

## MANAGING FISCAL CHALLENGES IN CONTEMPORARY PAPUA NEW GUINEA\*

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The rising budget deficits and associated increases in public debt confronting the Government of Papua New Guinea make it difficult for that Government to comply with the legislated debt ceiling of 30 percent of GDP within the foreseeable future. In these circumstances focusing policy on containing debt to the legislated level could compromise both fiscal sustainability and developmental objectives. Rather, I argue that the Government can use public investments funded with concessional loans to raise GDP, improve developmental outcomes, and return public finances to a path of fiscal sustainability.

*Keywords:* Public finances, Budget deficits, Public debt, Papua New Guinea, Fiscal Responsibility Act.

### 1. Introduction

Budget deficits and the accumulation of public debt enable governments to redistribute income over time and across generations whilst minimising the deadweight losses that arise from changes in taxation (Alesina & Tabellini, 1990). Here I consider the scope for the government of Papua New Guinea to use fiscal deficits and debt-finance to redistribute, and more importantly, to increase gross domestic product (GDP) while complying with legislated commitments to debt sustainability.

The Parliament of PNG has made concerted efforts to keep national debt sustainable and to safeguard against fiscal recklessness. In 2006, the Parliament enacted a *Fiscal Responsibility Act* (FRA henceforth): “to provide guiding principles for the conduct of fiscal policy” (Paragraph 1 (1a)), and “to provide a framework for fiscal management ... for transparent reporting of the national fiscal position ...” (Paragraph 1(1b)).

The subsequent amendments also included the following commitments regarding total public sector liabilities:

“Government will not raise the overall level of general government debt as a share of Gross Domestic Product above 30 percent of Gross Domestic Product, apart from in the years 2013 and 2014 in which it will not exceed 35 per cent,

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having regard for the size of the Government's other liabilities and the size and likelihood of contingent liabilities" (Section 2, paragraph (c), *Papua New Guinea Fiscal Responsibility (2013 Budget) (Amendment) Act 2012*).

Commitments were also made with regards to total public sector liabilities; that is that the:

"Government will not raise the overall level of general government liabilities, including all debt as well as contingent and non-contingent liabilities and guarantees, above 60 per cent of Gross Domestic Product" (Section 2, Paragraph (h), *Papua New Guinea Fiscal Responsibility (2013 Budget) (Amendment) Act 2012*).

These commitments were made in the aftermath of at least three fiscal crises in the last decade of the 20<sup>th</sup> Century: debt as a proportion of GDP had peaked at 76 percent in 2002 (Chand, 2002). Thereafter, public debt initially trended downward falling to 23 percent of GDP by 2011 but subsequently trended up, reaching 39.4 percent of GDP in 2015. It is forecast to rise to 41.1 percent by the end of 2016 (IMF, 2015, p. 4). The recent rebound in public debt means that the ceiling of 30 percent of GDP set by the FRA was breached in 2015 and is unlikely to be met in 2016 as envisaged in the Governments Medium-Term Fiscal Strategy (ibid, page 5).

The International Monetary Fund, observing that the legislated ceilings on public debt have been breached, has "strongly encouraged the authorities to adopt more ambitious package of fiscal measures" (IMF, 2015; page 6). These measures include reducing deficits relative to the baseline by 1 percent of GDP in 2016, and further reductions of 2 percent of GDP from 2017 to 2019 with the "bulk of the fiscal adjustment to come from reductions and reprioritisation of expenditure" (ibid; page 7). In the same breath, however, the IMF warns that "[c]are should be taken to ensure that consolidation does not affect high priority social spending, including health, education, law and justice, and agriculture" (ibid; page 8).

The PNG-Government has reaffirmed its commitment to maintaining government debt to sustainable levels with the Treasury announcing that:

"[t]he Government continues to be cognisant of its requirement to meet debt to GDP targets as stipulated in the Fiscal Responsibility Act (FRA). The ratio is projected to remain around 35 per cent in the next three years and is expected to fall in 2019 and 2020" (PNG 2016).

