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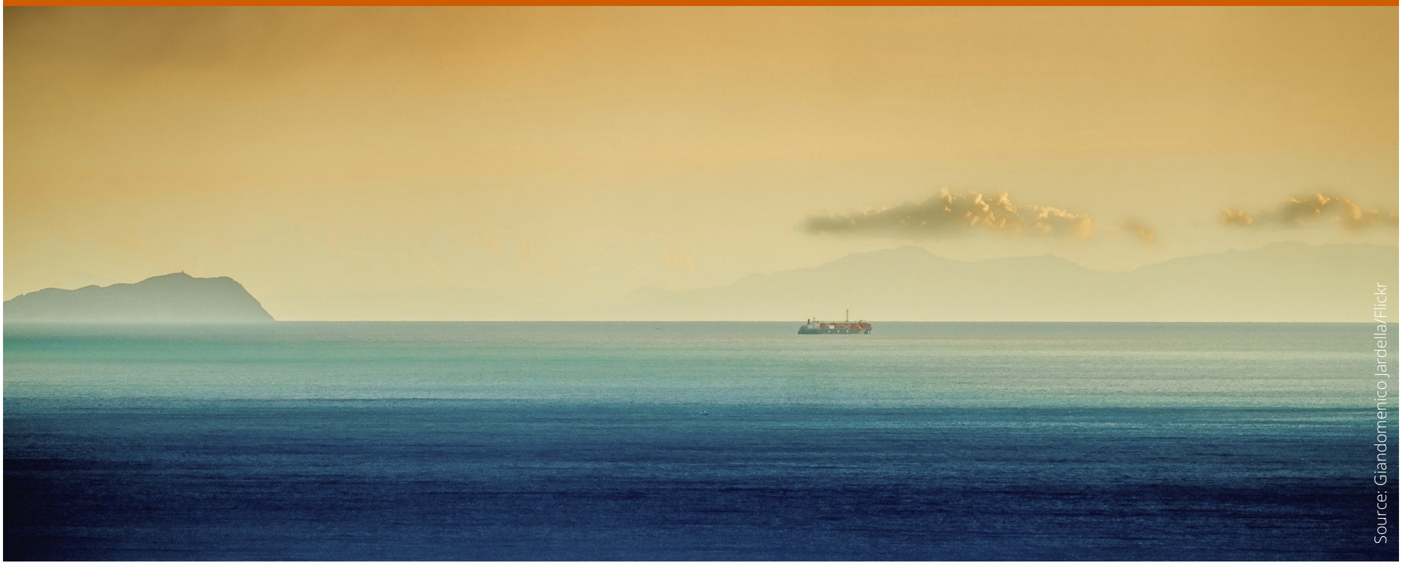
POLICY CENTRE

POLICY BRIEF 10
DECEMBER 2014



Papua New Guinea's vanishing LNG export boom

Paul Flanagan

SUMMARY

Papua New Guinea (PNG) must adjust to lower liquefied natural gas (LNG) and oil prices to avoid a crisis. The PNG LNG project is still extremely important for the country, but because of lower prices many of the benefits of the production phase of the project have vanished – probably for at least a decade. Adjustments are urgently required in fiscal, monetary and foreign exchange policies to adapt to the changed realities.

KEY POINTS

- World oil prices are now more than 35 per cent lower than at the time of the 2015 budget. This will have a direct impact on LNG revenues, since LNG prices are directly linked to oil prices.
- The fall in LNG and oil prices will reduce government revenue by over K1.4 billion in 2015 – more than 10 per cent of all revenue. Revenues in 2016 are now K2.5 billion less than expected at the time of the 2014 budget.
- PNG's expected growth rate for 2015 is now 6.9 per cent, still good but far below the budget forecast of 15.5 per cent.
- Unless the Kina is re-floated and allowed to depreciate, PNG's international reserves will fall by the end of 2015 to cover just over three months of imports. Reserves would keep falling and be exhausted by early 2017 as the balance of payments would stay in deficit.
- Without adjustment, PNG's budget deficit in 2015 will increase to 8.8 per cent. On realistic expenditure assumptions, the deficit will continue rising to well over 10 per cent. The debt to GDP ratio will increase to 75 per cent by 2017 – two and half times the maximum level in the Fiscal Responsibility Act.

