

The Nexus Between Growth, Debt Sustainability and Public Investment in the ECCU

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Objective

- ▶ At this juncture it is fitting to revisit the topic of public investment, growth and fiscal sustainability nexus in the ECCU. Why?
- ▶ Growth has contracted for at least 3 consecutive years at the Currency Union level. There is a clear need to stimulate economic growth.
- ▶ One way is through a public sector spending stimulus. (*The T's concept (Timely, Transparent and Temporary)*).
- ▶ In addition there anecdotal evidence to suggest that capital stock has shrunk, through depreciation and no new addition to the stock.
- ▶ However, the high debt to GDP ratios in the region presents a clear case for fiscal adjustment but growth is also needed. Economic growth and fiscal adjustment must be seen as reinforcing and not mutually exclusive events

Objective

- ▶ However, public investment must be efficient if it is to have the desired growth effect and reduce the risks that it will add to public sector indebtedness.
- ▶ The DSF provides a framework for thinking about much of this.
- ▶ But the linkages are not articulated and the assumptions may be implicit.
- ▶ The main objective of the paper is to assess ECCU public debt risks, considering the link between public investment and growth.
- ▶ How much borrowing for public investment should countries do, and how much is sustainable?

Objective

- ▶ In the paper a develop a model a la Buffie et al (2012) to study the macroeconomic effects of public investment stimulus package, making explicit:
 - (i) the investment–growth linkages;
 - (ii) public external and domestic debt accumulation;
 - (iii) the fiscal policy reactions necessary to ensure debt–sustainability;
 - and (iv) the macroeconomic adjustment required to ensure internal and external balance

Overview

▶ Increases in public capital can raise economic growth and output

▶ $Y = AG_y K^\alpha L^{1-\alpha}$

- A key assumption is the rate of return on public capital
- There are some other features we are not using today, such as potential externalities associated with exports.
- Governments don't always convert \$1 of investment spending into \$1 of productive public capital

▶ $G_t = G_{t-1} - \delta G_{t-1} + eI_{gt}$

- ▶ □ We don't always assume $e=1$
- ▶ □ The "PIMI" can help us calibrate e .

Overview

- ▶ **Various fiscal policy decisions.**
 - The path of public investment is a choice of the government
- ▶ **Other spending and/or the tax rate adjust, if necessary, to stabilize the debt ratio.**
 - How much they need to change depends on the rate of return etc.
 - And when they need to change depends on whether the country borrows to smooth the transition.

Overview

- ▶ Crowding in
 - More public capital raises marginal product of private capital
- ▶ Crowding out
 - When the government uses domestic resources to invest, these resources are not available for private investment and consumption.
- ▶ The Balance depends
 - In the long run, there is always crowding in if the projects are good
 - In the transition, crowding out may dominate, especially early on and especially if there is not enough foreign financing.

Lit Overview

- ▶ The macroeconomic literature has long acknowledged that fiscal adjustment episodes tend to include disproportionate cuts in public investment.
- ▶ This, of course, is not necessarily a cause for concern if the reduction in public investment reflects efficiency enhancements, improved public procurement, or reduced corruption, allowing the same services to be provided at a lower investment cost
- ▶ The seeming anti-investment bias of fiscal discipline likely reflects several factors. Among them, political economy considerations are surely key: it is politically much harder to cut pensions or public sector wages at times of fiscal stringency than to cancel infrastructure projects.

Lit Overview

- ▶ However, public deficit and debt rules also play a major role. Such rules aim to protect the solvency of the public sector, but they often do so at the cost of distorting the composition of public expenditures.
- ▶ Most empirical literature suggest that public investment has a positive impact on growth.
- ▶ However as Aschauser (1989) showed “*core*” infrastructure of streets, highways, sewers, and water systems—has more explanatory power for productivity than does the stock of equipment.
- ▶ Even Pereira (2000) who showed that the stock of equipment has a positive impact of growth rate of GDP but admitted that the estimated magnitude is small.