In this paper I argue that adhering to the advice from the IMF could be impractical and possibly counter-productive to the goals of attaining fiscal sustainability. Impractical because the recommended cuts to public expenditure are difficult when national elections are due in a year and counterproductive because doing so may actually raise debt as a proportion of GDP as explained later. In developing this argument I begin by explaining the magnitude of the fiscal challenge in Section 2. Section 3 provides the possible strategies that in the short-term will lead to a spike in public debt but could put public finances on a long-run path to fiscal sustainability as stipulated in the FRA, Section 4 addresses the challenge of ensuring that parliaments continue to acknowledge the principles of fiscal responsibility. Conclusion follows.

## **2. The Magnitude of the Fiscal Challenge**

The most recent data from the Bank of Papua New Guinea (BPNG) reveals that the budget deficit for 2015 will be some K1.6 billion; equal to 3.2 percent of GDP (BPNG, 2016). Government revenues for 2015 were down by 17.9 percent while expenditure was cut 20.8 percent from the levels in the revised budget. By contrast, in October 2015 the IMF had projected a deficit for 2015 of 7.6 percent of GDP and a deficit for 2016 of 5.5 percent (IMF, 2015). The difference between BPNG's more recent estimate of the deficit and the higher earlier forecasts from the IMF is due to significant cuts to public expenditure, both recurrent and public investments.

The fiscal position is unlikely to improve in 2016. Lower commodity prices and the adverse effects of El Nino on agricultural output are likely to lower the rate of expansion of GDP compared to what was envisaged in the budget. The weighted average price of exports from PNG as of September 2015 was 18.3 percent lower than the corresponding figure for 2014. Should the prevailing drought intensify then the volume of exports of agricultural commodities will subside further while exports of copper concentrate will be delayed to 2017. The IMF had estimated that GDP grew 9.0 percent in 2015, and projected a further expansion of 3.1 percent in 2016 which the BPNG in its latest forecast has retained. The World Bank however has forecast growth in non-mining GDP of 2.9 percent in 2016 (World Bank 2016).

The fall in GDP relative to what was originally envisioned in the budget implies reduced government revenues. Revenue and grants amount to some 25 percent of GDP, a proportion that could rise in the near future as a consequence of the forthcoming tax review aimed at presenting options for an efficient and stable revenue base to support developmental objectives. Other public expenditure is also likely to rise, particularly if drought relief is required. All this is likely to cause an increase in the size of the budget deficit for 2016 and a commensurate increase in public debt. Public expenditure amounts to approximately 30 percent of GDP but it could rise in the short-term as explained in the next section.

But in addressing the above fiscal challenge the Government cannot ignore the massive developmental challenge facing the nation. While overall debt for 2016 is likely to exceed the ceiling of 30 percent set in the FRA, this level is not high compared to the levels of the past and to those of similarly endowed developing nations now. PNG is far from being a heavily indebted nation. Debt service for PNG is much lower than that for Lower Middle Income Countries (LMCs) as classified by the World Bank and marginally above that for its (much richer developing) neighbours in East Asia and the Pacific (EAP) (see data reported in Table 1). Figure 1 shows debt service for the period 1990 to 2015 for PNG, LMCs, and the EAP. There is a downward trend in debt service for all, but PNG has roughly followed the trends of the LMCs and EAP. PNG's rich natural resources suggest that the nation may have greater capacity to service debt than her developing Asian neighbours.

The developmental challenge in PNG is far greater than the existing fiscal challenge. PNG falls short of the LMCs as a group and nations in neighbouring Asia on nearly every measure of socio-economic development. Table 1 provides summary statistics on several

socio-economic variables of which I pick just three. Life expectancy in PNG is 4 years short of the LMC average, and 11 from that of the EAP average; some 63 percent of the children complete lower secondary school in PNG compared to 73 percent and 95 percent in LMCs and EAP, respectively; and, child-mortality at 57 for every 1,000 live births in PNG is comparable to the average for the LMCs but considerably higher than the 18 for EAP. PNG however spends 6.9 percent of GNI on education and another 4.3 percent on health compared to 3 percent and 2.8 percent, respectively, by the LMCs, and 2.1 percent and 2.4 percent, respectively, by those in EAP. But delivering basic services in PNG is both difficult and expensive given the highly dispersed population (of whom some 90 percent live in rural areas), the rough terrain, and extremely high linguistic and cultural fragmentation (see Fearon, 2003 on the last of the above).