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INTRODUCTION

The PNG LNG project has been transformative for PNG during its construction phase. Many jobs were created, both direct and indirect, by this massive $US19 billion project. The project has now moved into its production and export phase, where the benefits were to come from tax and dividend revenues and foreign exchange earnings. Given recent falls in LNG and oil prices, these benefits are now likely to be much reduced, at least for the next decade.

The recent sharp fall in oil prices of over 35 per cent is a major challenge for PNG, especially because the price of its LNG exports is determined by the international oil price. This policy brief outlines the impact of the recent fall in oil prices on PNG's budget, growth rates, and balance of payments and international reserves. The broad conclusions are that: there will be no tax revenue from the PNG LNG project for many years; without expenditure restraint or increased taxes, deficit and debt levels will become even more unsustainable; the 2015 GDP growth rate will more than halve; the balance of payments will be in overall deficit even with the PNG LNG project coming to full capacity in 2016; and, without a depreciation, PNG's international reserves will be exhausted in two years.

Given the real risk of crisis, the PNG government should urgently take steps to deal with the commodity price shock. At the end of its financial year for 2014, it should not spend any extra money, but instead pocket any savings from unspent allocations. In the face of such a large shock, there is a need for an urgent public debate in PNG on alternative policy responses, including on how the 2015 budget should be rewritten to avoid a spiralling deficit. PNG also needs to move back to a market-based exchange rate to provide a "shock absorber" for the economy, and find better ways to fund the deficit than printing money.

The analysis following is rather technical. An accompanying spreadsheet showing the underlying calculations is available. The analysis uses PNG government numbers for fiscal policy and GDP growth forecasts. For external balance of payments and international reserves, it uses figures from the latest IMF Article IV report on the PNG economy released on 2 December 2014 (these are difficult to collate from PNG sources).[1]

The adjustments in the analysis are kept to simple first-round effects without including any price elasticities or changes in other variables (such as exchange rates). Only one adjustment is made: LNG/oil prices are reduced, generally by 30 per cent. Assumptions are made explicit through this brief and in the accompanying spreadsheets. The IMF, BPNG and Treasury would have more information to undertake more detailed analysis – but this would not change the fundamental story below. The 30 per cent reduction is based on a conservative application of the gap that now exists between the oil price forecast at the time of the 2015 budget and current prices. LNG prices are directly linked to oil prices (through the Japanese Crude Cocktail)[2] so the reduction in LNG prices will be similar.

Figure 1 indicates the rapid slide in oil prices over the last six months of more than 35 per cent. At the time of preparing the assumptions for the 2015 PNG budget (around early October), a forecast of $US89.70 a barrel for 2015 would have looked reasonable as oil prices had only just dropped below that level. From that time, oil prices have fallen by a third. Market estimates are that the oil price will recover but only very slowly – and by the end of 2019 they would still be nearly 30 per cent lower than PNG Treasury forecasts. This price drop in a key commodity (LNG/oil) is a classic example of what economists call an "external shock".

1 Unfortunately, the IMF's report was not considered by its Executive Board (it was adopted through a time lapse procedure). Australia and other friends of PNG should have worked towards such Board consideration as the experience of other countries could have been shared.

2 This is stated on page 5 of the 2012 IMF Article IV report on PNG: "The annual output of 6.6 million tons is fully contracted to buyers from Japan, mainland China and Taiwan POC. The LNG price is linked to the oil price (Japan Crude Cocktail)."

