

Deficit bias and debt accumulation to economic crises in Papua New Guinea

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Since independence was gained in 1975, Papua New Guinea has witnessed three liquidity crises and several changes in governments, prime ministers, and scandals ranging from the Sandline Affair to the Public Officers' Superannuation debacle of 1997. Given its rich resources, this middle-income developing economy has performed well below its potential. With a low population density of 9 persons per square kilometre and rich mineral endowments, the developmental record over the post-independence period has been poor; this is particularly apparent relative to that of neighbouring countries in Asia.

Several reasons may be given for this poor performance. This paper argues that one of the major reasons for the poor record on development is to do with poor macroeconomic management. The three liquidity crises faced in the 1990s, several near misses, and yet another impending crisis in mid 2002 are evidence of such mismanagement. This paper argues that a strong deficit bias in fiscal policy has seen public debt rise from zero at independence to 45 per cent by 1990 and 66 per cent by 1999—the most recent period for which published data is available. There is little hope of debt levels stabilising while the incentives driving this process remain. The high debt levels and the rising cost of servicing such debt has raised the

frequency of fiscal crises, an issue likely to be of increasing concern to policymakers and international financial institutions who carry the bulk of the responsibility for rescuing the situation. Monetary policy, in contrast, has remained conservative and without an inflation bias. This contrast lends support to the view that differing incentives are present in fiscal *vis-à-vis* monetary policy; central bank independence is a core part of the explanation.

Table 1 Basic economic indicators for Papua New Guinea

	Papua New Guinea
Endowments	
Population (m)	5
Labour force	2
Land area (km ²)	453
Population density (people per km ²)	9
Fresh water (m ³ per capita for 1996)	181,993 (annual harvest 0.1%)
Income, level and distribution	
GDP (US\$bn, for 1997)	5.165
GNP per capita in \$1997 (PPP adjusted)	970 (2390)
Gini index	50.9 (for 1996)
Expenditure share of top 10 percent of population	40.5 (for 1996)
Factor prices	
Minimum wages	Yes
Interest rate for loans (2001) ^a	17.3
Indicators of quality of life	
Life expectancy at birth	58
Adult illiteracy	37
<i>Population below the poverty line (per cent)</i>	
Rural	10 (data for 1996)
Urban (data for 1993)	32 (data for 1996)
National (popln weighted)	30.2
Structure of production (per cent of GDP) (data for 1997)	
Share of agriculture	26
Share of industry	40
Share of services	33

^a this is the weighted average rate as reported by Bank of Papua New Guinea (2002).

Source: World Bank, 1999. *Papua New Guinea: improving governance and performance*, Report No. 19388-PNG, World Bank, Washington, DC. Bank of Papua New Guinea, 2002. *Quarterly Economic Bulletin*, Port Moresby.

The Papua New Guinea context

With a per-capita income of US\$756 (in 1998) and an average life expectancy of 58 years (in 1996, the most recent year for which data available), Papua New Guinea is classified by the World Bank as a middle-income developing economy (Table 1). The mainstay of the economy includes mining and agriculture. The principal export commodities as of 2001 were logs (1.5 million tons), palm oil (515,000 tons), copra (71,000 tons), coffee (66,000 tons) cocoa (48,600 tons), gold (57.7 tons), copper (158,300 tons), and crude oil (19,400 barrels) (Duncan 2001). The bulk of the population is young, with children under the age of 15 comprising some 45 per cent of the population. Formal sector employment accounts for less than 10 per cent of the working-age population, and the majority of the rest of the population is engaged in subsistence production.¹ Crime and lawlessness in urban Papua New Guinea has been increasing over time, and the environment for investment and job creation has consequently been poor (see Chand and Levantis 2000). Duncan and Lawson (1997), using analysis based on data collected in a survey of business enterprises, conclude that law and order is the single biggest impediment to the growth of private enterprise. The labour market was deregulated in 1992, but job growth has continued to lag behind