Cutting public sector outlays to reduce budget deficits by 1 percent of GDP in 2016 and a further 2 percent of GDP each year from 2017 to 2019 as advised by the IMF could, in a climate of stagnant income growth, throw PNG's fiscal position (including debt as a proportion of GDP) into a spiral with catastrophic consequences for development as elaborated upon in the next section. If the government follows advice to retain spending levels on priority sectors such as those on health, education, law and justice, and agriculture then it would need to make drastic cuts to infrastructure investments, many of whom are estimated to have return on investment exceeding 20 percent.<sup>1</sup> The World Bank for example notes that investment into electricity, telecommunications, and transportation infrastructure is critical to growth of income (World Bank, 2016)

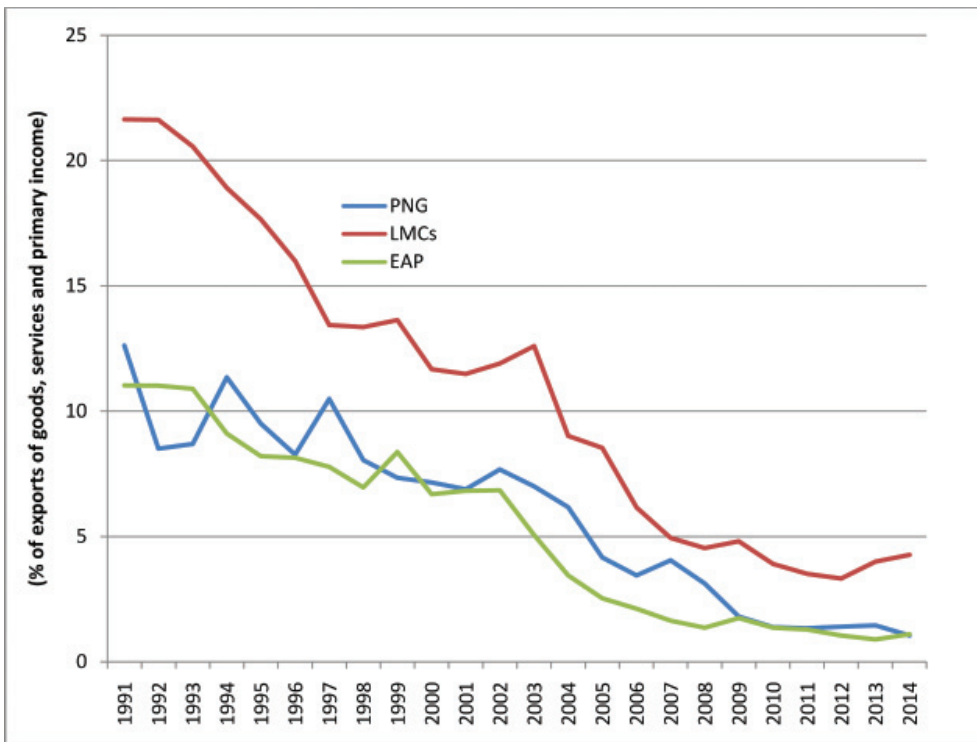
**Table 1:** Summary statistics; PNG, LMCs, and EAP

	<b>PNG</b>	<b>LMCs</b>	<b>EAP</b>
<b>Fiscal Indicators</b>			
Debt service (PPG and IMF only, % of exports of goods, serv. & prim.inc., 2012)	1.4	5	1.1
External debt stocks (% of GNI, 2014)	8.7	27.7	—
Expenditure on education (% of GNI, 2014)	6.9	3	2.1
Health expenditure (% of GDP, 2014)	4.3	2.8	2.4
<b>Development Indicators</b>			
GNI per capita (US\$, 2014)	2,240		6,156
Life expectancy (2014)	63	67	74
Poverty headcount ratio (National Poverty Line, 2009)	39.9	—	39.9
Popln, 65yrs + (% of total, 2014)	3	5	8
Fertility rate (births per women, 2014)	3.8	2.8	1.8
Lower secondary completion rate, both sexes (% , 2013)	62.5	71	90.9
Adult literacy rate (% of 15+ population, 2013)	63	73	95
Infant mortality (per 1,000 live births, 2015)	45	40	15
Child mortality - under 5 years per 1,000 live births, 2015	57	53	18