Lit Overview

- ▶ This is a very important finding since it implies that the type of public investment matters for long term economic performance
- ▶ It also means that depending on type on investment it has implications for paying down the debt.
- ▶ What this demonstrates that the long run rate of return of public investment matters, in addition the efficiency of public investment

ECCU Situation

- ▶ In the ECCU the level of public debt:
 - as a percentage of GDP is very high; the average debt to GDP ratio across the ECCU is 108.0 per cent of GDP over the period 2002 to 2012.
 - Current expenditure as percentage of GDP and total revenue is 22.8 per cent of GDP and 87.0 per cent of total revenue.
 - Capital investment in the ECCU has averaged roughly 6.5 per cent of GDP for the period 2000 to 2012

ECCU Situation

- ▶ Roache S (2007) suggest that public investment has a positive but short-run impact on growth.
- ▶ the model by definition implies that public investment cannot permanently affect the growth rate, but can permanently affect the level of GDP.
- ▶ The effect of a one-time random one-standard deviation shock on growth effectively dies out after 4 years.
- ▶ Moreover he demonstrated that causality between GDP growth and public investment is bi directional, meaning that growth also cause public investment

ECCU Situation

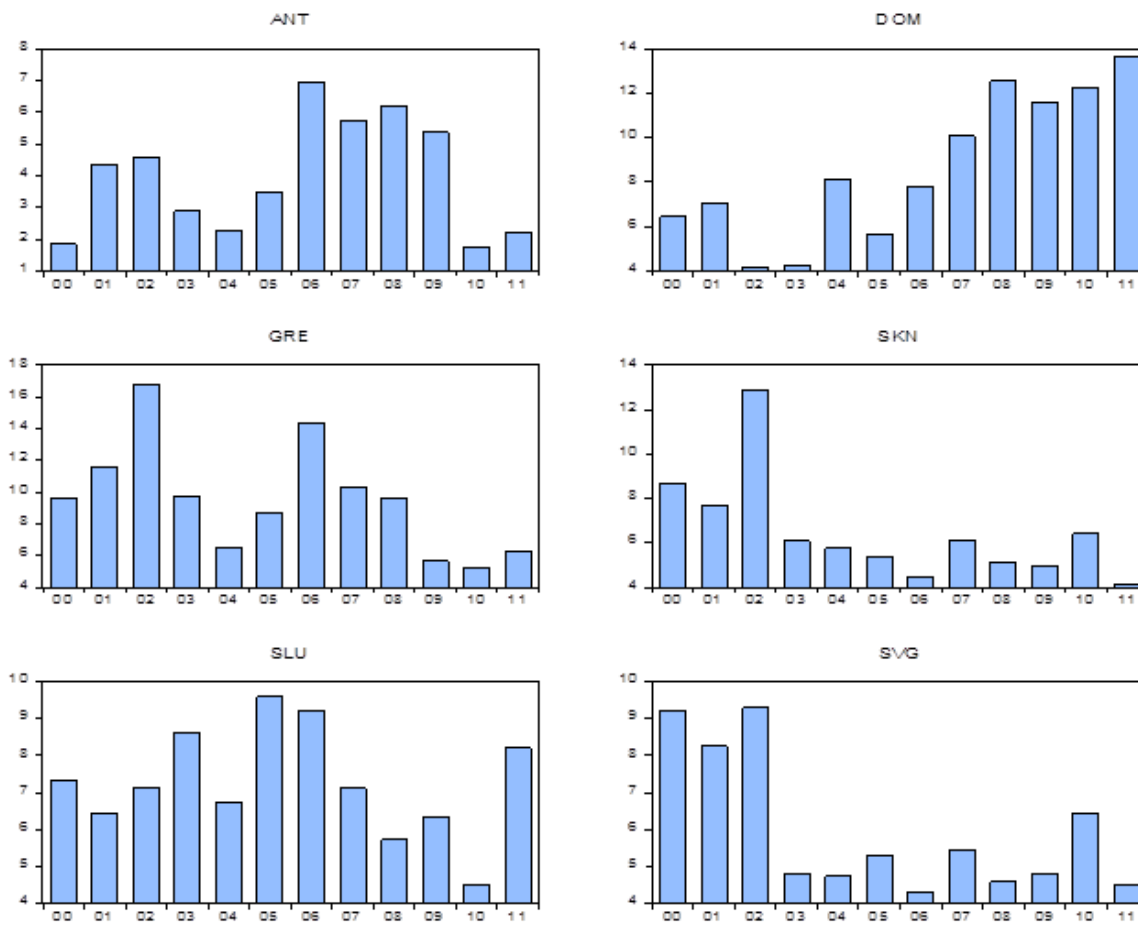
- Gonzalez–Garcia, J, Lemus, A, and Mrkaic, M (2013) demonstrated that public investment has a positive but short–run impact on growth, both papers suggest that the impact of public investment dissipates after four years.
- The impact multiplier of government consumption expenditure is 0.20, After one year, the cumulative multiplier is about 0.42, but still not statistically different from zero.
- The impact multiplier for public investment expenditure is 0.12, but the cumulative effects make it increase to 0.37 after four quarters. After eight quarters the multiplier stabilizes, and after four years it is about 0.44