Figure 1 **GDP levels and debt as a share of GDP**

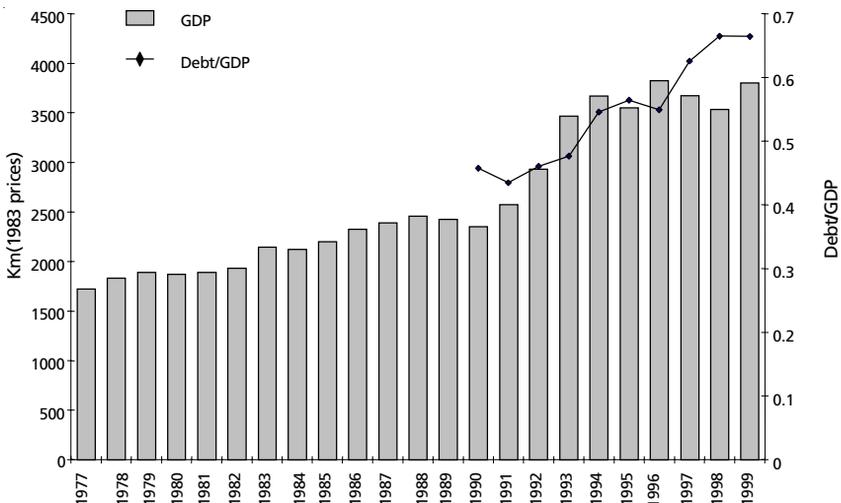
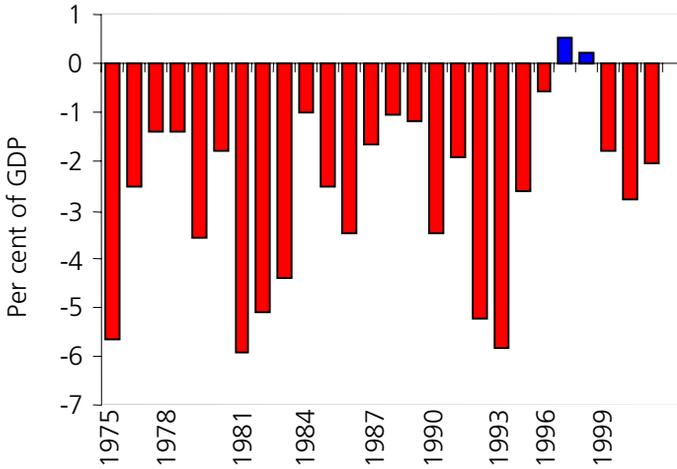


Figure 2 **Budget deficits (per cent of GDP)**



expansion of the workforce, giving little respite to the growing problems of urbanisation and crime.

Growth in GDP at 3 per cent per annum during the 1980s was only marginally ahead of the 2.2 per cent rate of population growth, implying a close to stagnant per-capita income. In the 1990s growth of output increased to approximately 5 per cent per annum and the rate of population growth to 2.7 per cent, per-capita income rose on average by 1.3 per cent annually.² While GDP per capita rose slowly over the 1990s, the level of annual production gyrated wildly (Figure 1). The entire post-independence period, with the exception of two consecutive years, has been characterised by persistent budget deficits (Figure 2).³ These deficits have driven the increase in public debt, which had as of 1999 reached 66 per cent of GDP; given unavailability of published figures on debt since then, simple extrapolations based on published data on deficits suggest that debt as of 2001 would have reached approximately 70 per cent of GDP.⁴ This is not a sustainable situation, particularly when interest payments on debt in 2001 amounted to approximately 18 per cent of recurrent expenditure—equal to 54 per cent of the development budget. At the annual rate of increase in debt of 10 per cent, and with GDP growing at less than half this rate, debt levels would reach 100 per cent of GDP by 2008. Alternatively, for the debt–GDP ratio to fall to the developing country average of 40 per cent by 2010, a GDP

growth of 5 per cent above the rate of growth of debt is required. This indeed is no mean task given the prevailing reality.

Each of the three liquidity crises arose out of the government's inability to roll over its debt. These liquidity crises in turn led to sharp spikes in domestic interest rates. The magnitude of these interest rate spikes increased with each crisis, peaking at 28 per cent on treasury bills as of August 1999 (Figures 3 and 6). In sharp contrast to the persistent deficits and rising public sector debt, inflation in Papua New Guinea has remained low and relatively stable in the post-independence era, except for periods associated with the liquidity crises. Inflation spiked in 1980, with the CPI increasing 12 per cent, but otherwise remained within single digits from 1975 until 1994 (Figure 4). Since then, it has jumped to double digits, with a low of 4 per cent in 1997 resulting from a sharp contraction in demand due to the severe drought of that year. This discrete jump in inflation is not a coincidence, given that the kina was floated in late 1994. The jump in inflation was brought about by the sharp depreciation of the currency. The float of the kina was inevitable because of Papua New Guinea's falling levels of reserves, which as of October 1994 had reached K33 million—equivalent to one week of import cover (see Figure 5). The kina has since