<sup>1</sup> See ADB(2011) "*Sector assessment (summary): Road Transport Subsector*", Asian Development Bank, Manila on returns to investment in 'missing-link' roads and Psacharopoulos (1985) on returns to education.

	PNG	LMCs	EAP
Maternal mortality ratio (modelled estimate per 100,000 live births, 2015)	215	253	63
Births attended by skilled staff (% of total, 2012)	—	58	93
Access to improved sanitation (% of total popln, 2012)	19	52	75
Access to improved water source (% of population, 2012)	40	90	94
Access to electricity (% of total popln, 2012)	18	78	95.7
Rural population (% of total, 2014)	87	61	48
Employment in agriculture (% of total employment, 2011)	—	44	9

Notes: LMCs denotes Lower and Middle Income Countries as classified by the World Bank are those with a per capita GNI in 2014 of between US\$1,045 and \$4,125. The data reported is that for the most recently available. Debt service is the sum of principle repayments and interest actually paid in currency, goods, or services. External debt stock for PNG is sourced from Table 1 in IMF (2015). Data sourced from World Development Indicators (online) database except when stated otherwise.



Notes: Debt service is the sum of principle repayments and interest paid in currency, goods, or services. Data sourced from World Development Indicators (online) database, accessed on 6<sup>th</sup> May, 2016.

Figure 1: Public and publicly guaranteed debt service, 1991–2014

### 3. The Developmental Challenge and Path to Sustainable Public Debt

PNG is a young nation with the population growing at an annual average rate of 2.1 percent per annum (data for 2014 from the World Bank). PNG’S fertility rate is 3.8 and just 3 percent of its population is above 65 years of age. Hence the momentum for population growth will remain for the foreseeable future (see data in Table 1). Per capita GDP at US\$2,240 is one of the lowest within the Asia-Pacific region, and particularly low given the rich endowments of

minerals, marine resources, and manpower. Some 40 percent of the population are estimated to be in poverty (HIES 2009-10 data from Gibson, 2012). Access to basic services is poor, thus there is considerable room for investments into physical and social infrastructure that could boost GDP. Some 45 percent of children within the age of 7 years to 13 years fail to complete primary schooling, only 40 percent of the population have access to ‘improved water source’ meaning to reticulated supply or a protected spring/well, and just 18 percent of the population have access to electricity. Health outcome are just as poor: 61 of every 1,000 infants born alive die before their 5<sup>th</sup> birthday while 220 of every 100,000 births results in the death of the mother. Law and order has been a perennial problem.

There is considerable dormant demand for public service including better access to transportation infrastructure, electricity, basic education, and primary healthcare. A young developing nation such as PNG has the head-room to move in terms of income, poverty reduction, and access to basic services. While economists continue to debate why some nations are rich while others poor, there is consensus within the literature that it is easier for lagging nations to catch-up than for those at the frontier to push ahead (Hall & Jones, 1999; Neumayer, 2003; Olson, 1996). In other words, it must be easier for PNG to catch up towards Australian living standards than for Australia to race ahead maintaining the existing gap between the two nations.

Prioritisation of outlays and particularly on public infrastructure would be central to helping the citizens of PNG catch up with their cousins across the Torres Strait. It may be opportune to do so now: the low commodity prices, the global glut in savings, and the under-utilised skills and capital in Asia (and China particularly) lend the opportunity to invest in the construction of the long-needed public infrastructure in PNG. I am also warning against cutting public outlays that could prove detrimental to growth of GDP. The following simple math brings the key arguments to the fore.