ECCU Situation

- ▶ Estimates of the marginal productivity suggest that marginal productivity of public investment is in the range from 0.50 to 0.66 while the rate of return is negative.
- ▶ In the end the low impact of impact of public investment of GDP growth may be due to the composition of public investment, perhaps too little is spent on infrastructure that will increase productivity.
- ▶ The second hypothesis is that perhaps too much money is being spent on replacing capital rather than augmenting the capital stock. (*Impact of natural disasters*)

ECCU Situation

Capital Expenditure as % of GDP



Model

- ▶ $nw(t) = \int_t^{\infty} e^{\int_t^x -r-g(s-t)} [\{\tau(s) + [\theta - (r + \delta)v]k(s) - c(s)\}] ds - [b(t) - pk(t)]$
- In this formulation, solvency requires the present value of the government's primary surplus on current account, net of the user cost of public capital, to be no less than the face value of net public liabilities—that is, debt minus capital.

Model

- From the equation an increase in the public capital stock matched by an equal increase in public debt at time t (so that net liabilities $b - pk$ remain unchanged) raises or lowers the net worth of the public sector depending on the sign of the return differential $\theta - (r + \delta)p$.
- Irrespective of the net worth effect of an investment increase, its impact on the primary surplus must be negative in the short run, while that on the debt-to-GDP ratio must be positive.


Model

- Over time, as the extra capital is put in place and returns accrue at the rate, the primary surplus will rise and provided that $\theta > (r + \delta)p$ (*ie is the financial rate of return on capital is greater than the user cost of capital*) the debt-to-GDP ratio will decline below its initial level.
- The effects on **net worth of a public investment expansion depend on the direct financial return on public capital θ** . However, the value of θ is likely to vary greatly across investment types.

Model

- ▶ A Baseline calibration to the ECCU with good and well-executed public investment projects.
- ▶ Rate of return to newly installed public capital of 30%
- ▶ Fully efficient public investment process ($e=60\%$)
- ▶ 40% of recurrent costs are covered through user fees
- ▶ Absorptive capacity

The Model

- ▶ For the second simulation a much more optimistic case is presented than what occurred in the baseline. The key changes are the that:
 - user fees return 60.0 per cent of the initial expenditure in investment,
 - the return on infrastructure investment is 50.0 per cent,
 - and the efficiency on public investment is 60.0 per cent implying that  for every one dollar on public investment 0.60c worth of capital is created.

The Model

- ▶ For the third simulation a much more pessimistic case is presented than what occurred in the baseline. The key changes are that
 - user fees return 20.0 per cent of the initial expenditure in investment,
 - the return on infrastructure investment is 20.0 per cent,
 - and the efficiency on public investment is 30.0 per cent implying that for every one dollar on public investment 0.30c worth of capital is created.

	Economic Growth	Debt as % of GDP
Base case	4.25%	57.5%
Optimistic Scenario	4.43%	51.2%
Pessimistic Scenario	2.6%	63.3%

Conclusion

- ▶ It's not enough to have good projects. Structural features of the economy matter.
 - Rate of return on projects
 - Efficiency of public spending
 - User fees
 - Fiscal reaction function for adjustment
- ▶ Nonetheless increasing the level of public investment can potentially boost economic growth .
- ▶
- ▶ The transition can be very challenging: high taxes, cuts in expenditure .
- ▶ Beyond these issues are issues related to the type of investment by the Government, that is, is all public capital created equally?