Figure 3 Interest rates on PNG and Australian treasury bills

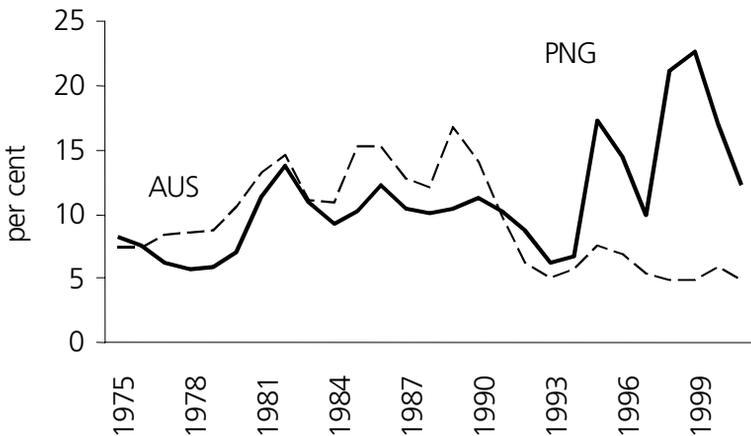
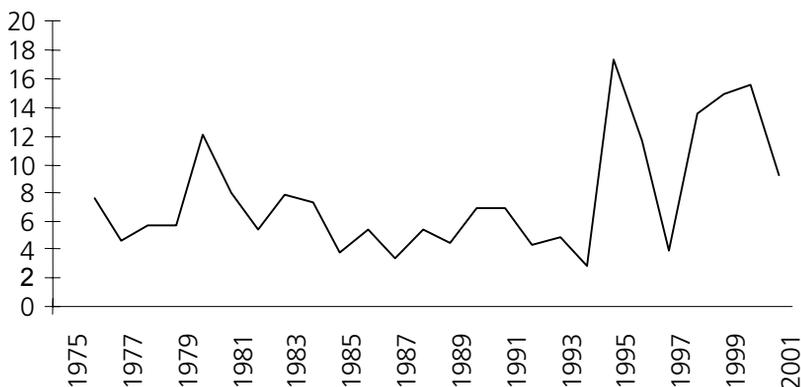


Figure 4 **CPI inflation, 1975–2001**

continued to depreciate while foreign reserves have taken the brunt of movements on the capital account. This contrast in terms of a lack of inflation bias in monetary management *vis-à-vis* a deficit bias in fiscal management provides useful information in identifying the drivers of crisis.

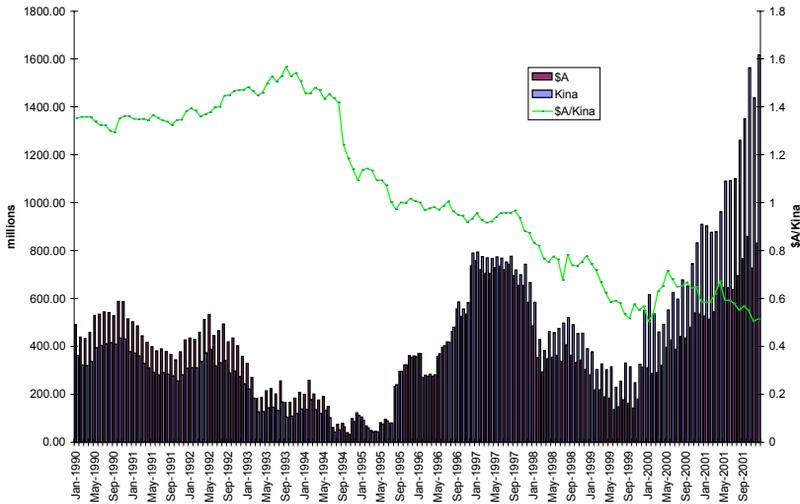
Deficit bias and debt accumulation leading to crisis

The cause of the three crises of the 1990s can be traced back to persistent budget deficits leading to rising public sector debt. The debt has culminated in crisis on occasions when the state has had problems funding its debt roll-over with severe interest rate penalties and/or via monetisation of such deficits, which in turn has sharply reduced foreign reserves and/or depreciated the exchange rate, leading to inflation. Papua New Guinea has run budget deficits in all but two years since 1975 (Figure 2). The deficit reached a maximum of approximately 6 per cent of GDP whereas the surpluses of 1996 and 1997 were small and equal to 0.54 and 0.22 per cent of GDP respectively. Persistent deficits translate into rising debt with accompanying inflationary consequences.

Public sector debt has a mechanical association with deficits, as depicted in Equations 1 and 2.

$$\dot{D}(t) = [G(t) - T(t)] + r(t)D(t) \quad (1)$$

Figure 5 **Foreign reserves and exchange rate (monthly, 1990–2001)**



Where D denotes debt, G denotes government expenditure, T denotes tax receipts, r denotes the interest rate on public debt, a dot over D denotes its time derivative, and t denotes indexing time with all variables expressed in real terms.

Equation 1 states that the rate of change in the stock debt equals the difference between government purchases and revenues (the primary deficit), plus the real interest on existing debt. Translating Equation 1 into conventional measures of budget deficits, as reflected in the national accounts, warrants explicit consideration of inflation, may be expressed as

$$B(t) = P(t)[G(t) - T(t)] + i(t)P(t)D(t) \tag{1a}$$

where B denotes the nominal deficit, P denotes the price level, i denotes the nominal interest rate and the rest of the notations as before. Simple manipulation of Equation 1a after noting (the Fischer identity) that $i = r + p$ gives

$$\frac{B(t)}{P(t)Y(t)} = [\hat{D} + \pi(t)] \frac{D(t)}{Y(t)} \tag{2}$$

where p denotes the rate of inflation (which is defined as being equal to the difference between the nominal and real interest rate), Y denotes real GDP,