Note that the level of public debt is expressed as a ratio; that is,

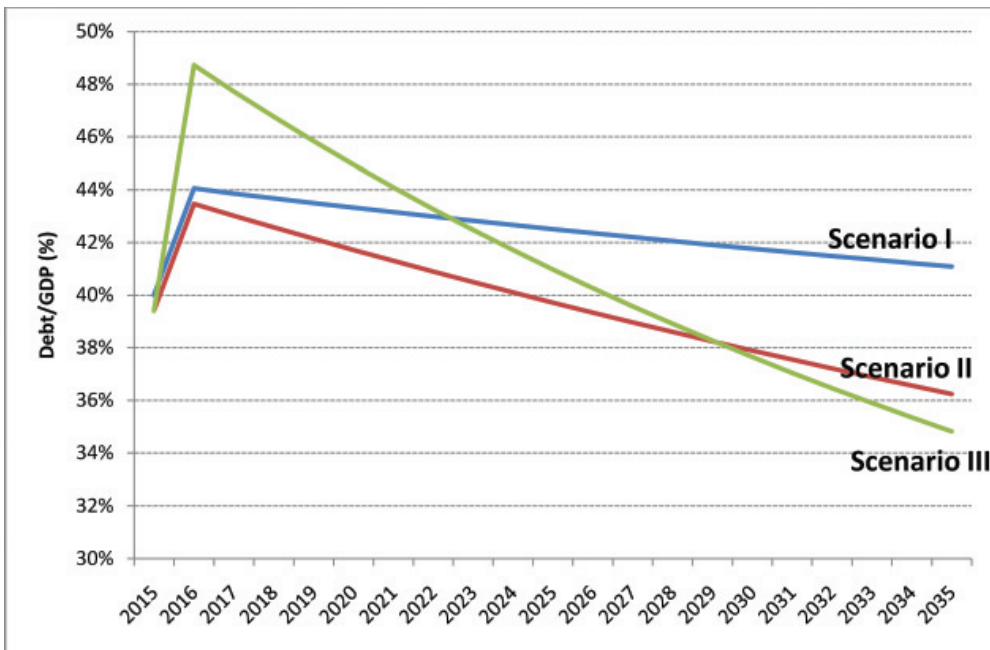
$$DR = \frac{\text{Debt } \$}{\text{GDP } \$} \quad (1)$$

Where \$ denotes US dollars in constant prices. Thus, the growth in debt as a percent of GDP is given by the difference in the rate of growth of debt and GDP; that is,

$$\widehat{DR} = \widehat{\text{Debt}\$} - \widehat{\text{GDP}\$} \quad (2)$$

where a  $\wedge$  (hat) over a variable denotes its growth rate. Equation (2) shows that the debt-ratio falls when the rate of growth of GDP exceeds that for debt. In the case of debt used to finance public infrastructure, debt as a ratio of GDP falls when the return on investment is greater than the interest cost of the debt. I next use a numerical example to illustrate the fact that the level of debt can be put on a sustainable path through judicious use of loans to finance public investments. It demonstrates the fact that taking on more debt and investing this in projects with high returns whilst rolling debt repayments over annually can help put public finances on a path to fiscal sustainability.

Consider the following initial conditions: aggregate GDP in 2015 of US\$18.45 billion;<sup>2</sup> and the stock of public debt at \$7.27 billion (i.e. 39.4 percent of GDP). All valuations are done in US dollars at 2014 prices so as to avoid the volatilities of the Kina and domestic prices. Assume that a loan of US\$1 billion is acquired in 2015 at an annual interest rate of 5 percent to fund public outlays that have a return of 20 percent; this being the sole contribution to GDP that we model henceforth. Assume further that all interest payments are rolled forward on an annual basis. Thus, debt jumps by 4 percentage points to 44 percent in 2016 but from 2016 onwards the investment returns \$200 million to GDP each year while the interest bill adds \$50 million plus interest on the interest from 2017 onwards. The impact of this investment on debt as a ratio of GDP is shown as Scenario 1 in Figure 2. Note that the debt ratio falls from 2016 onwards since the contribution to GDP of this project is larger than the interest bill (as shown in Equation 2). On the initial conditions and the parameters assumed, debt as a proportion of GDP falls to 41 percent by 2035: this is still well above the 30 percent set in the FRA.



