

Evaluating the sustainability of Jamaica's Fiscal Debt policies

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Abstract

- How does the Jamaican government react to the accumulation of debt?
- Do they take corrective measures or do they let the debt grow?
- The results show that despite rising debt ratios, there is empirical evidence that the public debt is sustainable.
- However, the government needs to take a more active approach in managing its debt position.

Road Map of Presentation

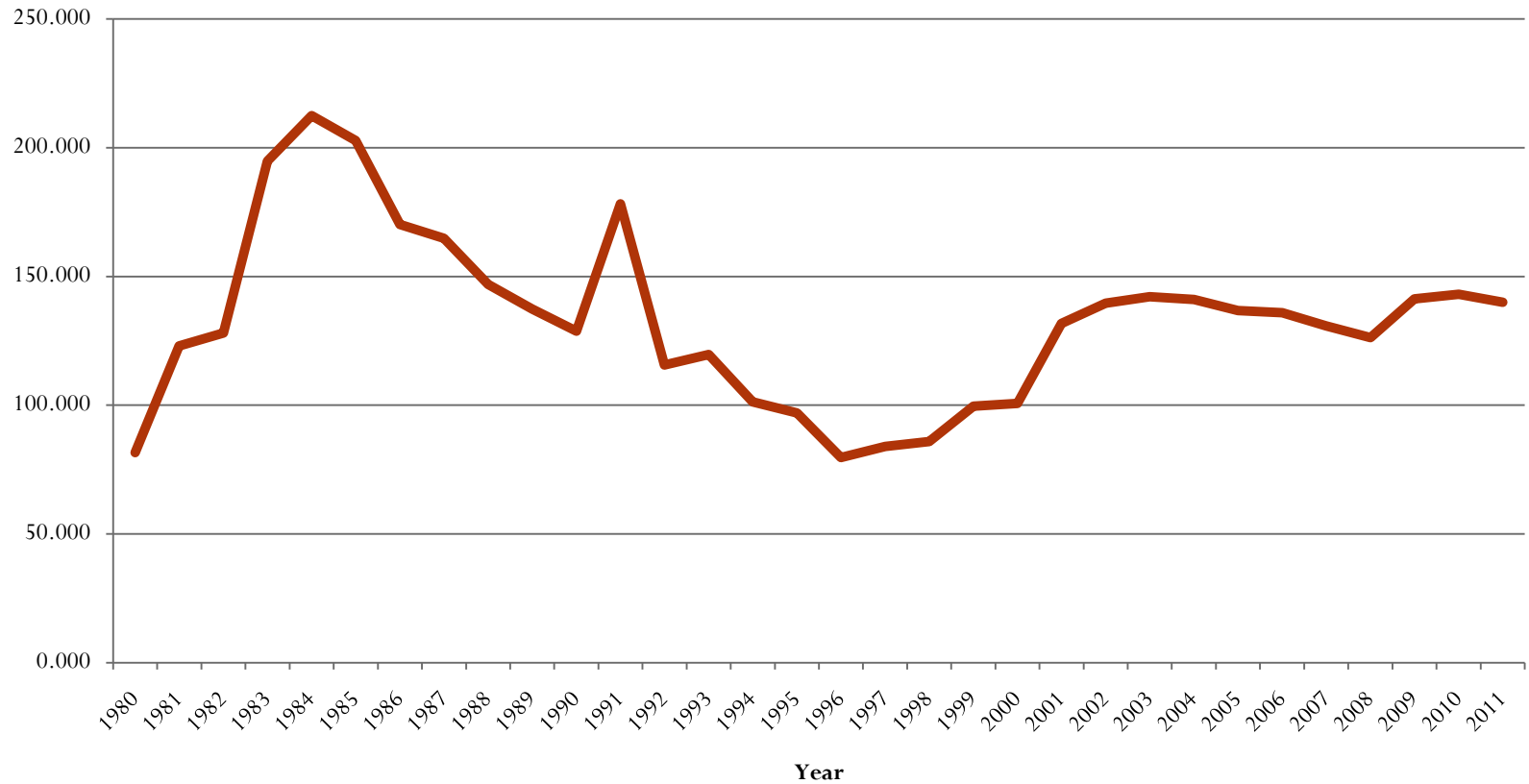
1. Motivation
2. Objective of the paper
3. Overview of main literature
4. Methodology
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Motivation

- In the recent times, the sustainability of Jamaica's debt position has come to the fore.
- Considered a major deterrent that is preventing the country from unlocking its growth potential.
- Jamaica's very high debt undermines confidence and investment.
- At almost 150 percent of GDP, Jamaica's level of public debt is one of the highest in the world.
- An increasing debt to GDP ratio raises the crucial question of whether the debt can be managed now and in the future.