and the hat over D denotes its growth rate.⁵ Equation 2 shows two important, yet mechanical, relationships: first, a positive linear relationship between budget deficits as a share of GDP and debt as a share of GDP; and second, the deficit and inflation link. This latter relationship is most evident under steady-state assumptions when a given debt is rolled over indefinitely at a constant interest rate such that Equation 2 simplifies to

$$\frac{\hat{B}}{PD} = [r + \pi] \tag{2a}$$

The treatment so far has been on flows and ignores decisions to smooth taxing and expenditure decisions of governments across time periods. Translating Equation 1 into its stock equivalent gives the government's budget constraint as

$$\int_{t=0}^{\infty} e^{-R(t)} [T(t) - G(t)] dt \geq D(0) \tag{3}$$

where $R(t)$ denotes the discount rate applicable at time t to convert values to time 0. The budget constraint in Equation 3 simply states that primary surpluses have to be large enough to offset the initial debt such that the possibility of the state rolling over its debt indefinitely as depicted in Equation 2a is disallowed.⁶ We now confront PNG data with the above identities to make inferences about the sources of the crises of the 1990s.

Empirics

The total deficit is decomposed into the primary deficit and that due to interest payments as shown in Equation 1 above, all expressed as shares of GDP (Table 2). Two measures of the primary deficit are provided—one that includes foreign grants and the other without foreign grants. This distinction is important for two reasons. First, foreign grants are large, having averaged 4.36 per cent of GDP in the decade with a peak of 8.65 per cent in 1991 and a low of 1.46 per cent in 1998. Second, such grants cannot constitute a sustainable source of revenue; hence they have a limited impact on the government's inter-temporal budget constraint given in Equation 3.

The Morauta government which took office in July 1999 was concerned about the rapidly rising debt and the stress it was creating on cash-flow management and the drag it was imposing on the growth of output. The punitive effects of rising debt on interest rates, inflation and the kina were already being felt by the time the new administration took office. The White

Paper on privatisation argued for a strategy of selling poorly-performing state-owned enterprises to liquidate debt and thereby improve the net worth of the state whilst reducing pressure on inflation, interest rates and the kina. This strategy, despite the best of intentions, was stalled by other competing considerations. Hence, much of what was articulated in the White Paper did not eventuate.

The strategies open to the state to achieve the objectives outlined in the White Paper remain valid. Improving the net worth of the state through privatisation involves improving the balance sheet by reducing non-performing assets and hence liabilities such that capital worth is improved.

Strategies to reduce debt

First, asset sale (privatisation) amounting to $S(0)$ improves the stock of primary surplus as reflected in the left hand inequality in Equation 3 by $A(0)$, the magnitude by which the sale proceeds exceed the revenue stream from keeping the enterprise

Table 2 **Composition of budget surplus (+)/deficit (-) as percentage of GDP**

Year	Primary surplus		Interest payments	Total surplus ^a (C)	Total debt (D)
	With foreign grants (A)	Without foreign grants (B)			
1990	0.27	-6.95	3.53	-3.26	45.75
1991	1.44	-7.21	3.23	-1.79	43.45
1992	-2.06	-6.71	3.42	-5.48	46.06
1993	-2.35	-6.13	3.26	-5.60	47.66
1994	1.12	-1.92	3.44	-2.32	54.59
1995	4.07	0.05	4.64	-0.57	56.45
1996	4.27	1.80	3.74	0.54	54.94
1997	4.43	2.55	4.21	0.22	62.55
1998	2.56	1.11	4.33	-1.76	66.48
1999	1.81	-3.62	4.46	-2.65	66.44
2000	2.39	-2.93	4.42	-2.02	

^a Includes foreign grants.

Notes: total deficit = primary deficit-interest payments; foreign grants = a - b.

Source: Figures calculated using the following data sources: BPNG (various issues), for current GDP, Table 10.7; for constant price GDP, Table 10.8; Public debt outstanding, Table 8.3; Fiscal operations, Table 8.1.

$$A(0) = S(0) - \int_{t=0}^{\infty} e^{R(t)} \Pi(t) dt \quad (4)$$

where $P(t)$ denotes net profits from the enterprise at time t . Some degree of capital market imperfection or managerial inefficiency has to exist to guarantee A to be non-zero, otherwise an asset sale to reduce the current deficit does not affect the government's budget constraint. This was the prime consideration in the proposed privatisation. Efficiency considerations, however, may still support privatisation even when $A(0)$ is zero. The criterion in Equation 4 is a purely financial one. In the case of several state-owned enterprises in Papua New Guinea, net losses were a permanent feature; offloading these even at zero price would improve net worth. From a social perspective, the risk of privatisation was in transferring monopolies from the state to the private sector, even though there is sufficient evidence to suggest that state-owned monopolies are as prone as private sector monopolies to abuse their market power. The appropriate privatisation strategy is to ensure competition through regulation. In circumstances where the state considers the provision of services to be necessary, lump-sum transfers and purchases via competitive tendering are to be employed. In fact, a community service obligations (CSO) study was undertaken, but the implementation of the recommendations from this study were also delayed due to competing considerations.