Figure 1: Oil prices – market prices, futures and PNG forecasts

BUDGETARY IMPACT

Unfortunately, the 2015 budget removed all fiscal space for a response to the fiscal crisis created by the fall in LNG prices. As noted in my earlier blog post, the actual 2015 budget figures were neither credible nor appropriate, and that was before the fall in oil prices of more than 35 per cent from the estimates included in the 2015 PNG budget. It is difficult to determine exactly how the consequent reduction in LNG prices will flow into declines in PNG revenues. This is because tax payments and dividends depend on profits, so some allowance has to be made for operating, capital and depreciation costs. These details are difficult to obtain so are inferred from the implied tax base from the original budget figures. A second problem is the loss of transparency. The 2015 budget moved around K3.3 billion of mining and petroleum revenues off-budget with no information. With the fall in profits, and thus dividends, it is possible that even more will need to be taken from the budget, especially if off-budget costs such as the UBS loan for the Oil Search shares still have to be funded.

Finally, there is a need to relate the large increase between 2014 and 2015 in mining and petroleum taxes to the LNG project. It is assumed that taxes on existing petroleum fields remain at their current estimated level of around K200 million per annum, so that the budgeted increase in mining and petroleum taxes is due to LNG taxes. This is conservative, as profits from other mines may also fall.[3]

Enough with assumptions, what are the implications? What was already a very difficult situation will become significantly worse. Revenue losses of K1,403 million in 2015 and K1,461 million in 2016 are expected relative to the 2015 budget. There would be additional substantial losses on the value of LNG dividends that have been taken off-budget. These have not been included in this analysis but are estimated at a further K350 million on top of other impacts, such as the Oil Search shares now being worth some K600 million less than when purchased.

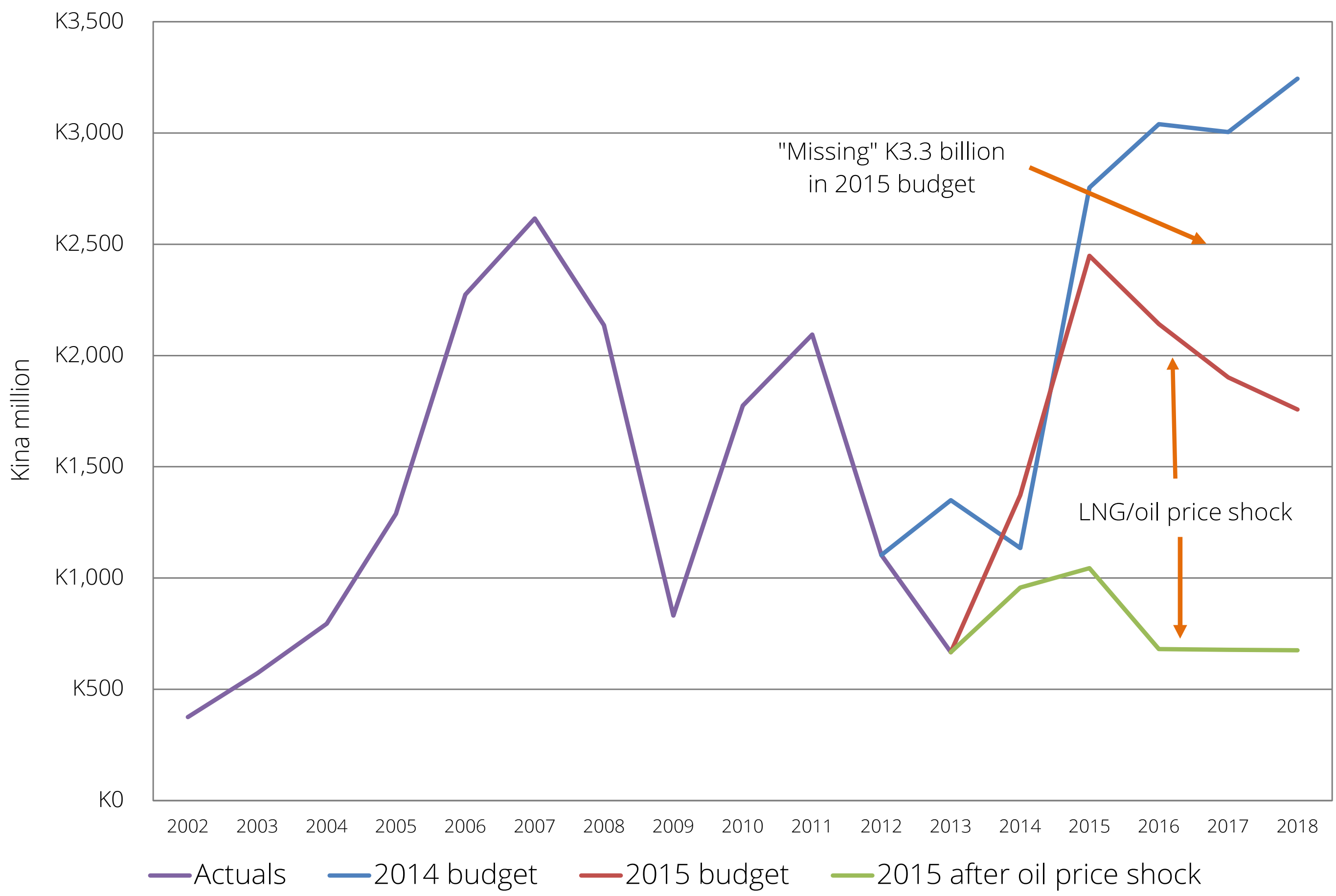
3 The fall in other PNG LNG project revenues, such as a fall in royalty payments to landowner groups, are not covered in this analysis. As these are linked to well-head value, the reductions will generally be close to the fall in LNG and oil prices – so around 30 per cent.