**Figure 2:** Debt-GDP simulations under three alternative scenarios

Notes: Initial conditions – debt stock as of 2015 of US\$7.27 billion (equal to 39.4% of GDP), and 2015 GDP of \$18.45 billion. Scenario I – interest rate on debt of 5 percent, loan in 2015 of US\$1 billion; Scenario II - interest rate on debt of 0 percent, loan in 2015 of US\$1 billion; and, Scenario III - interest rate on debt of 0 percent, loan in 2015 of US\$2 billion.

Let us look at two alternative scenarios with a view to accelerating the rate of fall of debt. In the second scenario, we reduce the interest rate on debt from 5 to 0 percent as an extreme case while leaving the rest of the assumptions unchanged. The debt to GDP ratio, as implied

<sup>2</sup> This figure is reached by assuming a real growth rate of 3.1 percent on the GDP of \$16.93 billion for 2014.

by equation (2), falls faster than in the first scenario: the simulations shows that it falls from the peak of 43 percent in 2016 (slightly lower than in Scenario I given nil interest bill) to 36% of GDP by 2035 – close but not at the FRA target yet. The final scenario assumes an initial debt of \$2 billion with an interest rate of 0 percent: the simulations show that the level of debt jumps to 49 percent of GDP in 2016 but then falls to 35 percent by 2035. These effects are from the one large public investment project, with the assumption that this is the only source of growth of GDP.

We can now summarise the key findings from this section. First, increased outlays on public investments with high returns can put public finances on a path to fiscal sustainability. Conversely and probably more subtle is the fact that the same mechanism works in reverse meaning that slashing public investment projects with high returns can undermine fiscal sustainability. Second, picking projects that have a return greater than the interest cost of debt reduces the level of debt as a fraction of GDP (shown in Equation 2). This stresses the importance of picking projects with the highest returns and debt with the lowest cost. Interest rate of 5 percent was selected as this is possibly the most competitive rates available from the private sector while the zero rates are possibly the most concessional of such rates available from multilateral development banks (MDBs).<sup>3</sup> Furthermore, the limited absorptive capacity of the economy implies that a project of \$2 billion in any one year may be the upper limit to such investments. Third, the simulations suggest that attaining the 30% target of debt as a proportion of GDP is unlikely to be achieved solely on the returns from new public investments except for the case of major windfall gains to GDP. Finally, waste will only exacerbate fiscal pressures, and it is this issue that I turn to next.

#### **4. Insuring Against Fiscal Irresponsibility**

What guarantees that any debt taken by the government will not be wasted? This question highlights the premise underpinning the FRA: governments' fiscal irresponsibility can and should be curbed by legislation. But debt ceilings such as those contained in the FRA which require frequent revisions simply because – for whatever reason - they cannot be attained destroy the credibility of the legislation and that of policymaking in general. The deeper question that needs to be addressed here is as to how to make credible commitments (on debt ceilings and other policy anchors) whilst allowing for flexibility in times of need. Full treatment of this problem is beyond the purview of this paper. But some preliminary thoughts confined to the use of debt finance for public investments in contemporary PNG are sketched out next.

Using debt finance for public investments so as to attain fiscal sustainability over the long term requires three ingredients: (i) projects with high rates of return; (ii) finance at the lowest possible cost; and, (iii) quality deliverables. I consider each of these ingredients in what follows. On the first, the National Department of Planning and Monitoring has

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<sup>3</sup>. Note that PNG is a 'blend country' meaning that the nation can get finance from the International Development Association (IDA) as well as from the Asian Development Fund (ADF). The zero-interest rate is an extreme assumption as neither of the above sources of concessional finance provides interest-free loans for an indefinite period.



been compiling lists of public investment projects, estimating the rate of return on each (GoPNG, 2010). Thus, selecting public investments with the requisite rates of return as argued in the previous section should be fairly easy. On the second, obtaining finance from the private sector for public investment projects could be problematic but accessing concessional finance, particularly when PNG is eligible for this from the World Bank and the ADB, is possible and preferable. The engagement of the European Investment Bank in PNG and the creation of Asian Infrastructure Investment Bank (AIIB) with authorized capital of US\$100 billion for lending to build rural infrastructure could be an attractive sources of cheap loans.<sup>4</sup> These loans are preferable to the private sector because the interest costs will be low and because concessional financing comes with the financier monitoring the delivery of outputs.