Second, can the government roll over its debt indefinitely? This is only possible if the debt-GDP ratio does not blow out. Allowing the steady state of this ratio to be a constant implies that GDP growth has to at least equal the rate of interest. That is, for D/Y to approach a constant, the economy has to grow at a rate, g , that is at least equal to the rate of interest, r . Meeting this constraint, as pointed out above, requires GDP to grow by at least 5 per cent per annum for the decade to 2010—an extremely unlikely proposition given present circumstances.

Why persistent and large deficits?

Budget deficits are an indispensable tool of macroeconomic management. Together with monetary instruments, they provide the mechanisms for active stabilisation. Deficits may be optimally chosen so as to minimise distortions arising from *ad valorem* income taxes. This argument, first made by Barro

(1979), provides a rationale for tax smoothing which, combined with consumption smoothing, leaves deficits and surpluses as a natural outcome from simultaneous consumption and tax smoothing. Under uncertainty, deficits arise due to unpredictable expansions in expenditure such as those that arose from the Bougainville conflict and the recession that followed the severe drought in 1997–98. These shocks, however, are temporary and therefore cannot form the basis for the persistence of primary deficits as evidenced in Figure 2. The above observation counters the argument that deficits in Papua New Guinea were optimally chosen and lends considerable support to the argument that there is a deficit bias in fiscal policy. We next turn to political economy explanations that view the budget as a mechanism for resolving conflicts amongst competing interests.

Political economy theory assumes that voters and politicians maximise their objective functions given resource and information constraints. This literature also considers how existing political processes can produce inefficient outcomes. An obvious finding from this research is that incomplete knowledge of the effects of alternative policies by one or a combination of players can lead to inefficient outcomes. For example, individuals see the immediate effects of lower taxes and increased government spending, but the costs of such policies in terms of lower future government expenditures and higher future taxes may not be that obvious to all participants in the political process.⁷ This may lead to a deficit bias, but such bias can only be sustained as long as some players remain less than fully informed about the true costs of the policies. This suggests a crucial role for information intermediaries, including the media and parliament in information dissemination. No doubt incomplete information may be a candidate for inefficient social outcomes resulting from the existing political processes, but it cannot be the sole or even the principal cause of the deficit bias given the robust media and parliamentary system of government in Papua New Guinea.

There is some anecdotal support for the proposition that the deficit bias and debt accumulation of past administrations was driven by strategic considerations. Several trust funds, including the recent privatisation trust fund, were created solely to quarantine funds from future parliaments so as to prevent 'waste' of such resources.⁸ Incumbent governments may also run large deficits and accumulate debt in the process in order to prevent future governments from engaging in activities inconsistent with the priorities of the administration in power. The incentives for such over-expenditures are particularly strong when there is a high turnover of political parties and

individuals in power and when enforceable agreements cannot be reached about the long-term objectives of policy. In the case where half of the sitting members of parliament fail to retain their seats in subsequent elections and where prime ministers change as frequently as they have in the 1990s, the strategic motivations for a deficit bias must be strong. This explanation, however, is likely to be only a (small) part of the story.

There is some empirical support from cross-country analysis for the proposition that weak governments, defined as those comprising multiparty coalitions and having short lives, tend to have larger deficits than single-party governments.⁹ The theoretical underpinning of the causal link from weak governments to a deficit bias is part of ongoing research, but one candidate that stands out in the current context draws on the 'common pool' problem. Briefly, the common pool problem arises when several players, each of whom represents non-overlapping constituencies (interest group), comprise a coalition and bargain over the allocation of overall state revenues (the common pool) so as to maximise their own support base.¹⁰

Anecdotal evidence over the 25 year history of Papua New Guinea provides considerable support for a strong deficit bias and consequent rapid accumulation of debt for this reason. That is, the combination of weak governments and the common pool problem has been the prime reason for the strong deficit bias, accelerating debt accumulation and repeated crises. A highly stylised caricature of the repeated crises in Papua New Guinea may be made as follows: weak governments resulting from elections won on narrow and non-overlapping constituencies deliver political leadership with strong incentives to reward their support base with public resources. This, via the common pool problem, leads to a deficit bias. A hard landing for the economy is inevitable once the public sector is unable to roll-over its debt or can do so only with considerable penalty. A surprising regularity in this sequence of events can be seen with the length of the cycle approximately three years and with September the most likely month for the hard landing (Figure 6). The amplitude of the crises, particularly as shown by the uncovered interest parity condition, has increased with each crisis suggesting a rising toll from such hard landings.