Based on 2015 budget figures, the PNG LNG project had an implied profit rate after depreciation and other costs of 26 per cent in 2015 and 28 per cent in 2016. These were pretty healthy profit ratios – but they disappear with the 30 per cent fall in gross revenues. The net effect is that there will be no taxable profits for the PNG LNG project for up to 10 years until depreciation allowances end. Dividends to shareholders will be less affected as they are paid from cash flows (and don't need to include the significant depreciation costs over the first ten years of the project) – so dividends are only expected to decline by 60 per cent (based on a 50 per cent profit-to-gross revenue ratio and a 30 per cent decline in gross returns).

As shown in Figure 2 below, government resource revenues have been volatile in PNG. There were boom years from 2005 to 2007. After the global financial crisis, resource revenues returned to healthy levels in 2010 and 2011. There was known to be a likely gap between the end of the good pit reserves in the Ok Tedi mine and the commencement of the PNG LNG project. The 2014 budget painted a rosy picture of expected revenues from the LNG project. By the 2015 budget, a significant part of these returns, especially LNG dividends, were moved off-budget (presumably held in the proposed Kumul Holdings). These funds amounted to K3.3 billion between 2016 and 2018. The bottom line on the right is the estimate of resource revenues after the 30 per cent fall in LNG/oil prices. Revenues return to the levels of the late 1990s and early 2000s when PNG faced another major drop in commodity prices.

What does this mean in aggregate? Figure 3 shows that, after allowing for inflation, by 2016, total PNG revenues are now expected to be slightly below K10 billion, more than K2 billion less than forecast only 13 months ago (in nominal terms, the actual fall is K2.5 billion). Through to 2018, including only the direct budget impacts, revenues will be some K5.6 billion less than

Figure 2: Resource revenues over time



forecast due to the fall in LNG/oil prices over the last three months. This requires urgent reworking of the 2015 budget to ensure that fiscal policy is put on a reasonable setting given new world prices for PNG's key export. The idea that there is a resource boom and ample new revenues to be spent no longer holds. With no real growth in revenue now forecast from 2014 out to 2018, expenditure must be brought under control and the recommendations of the tax review urgently considered. Fiscal adjustment will not be easy with growing interest payments and a growing population, but the recent strong growth in expenditure gives room for manoeuvre.