On the third in terms of quality deliverables, it is more than likely that the private sector will be involved in the projects. Large construction projects will require international expertise and at least some of the building materials (i.e. steel, concrete, etc.) will be sourced from abroad. Technical expertise from the multilateral developing banks (MDBs) could be used to monitor and evaluate the deliverables. The financing for a public investment project could be acquired on a competitive basis from one of the 3 MDBs, the expertise from the other two could then be used to audit the quality and timeliness of the deliverables, while the actual construction could be outsourced to the private sector. The ADB for example prides itself as the bank that ‘pours concrete’ while the World Bank claims expertise in delivering social outcomes. Because each MDB has a brand name to protect, all are likely to deliver on their commitments.

Finally, an effective evaluation and monitoring of expenditure with the requisite sanctions for any breaches by Treasury with regards to fiscal commitments requires that both the Parliament and the people are kept informed on the use of the loans. Such transparency would accord with the basic principle of democratic governance. The arrangements would be based on the principle that, in PNG’s case, institutional transparency and accountability allows PNG’s citizens to presume that, firstly, the PNG state works in their collective interest and that, secondly, should some failure of government occur, then the arrangements permit the kind of public scrutiny that enables review and redress of government action in the public interest (Michael, 2006). PNG has a robust democracy and an active media, both of which have a role in ensuring that fiscal responsibility prevails even in the most difficult circumstances. Thus, it could be mandated that the reports from the MDB providing the monitoring and evaluation services be tabled in parliament biannually and also on the completion of an investment project and that these reports are made public. Last, the FRA would have to be amended (once more) to take into consideration the suggestions made above.

## **5. Conclusions**

Papua New Guinea is facing a rise in budget deficits and an increase in public debt to the extent that the legislated ceilings set out in the *Fiscal Responsibility Act* (FRA) as amended

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<sup>4</sup> PNG is as yet to join the AIIB.

will be breached in 2016 and for the foreseeable future thereafter. The national parliament can change the ceilings and justify this on the basis of the unanticipated falls in the price of exports and the adverse effects of the deepening drought. The Treasury has been advised by the International Monetary Fund to cut expenditures: this has been done, but is unlikely to see an improvement in the fiscal position soon. Rather, further cuts to public expenditure as advised by the IMF runs the risk of reducing access to basic services which in turn will have a detrimental impact on GDP and on the already poor social indicators of development. I have argued that judicious increases in public investments financed with concessional loans from multilateral development banks have the potential to put public finance on a path to fiscal sustainability whilst improving developmental outcomes.

Using debt finance for public investments so as to attain fiscal sustainability over the long term requires three necessary ingredients: (i) projects with high rates of return are selected; (ii) finance at the lowest possible cost is accessed; and, (iii) quality deliverables are produced. Data on the first exists within the National Department of Planning and Monitoring. On the second, PNG is eligible for concessional finance from multilateral development banks. And on the third, technical expertise from the non-financing MDBs could be used for monitoring and evaluation.

But what guarantee that the loans so acquired will not be wasted? The FRA was enacted and hard debt ceilings legislated therein to stop irresponsible borrowing by the government. The subtext of the IMF advice is that there is waste within the budget to the extent that basic services can be delivered whilst making significant cuts to the budget: but no such wasteful expenditures have been identified. The debt ceilings in the FRA have already been raised twice, and my simulations suggest that this may not be the end of the revisions. There is little point of having an anchor such as a debt ceiling if it is shifted arbitrarily and frequently. Clearly no parliament can constrain future governments from changing the Fiscal Responsibility Act (FRA), and the debt ceilings mandated therein but mechanisms can be built within the legislation to reduce arbitrary changes. Thus the challenge is to redesign the FRA such that it provides an anchor to debt levels whilst providing the flexibility when desperately required.