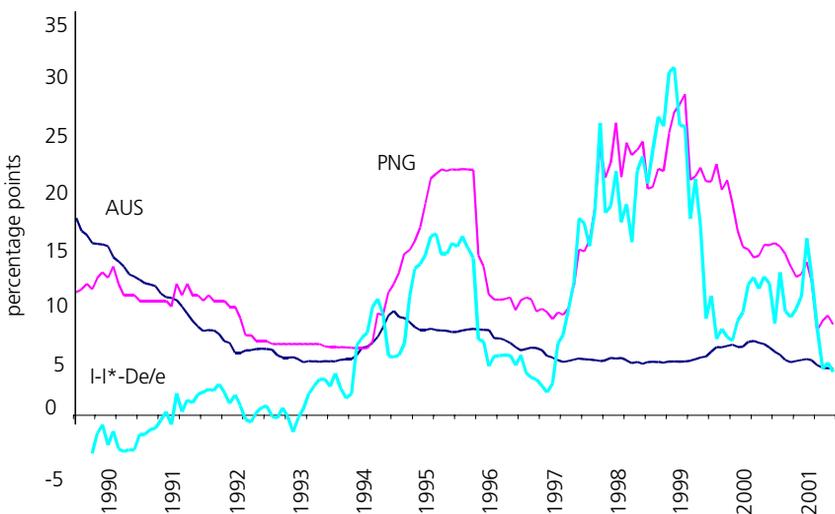
The economic impact of crises and crisis relief

Economic crises play out in a familiar sequence of four steps. First, the exchange rate collapses and domestic interest rates surge; second, there is

an upsurge in bank failures and company bankruptcies as their capacity to service debt falters; third, a domestic recession follows as domestic demand slumps; and fourth, there is a political reaction to the slump including civil unrest and anti-foreign sentiments.¹¹ During the period of Papua New Guinea's fixed kina policy, foreign reserves fell during fiscal stress. Since the float of the kina, both foreign reserves and the exchange rate have fallen during spells of fiscal stress. Interest rates rose sharply in each episode with bankruptcies most severe during the 1999 episode when interest rates on 180-day treasury bills reached 28 per cent. Banking crisis was avoided because the majority of commercial banks were foreign owned. Economic slump and anti-foreign sentiments have been felt following each crisis, as suggested by the sequence above.

Budget deficits financed via debt redistribute income from future generations to present generations, as shown by the government's budget constraint in Equation 3. Such financing places upward pressure on interest rates (see Figure 6), which in turn lowers the capital stock of the economy and depresses wages, thus redistributing income from workers to owners of capital. When deficits build to unsustainable levels, a crisis eventuates and the economy is suddenly forced to make difficult decisions. An extreme

Figure 6 Interest rates, 1990–2001



action is to default on the debt. Unlike households, governments cannot be threatened with bankruptcy or their assets repossessed when such default takes place. This is not to suggest that default on public debt is costless to the government since it significantly raises the cost of selling any future debt—who would purchase paper promises of future repayment from a government that has not kept such a promise in the past? Default on domestic debt amounts to a transfer from bondholders (generally, institutional investors) to individual taxpayers, who on average have lower incomes. This implies that such transfers may be equity-enhancing. Default on foreign debt is a transfer from foreign to domestic residents with attendant costs of a sharp rise in sovereign risk that, in turn, is reflected in domestic interest rates. A debt default drastically reduces the ability of any future government to raise revenues from this source. This threat constitutes a significant discipline on fiscal policy, provided central bank independence is maintained. Otherwise, the state may still monetise the debt, leading to a loss of monetary instruments for demand management.

The most pronounced economic effects of a fiscal crisis, as seen by the public, is the disruption of markets, particularly those for capital. The experience in each of the crises in Papua New Guinea attests to this—in the period prior to the float of the kina, interest rates soared to unprecedented levels, driving several businesses to the wall and cutting deeply into the profitability of surviving enterprises. In the process, workers lost jobs, capital controls put in place to protect foreign reserves hampered international trade, and fiscal austerity measures forced onto the state caused a sharp decline in provision of public services, including primary healthcare and education.

Given that bond-holders suffer the greatest losses following a debt default, they have strong incentives to exit before the crisis eventuates. Such expectations generate dynamics that can catch policymakers by surprise. Imperfect information, together with the self-fulfilling nature of crisis, induces herd behaviour such that speculation and otherwise innocuous information may lead to a sudden dumping of government bonds and/or refusal to repurchase any that may fall due. Hence, little forewarning is received prior to the eventuation of a crisis—all a government can do to minimise the chances of such speculative attacks is to lower its vulnerability to crisis.¹² The most obvious way to decrease vulnerability is by ensuring levels of debt that are sustainable and the interest rate is internationally competitive. This in turn means that the inter-temporal budget constraint given in Equation 3 has to hold at all times.