Motivation

Total Debt to GDP Ratio



Objective

- To assess the quantitative scale of adjustment of the primary balance to the debt obligations of the country.

Literature

Stationarity Tests

- Assessing the stationarity properties of the budget balance
- Hamilton and Flavin (1986)
- Trehan and Walsh (1991)

Co-integration tests

- Assessing the cointegration properties of the revenue and expenditure series.
- Hakkio and Rush (1991)

Fiscal Reaction Functions

- Bohn (1991a, 1991b, 1995, 1998)

Theoretical Considerations

- The paper follows the work of Bohn who in a series of papers made theoretical advancement in the study of sustainability of public debt.
- If a government raises the primary surplus, when public debt increases, it takes a corrective action.
- The main advantage of this approach is that no explicit discount rate has to be used thus ruling out possible misleading results.

Theoretical Considerations

- However, a positive response of the primary surplus may not be sufficient to conclude sustainability because it does not ensure that the debt to GDP ratio remains bounded.
- Test for stationarity of the public deficit including interest payment proposed by Trehan and Walsh (1991), the paper test empirically for the absence of Ponzi games in the context of the government financing constraint.

Methodology

- Ordinary Least Squares (OLS) to estimate a **Fiscal Reaction function** of the form:
- $P_t = \delta Z_t + \beta b_{t-1} + \varepsilon_t$
- Specific; $P_t = \beta b_{t-1} + \delta_1 Ygap_{t-1} + \delta_2 Gvar_t + \delta_3 p_{t-1} + \varepsilon_t$
- To assess whether the primary surplus to GDP ratio is a positive function of the debt to GDP ratio.

Methodology

- $Y_{gap,t-1}$ is the deviation of real GDP from its trend, reflecting the business cycle. Positive values indicate booms and negative values indicate recessions.
- $Gvar_t$ is the deviation of real public spending from its normal value; temporary government spending. Positive values indicate expenditures above the normal level and vice versa
- Both $Y_{gap,t-1}$ and $Gvar_t$ are calculated using the HP-Filter.
- ρ_{t-1} captures inertia in government behavior

Methodology

- Stationarity test on the first difference of the public deficit including interest payments proposed by Trehan and Walsh (1991).
- Using an Augmented Dickey Fuller Test

Data

- Total Debt Stock was obtained from Economic and Social Survey Jamaica (ESSJ) series (1980-2007) and the IMF (2007-2011).
- GDP and Primary Balance (1980-2011) were obtained from the Ministry of Finance and Planning.
- Real interest rate and real growth rate were obtained from the World Bank.
- The output gap was constructed with the Hodrick-Prescott filter where real GDP, which was obtained from the IMF.

Results

	Coefficients	Stand. Error	t-stat	Pr (>t)
b_{t-1}	0.02308	0.01205	1.92	0.066
$Y_{gap_{t-1}}$	-74.3467	28.5581	-2.60	0.015
$Gvar_t$	-0.1479	0.08596	-1.72	0.097
P_{t-1}	0.3801	0.1362	2.79	0.010
Constant	1.7632	1.7607	1.000	0.326
R^2 (adj): 0.4662	DW: 1.9057			

Results

- The \mathbf{b}_{t-1} was found to be positive indicating that primary surplus reacts positively to variations in the debt to GDP ratio.
- Both \mathbf{Ygap}_{t-1} and \mathbf{Gvar}_t enter negatively in the regression.
- \mathbf{p}_{t-1} found to be positive indicating levels of inertia in response to debt.

Results

Variables	Specification	ADF test-statistic (p-value)
Public Deficits	First Difference	-5.932*** (0.0007)

Results

- Based on Dickey Fuller tests the first difference of the stock of public debt (inclusive of interest payment) was found to be stationary.
- The path of public debt can be considered sustainable.

Conclusion

- Fiscal policy reacts to debt accumulation by taking corrective measures when the debt rises; by raising the primary surplus or equivalently, by reducing the primary deficit.
- The government exhibits inertia in its behavior and needs to be more proactive in managing its response to its debt.
- Despite the positive corrective measures of the government, in the event of shocks, fiscal policy response may not be sufficient to reduce debt.

Conclusion

- The question of whether fiscal policy continues to be stable depends on policies pursued now and in the future.

Future Work

- The evidence for sustainability presented in this paper does not also ensure sustainability in the future. Thus the increasing trend in the debt to GDP ratio should be looked at closely.
- Applying non-parametric estimation techniques may provide useful insights into the debt policy of government and may show how robust the OLS estimations presented are.