and the capital stock, K; capital income, α, and the share of labour income (1−α). Potential output is estimated using the trend estimate of the total factor productivity together with the labour force (L) and the stock of capital (K). This method is theoretical stronger than the HP filter methods but a range of assumptions must be made about potential labour and capital. Policy makers' may see a strong case for choosing the production function as preferred method, since it is likely to cover all/more areas of policy. This is however this is not sufficient to make it the preferred method (Cortis et al, 2005). In fact, like other methods, the production functions have to rely, on judgmental choices.

There has been a proliferation of both conceptualisations and estimation techniques of potential output. The European Commission estimates the potential GDP through a Cobb-Douglas production function and expanded on this approach. IMF (2014) uses the output gap to estimate structural balances. Output gaps are subject to measurement bias since change not only due to variation in fiscal variables but also due to changes in the output gap. The IMF and the OECD calculate the structural deficits of member countries in order to evaluate their fiscal policies. In the case of the EU, fiscal deficits are of additional importance since the Maastrict treaty requires

a certain fiscal discipline of the members of the European Economic and Monetary Union.[3] Specifically, there is an upper limit on the budget deficit of 3% of GDP. All three organizations have published recommendations on how to calculate the structural deficit. However, in the case of the IMF and OECD, these published methods represent mainly guidelines. As mentioned previously, the basic idea inherent to all these methods is a focus on determining the cyclical component of revenues and then subtracting this from total revenues in order to end up with structural revenues.

"Caution, watch your step". Macroeconomic analysis often takes measurement of the output gap for granted, but its construction is subject to considerable uncertainty. Empirical estimates of the output gap for any given method may not be particularly reliable. Some economists have criticized the distinction between cyclical and structural deficits, contending that the business cycle is too difficult to measure to make the analysis worthwhile. Nonetheless, indicators of the output cycle provide a means for identifying any build-up in underlying imbalances or structural positions in the macroeconomy (Giorno, Richardson, Roseveare, & van den Noord, 1995). Consequently, this research argues that it is better to use several methods. This suggestion is in keeping with Vadas (2005) which found that a multiple-method approach provides more stable output gap estimation than the adoption of a single method.

4. Estimation Procedure

The methodology proposed by this study as the most appropriate method for generating reliable structural balance estimates for Jamaica and Fiji is one which integrates three elements: (i) adjusted real gross domestic income estimate as proposed by Turner (2006) to capture the impact of the changes in the terms of trade, given that Jamaica and Fiji are small open high import concentrated economy; (ii) estimation of potential output and the associated output gap, which follows closely the IMF (2006) Hodrick-Prescott (HP) approach; and (iii) estimation of tax elasticities using the Girourd and André (2005) and Lizondo et al. (2006) methodology.

The starting point of the first element "income gap" follows Turner (2006) derivation of the gross national income:

$$RGDI = RGDP + X(TT - 1) \qquad \text{Equation (5)}$$

where *RGDI* is the adjusted real GDP and X is exports as a share of GDP and *TT* is the terms of trade proxy; that is the current account balance. Equation (5) implies that real GDP changes with the terms of trade. The adjust Real GDP is then used to calculate the potential and output gap as outlined in Equation (2). The HP Filter is then utilized to general the indicators.[4]

In the final step (3) estimates of the fiscal elasticities are generated using Ordinary Least Squares (OLS) with the help of the package Econometric Views (EViews). This involves calculating the relative disaggregated revenue with respect to the adjusted real GDP:

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[3] The Maastricht Treaty (formally, the Treaty on European Union or TEU) undertaken to integrate Europe was signed on 7 February 1992 by the members of the European Community in Maastricht, Netherlands. On 9–10 December 1991, the same city hosted the European Council which drafted the treaty. Maastricht Treaty, formally Treaty on European Union, international agreement approved by the heads of government of the states of the European Community (EC) in Maastricht, Netherlands, in December 1991.

[4] The IMF (2004) template and the HP-Filter Add-In written by Kurt Annen. His email is annen@web-reg.de

$$\log(R) - \propto * \log(Y) + \epsilon \qquad \text{Equation (6)}$$

Where R denotes public revenue and Y the adjusted real GDP.

The fiscal elasticities are them derived from two (2) regression models. Fiscal elasticies of direct taxes (DI_TX) and indirect taxes (I_TX), respectively, follow:

$$\frac{\Delta DI\_TX_i}{R_i} = \alpha_i + \beta_i rGDP + \epsilon_i \qquad \text{Equation (7)}$$

$$\frac{\Delta I\_TX_i}{R_i} = \alpha_i + \beta_i rGDP + \epsilon_i \qquad \text{Equation (8)}$$

The fiscal elasticities and potential output estimates are then used to deduce the structural fiscal balance (SRBAL) as follows:

$$SFBAL = (Rev - ExpD) - \beta_i * GAP * Rev \qquad \text{Equation (9)}$$

Where Rev denote public revenue, Exp public expenditure and GAP is the output gap derived from the HP Filter. This information was used to calibrate the parameters displayed in Tables 1 and 2 below.