Policy credibility however demands that the limits put in place are adhered to. Difficult times demand amendments to the debt limits, and doing so will be to the cost of the credibility of the FRA. This is not a new problem in economics: there is a trade-off between the competing benefits of commitment and flexibility (Dixit, 1998, p. 66). Setting hard legislated limits on public debt face the policy dilemma of having simple rules versus allowing for discretion, particularly given unforeseen eventualities. Policy credibility is acquired by making the limits difficult to change but this is done at the price of losing the flexibility to react to unforeseen shocks (Alesina & Perotti, 1994).

Can we have credible debt policy with flexibility for times of need? A compromise to the debt ceilings in the FRA would be one where debt ceilings are set subject to pre-specified contingencies. The policy challenge is one of prescribing such contingencies and the means to returning to the limits when conditions normalise. Such rules however have to be simple and conditioned on few and clear contingencies (Dixit, 1998).

The institutional challenge therefore is recognising that it takes time to build the processes yielding the kind of transparency and accountability required to gain the trust of PNG's citizens. The approach argued here is akin to tying the government's hands to a debt ceiling, but providing the necessary manoeuvrability under mandated transparency during turbulent times. Contemporary PNG may constitute such turbulent times. And transparent and accountable management arrangements leveraged from PNG's democratic institutions could encourage governments to manoeuvre in a fiscally responsible way.

## References

- Alesina, A., & Perotti, R.** (1994). *The political economy of budget deficits*. Retrieved from National Bureau of Economic Research, Cambridge, USA.:
- Alesina, A., & Tabellini, G.** (1990). A positive theory of fiscal deficits and government debt. *The Review of Economic Studies*, 57(3), 403–414.
- BPNG.** (2016). Monthly Economic Review, February 2016 (Vol. 2). Port Moresby: Bank of Papua New Guinea.
- Chand, S.** (2002). *Deficit bias and debt accumulation to economic crises in Papua New Guinea*. Paper presented at the Kumul Students International Conference, Australian National University, Canberra.
- Dixit, A. K.** (1998). *The making of economic policy: A transaction-cost politics perspective*. The MIT Press.
- Fearon, J. D.** (2003). Ethnic and cultural diversity by country. *Journal of Economic Growth*, 8(2), 195–222.
- Gibson, J.** (2012). *The Household Income and Expenditure Survey 2009/10*. University of Waikato.
- GoPNG.** (2010). *Papua New Guinea Medium Term Development Plan*. Port Moresby.
- Hall, R. E., & Jones, C. I.** (1999). Why Do Some Countries Produce So Much More Output Per Worker Than Others? *The Quarterly Journal of Economics*, 114(1), 83–116.
- IMF.** (2015). *Papua New Guinea: 2015 Article IV Consultation*. Retrieved from Washington, DC:
- Michael, E. J.** (2006). *Public policy: the competitive framework*. Melbourne: Oxford University Press.
- Neumayer, E.** (2003). Beyond income: convergence in living standards, big time. *Structural Change and Economic Dynamics*, 14(3), 275–296.
- Olson, M.** (1996). Distinguished Lecture on Economics in Government: Big Bills Left on the Sidewalk: Why Some Nations are Rich, and Others Poor. *The Journal of Economic Perspectives*, 10(2), 3–24.
- PNG.** (2016). 2016 Annual Domestic Debt Issuance Plan. Papua New Guinea Department of Treasury. Available at [http://www.treasury.gov.pg/html/public\\_debt/files/2016/2016%20Annual%20Domestic%20Debt%20Issuance%20Plan%2026%2002%202016\\_final.pdf](http://www.treasury.gov.pg/html/public_debt/files/2016/2016%20Annual%20Domestic%20Debt%20Issuance%20Plan%2026%2002%202016_final.pdf)
- Psacharopoulos, G.** (1985). Returns to Education: A Further International Update and Implications. *The Journal of Human Resources*, 20(4), 583–604. doi:10.2307/145686
- World Bank.** (2016). Papua New Guinea: Overview. Available at <http://www.worldbank.org/en/country/png/overview>