Given that the current fiscal position is untenable, the Papua New Guinea government must plan and develop strategies to avoid another crisis. Having done so, the economy should be placed on a sustainable growth path. This calls for a well-planned and efficiently executed reform program.

Managing reforms

Successful reforms in developing countries have been constituted from a common set of recipes. A small team within the executive may be charged with the responsibility of identifying problems, analysing their causes, and drawing up recommendations. This design team comprises of technically competent experts and is often led by a high profile resident who commands community-wide respect. The team is appointed by the political leadership, which insulates it from political pressures while giving them latitude to think through the issues and discuss solutions and trade-offs with stakeholders and the wider community. Such a process addresses several of the initial concerns of stakeholders and is able to mitigate some of the extreme opposition to change. This model delivered major and wide-ranging reforms in Argentina, Bolivia, Chile, Indonesia and Venezuela (Grindle 2000).¹³ Approaches that seek to include stakeholders, making them an active part of reform design rather than reactive bystanders to reforms, while allowing an independent and credible design team run the process, have proved successful in long-term reform initiatives. Kumul scholars could serve this purpose well in a team led by a well-respected community elder, thereby helping in design, implementation and sustainability of reforms across election cycles. Such ownership of reforms is also in the interests of the financiers of the reform (Khan and Sharma 2001).

Major reforms are costly to undertake and hence often materialise only in a crisis situation. Much akin to the common pool problem, collective action is delayed when each interest group relies on another to incur the cost of reform while wishing to share in the benefits. If each group has the same thinking, reforms will be deferred until a crisis develops in which the potential losses to the individual leader or interest group from inaction is larger than the cost of action. The development of a crisis to galvanise support for reform is neither necessary nor sufficient. The Australian experience during the 1980s and 1990s suggests that reforms can be undertaken without a crisis, while the PNG experience over the same period suggests crisis is not sufficient to trigger long-term reforms. Reforming during a crisis

inevitably requires financial assistance, the most amenable sources for which are international financial institutions (IFIs). This is for two reasons. First, in a crisis private lenders may not have the capacity to provide an adjustment loan and, second, the loans from the private sector are likely to be more expensive than those from IFIs.

The promotion and implementation of reforms after their design is left to political masters. The political leadership takes on the tasks of reform either in response to economic crises or when their calculations suggest such reforms are palatable to the electoral majority. IFIs such as the World Bank and the International Monetary Fund have a role only in so far as their support is necessary to the design and implementation of the reforms. Prior to committing funds for reform, a responsible lender should ensure that the borrower has the capacity to repay the debt. Problems of moral hazard imply that loan conditions need to be stringent and closely monitored. In the specific case of an IFI lender, *ex post* adherence to lending conditions is less than fully credible given that the borrower is a shareholder in the IFI.

Ownership of reforms by the local leadership aligns the incentives of the borrower with those of the lender, and hence is likely to be critical for the success of reforms. Such alignment is also likely to reduce any information asymmetry between the two parties. When they borrow, private firms pledge collateral and some minimal level of equity to secure funds for investment. Such commitments provide the lender with avenues to recover the loan in the event of default, but more importantly the collateral provides incentives to the borrowers to minimise the possibility of default. In the case of sovereign debt, domestic collateral is of little value in securing credit. When such debt is taken from an institution where the borrower is also a shareholder of the institution,¹⁴ structural adjustment loans take on new dimensions over and above those relating to private debt. As an example, 'the IMF is mandated by its Articles of Agreement to extend temporary financial assistance to member countries facing balance of payments difficulties under adequate safeguards' (Khan and Sharma 2001:6).

In the absence of access to internationally-valuable collateral, the lender introduces conditions in the loan contract to prohibit the borrower from taking actions that could reduce the probability of repayment.¹⁵ The Papua New Guinea government used some of its tax income from mineral exports to raise revenues during the fiscal stress of 1994 and 1999, but the revenues raised from this mechanism were small relative to the total. Conditionality is relevant in securing credit from IFIs, but the effectiveness of these

conditions in preventing non-performance is weak 'since the borrowing country is always more valuable as a going concern' to the IFI (Khan and Sharma 2001:9). As a result, recipient countries know that in the event of non-performance the program will be renegotiated, thereby seriously limiting the credibility of any penalties for non-performance built into the loan agreement. Consequently, conditions imposed by lenders that are in conflict with local interests are unlikely to be implemented, making the alignment of interests of the lender with those of the borrower all the more important. These considerations will need to be taken into account in the design of any reform initiatives for Papua New Guinea. The chances that such an agreement would succeed *ex post* are greater when the negotiations are done before rather than during a crisis. Time for such negotiations may be quickly running out on Papua New Guinea.