5.1 Data set

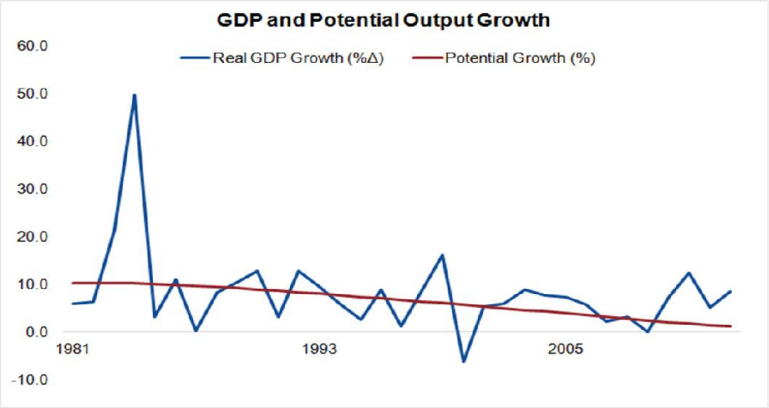
The dataset used in this study is taken from the International financial Statistics and the World Bank Statistics 1970-2015. An estimate is conducted for Fiji and Jamaica. The series covers government revenue, government expenditure, overall fiscal balance, gross domestic product (GDP) constant and nominal prices, GDP deflator, exports, and current account balance.

5.2 Results

The potential output growth rate and the corresponding output gap estimates computed using the HP filter and are plotted in Figure 1 and 2, respectively.

Figure 1: GDP and Potential Output Growth

Jamaica



The results obtained from the HP Filter suggest that Jamaica have been above its potential level from around 2012. The output gap was also relatively high 6.3 and 8.9, in 1988 and 1989, respectively. (See Figure 2)

The results of the estimated parameters for the equation (4) are given in Table 1.

Table 1. Regression results of different types of taxes on GDP (in logarithms)

Consolidated fiscal numbers for Fiji and Jamaica were used to test the model. Data was not disaggregated according to expenditure categories, because of data limitation issues.

Revenue Category	$\boldsymbol{\beta_i}$
Fiji (TX	1.09
Jamaica	1.20

Diagnostics test was conducted on the OLS results, no spurious regression, serial correction and mis-speciation was found. Note well, the Durbin Watson (DW) statistics was reported at 2.1 and 1. From this estimation, we conclude that an increase of 1% of the direct taxes an increase of 1.09 percentage point increase in the fiscal revenue, Fiji and a 1.20 increase in Jamaica.

The structural balance for Fiji is determined by

$$SFBAL = (Rev - ExpD) - 1.09 * GAP * Rev$$

The structural balance for Jamaica is determined by

$$SFBAL = (Rev - ExpD) - 1.20 * GAP * Rev$$

Equation SFBAL is applied to develop the cyclical and structural components of the fiscal balance for 2013-2014, which are presented in Table 2

Table 2: The Estimated Structural Budget Balance

Year	Actual Balance /GDP	Cyclical Balance/GDP	Structural Balance/GDP
Jamaica			
2013	100	16.04	-17.04
2014	-0.50	17.39	-17.89
Fiji			
2013	-.7.9	0.41-	-7.49
2014	-5.9	0.86	-6.76

The structural balance for Jamaica varied around 17 percent of the GDP. After a period of constant improvement in the structural fiscal stance, with a descending trend of the structural balance, the last period was characterized by a significant increase in the cyclically adjusted deficit. That for Fiji is estimated at 7% and 6% for the years 2013 and 2014, respectively.

6. Conclusion

It is important to understand the nature of budgetary developments and to determine what underlines the fiscal position. This is useful for identifying/generating fiscal policy indicators that could differentiate between the impact of the business cycle on public finances and the effects of policy decisions. In general, this can be reflected in estimates of the structural balance. A variety of methods can be used to calculate the potential output and its corresponding output gap ranging from univariate to multivariate approaches. The multivariate approach appears to be a stronger approach since it can cover most policy areas. However, lack of data severely constrains countries, such as Jamaica and Fiji, relying on multivariate approaches, such as Dynamic Systems of General Equilibrium model, and production function, since these require large and comprehensive data series. Univariate techniques are more desirable and only require GDP data. The approach allows for smoothing the series, adjusting for the peculiarities of the economy, and controlling for its characteristics, such as being a higher import economy. It also allows the estimates to take inflation indicators into consideration. The study concludes that HP filter can provide an adequate approximation of the series and allows the series to be decomposed into cyclical and structural components. Our main critique, however, is that it has no theoretical foundation and may create an end point problem.

The combination on output gap methodology and expenditure elasticity is quite useful in the case of the Caribbean given data limitation and the diversity of tax revenue, which fluctuate erotically with the business cycle. Similar to the IMF and OECD, this study proposes an approach that

allows the cyclical component to be subtracted from the revenues. This study developed a four (4) step approach: adjusting real GDP, generating the output gap, fiscal elasticity and structural balance. To ensure the robustness of the estimation we note that it is critical to decompose the revenue categories into direct and indirect taxes. The proposed methodology and reported structural balances are useful estimates to track progress and guide policy decision going forward.

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Appendix 1

Proposed Medium Term					
Fiscal Indictors	2012/13	2013/14	2014/15	2015/16	2016/17
Total Debt as % of GDP	87.3	90.0	92.4	95.5	95.8
Overall Budget as % of GDP	-8.0	-7.2	-4.3	-3.6	-2.1
Primary Balance as % of GDP	0.8	-1.8	2.1	4.3	5.7
Current Account Deficit as % of GDP	-6.6	-6.7	-2.0	-0.9	0.5
Total Revenue as % of GDP	27.7	28.8	31.5	33.0	34.6
Total Expenditure as of % GDP	35.7	37.6	35.5	36.2	36.5

Source: Central Bank of Barbados