The role of foreign aid

Crisis sometimes spurs reform (as in the case of Korea in the 1997–98 East Asian financial crisis and that for Mauritius 1964) and particularly so when maintaining the *status quo* could be most damaging to the economy. Failure to reform and the punitive consequences of non-action have the potential to create incentives to induce cooperation amongst diverse and disparate interests, thereby raising the chances of reform. A corollary of this argument is that foreign aid that effectively stalls a crisis, as may be the result of well-intentioned bilateral and multilateral aid, will leave the underlying causes to be addressed. Reforms that are delayed in anticipation that some other interest group, a donor for example, will bear the costs of reform also results in critically needed reforms being put off indefinitely. By securing bail-outs for Papua New Guinea in the aftermath of each of its fiscal crises, Australia may have contributed to the repeat crises of the past decade. Papua New Guinea could have been forced to default on its debt had Australia and the IFIs not come to its rescue in each case of hard landing.¹⁶

Conclusion

The current fiscal position of Papua New Guinea is not sustainable, and a crisis is inevitable unless drastic action is taken. A new government that has a view to remaining in office for the full term has strong incentives to take action to avert a fiscal crisis. The deficit bias of the past quarter century

has led to debt reaching 70 per cent of GDP and interest costs amounting to 18 per cent of recurrent expenditure or more than half of the development budget. These figures suggest that there is no room for continued fiscal excesses. This, indeed, could have been part of a deliberate strategy, and a rational response given the incentives of past governments.

The current reality may not necessarily be all bad news. The fact that there is little option other than to embark upon structural reforms in order to raise long-term economic growth may signal a promising new beginning. Such reforms often require significant investment in infrastructure and the removal of structural impediments to efficient allocation of resources. The costs of such investments are often met from IFIs, who in turn need to ensure that the loans are repaid on maturity. The risk, as adequately demonstrated by past efforts at reform, is that the reform efforts are temporary and last only until the symptoms of crisis disappear. Expectations of external support in a crisis cause action to be deferred before a crisis and stalled in the recovery phase. Hence external support, even with the best of intentions, could be counterproductive.

Microeconomic reforms are sometimes intrusive and become politicised when they are seen as being imposed from abroad. Outcome-based conditionality is one possible route to follow, but principal-agent problems will be encountered. This has been the approach taken with all of the IFI-supported reforms in Papua New Guinea. An alternative route would be to have the reforms designed at home with any needed funding being sought after the design. No doubt the most competitive funding for such reforms is likely to come from IFIs rather than commercial sources, but this approach is more likely to achieve the desired outcomes than the approaches used in the past. Policymakers in Papua New Guinea must begin working on structural reforms before it is too late. The same incentives exist for donors and 'Friends of Papua New Guinea' to support the policymakers in their efforts to position the economy on a path of sustainable growth.

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Notes

- ¹ Data on formal private-sector employment is not available, but Levantis (2000) estimates the 1994 figure to be 152,000.
- ² Data, particularly on population, is of questionable quality and hence these numbers should be interpreted with caution.
- ³ A similar picture emerges for current account deficits (Figure A.1).
- ⁴ Some 70 per cent of this debt is external and in bulk denominated in US dollars. The most serious effect of debt, however, is from risk of default on domestic interest

rates that is a function of total debt; this has been amply demonstrated by the recent experience of Solomon Islands.

- ⁵ See Romer (2002) for further details on the identities discussed here.
- ⁶ Romer (2002) claims this to be far more realistic assumption.
- ⁷ Corruption and nepotism may be interpreted in the same light in that the beneficiaries experience immediate gains while the masses do not fully comprehend the negative dynamic consequences of such action.
- ⁸ Siphoning off of proceeds from sale of state assets into private accounts would be 'waste' in that it reduces the net worth of the state (re Equation 3).
- ⁹ The initial work highlighting this observation was that of Roubini and Sachs (1989), but subsequent work, including that of Edin and Ohlsson (1991), questioned the robustness of this finding.
- ¹⁰ This is akin to people lunching together where the total bill is to be equally divided amongst the attendees. The outcome in such a case is that each attendee overspends, realising that others will share in their extravagance. When everyone acts in the same way, the lunch bill blows out (see Easterly 2001).
- ¹¹ Wade (1998) describes how this sequence of steps played out during the East Asian financial crisis of 1997.
- ¹² Athukorala and Warr (2002) offer measures of vulnerability to such crisis.
- ¹³ These were the so-called Chicago Boys and the Berkeley mafia in reforms undertaken in Latin America and East Asia.
- ¹⁴ Khan and Sharma (2001) describe the IMF as a cooperative with little recourse to mechanisms in the case of loan default except moral suasion, threat of lowering the borrower's credit rating, peer pressure, and the threat of being shut out of international capital markets.
- ¹⁵ Wade (1998) suggests that in the rescue following the Asian financial crisis of 1997, the IMF placed conditions on Indonesia that were well beyond those necessary to protect against default on the extended credit.
- ¹⁶ Conditional lending (Krueger and Rajapatirna 1999)

Figure 4A.1 **Current Account Balance, 1975–1999**