Table 1 shows the impact of the oil price shock on the bottom line of the budget. The baseline for this analysis is the 2015 budget, but adjusted to comply with IMF 2001 guidelines, as explained in my earlier blog post. Also as per that blog, we consider a more realistic expenditure outlook under which expenditure rises by 10 per cent a year in nominal terms, rather than being savagely cut in the outer years as per the 2015 budget. For both scenarios (budget and realistic) the impact of the oil shock is shown.

If budget assumptions are otherwise complied with, the 2015 deficit will be 8.8 per cent rather than the budgeted 5.3 per cent, and the debt-to-GDP ratio no longer falls below the legal cap of 30 per cent. Things are much worse under the "realistic" scenario without expenditure cuts, with the deficit reaching as high as 14 per cent of GDP and debt as high as 75 per cent of GDP, more than twice the legal limit.

Figure 3: Impact of oil price shock on total PNG government revenues (2014 prices)

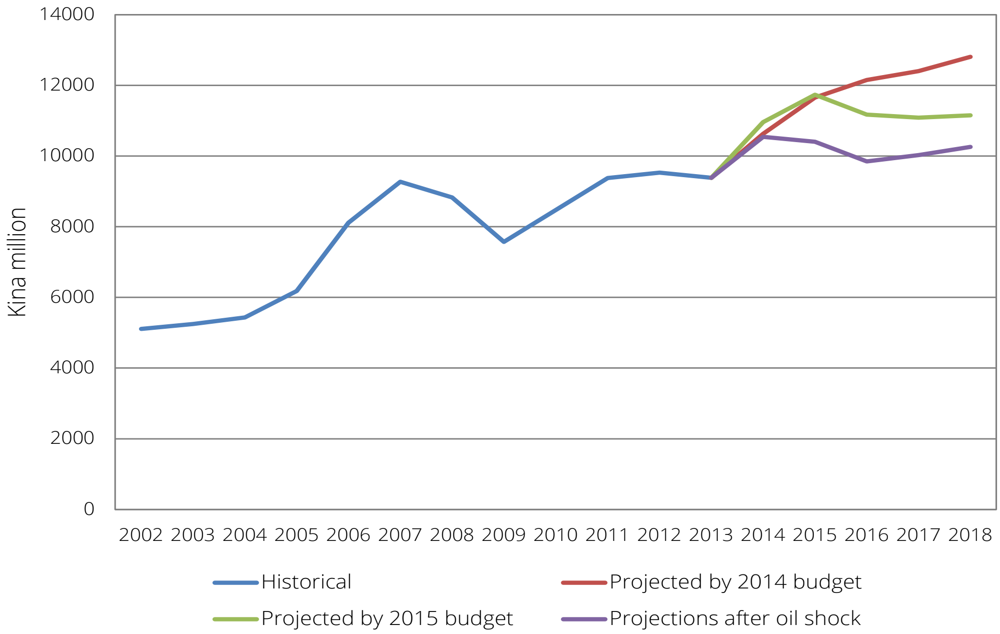


Table 1: Deficit and debt as a result of the oil shock under two different scenarios (% GDP)

	2013	2014	2015	2016	2017	2018	2019
Deficit (% GDP)							
2015 budget	6.7%	8.0%	5.3%	2.5%	0.0%	0.0%	0.0%
2015 budget with oil shock	6.7%	8.1%	8.8%	5.6%	2.2%	1.9%	1.7%
2015 budget "realistic"	6.7%	8.0%	5.3%	7.7%	9.3%	10.6%	11.6%
2015 budget "realistic" with oil shock	6.7%	8.1%	8.8%	11.3%	12.3%	13.2%	14.0%
Debt (% GDP)							
2015 budget	34.6%	35.5%	27.8%	28.0%	26.6%	25.2%	23.6%
2015 budget with oil shock	34.6%	36.0%	33.5%	36.2%	36.3%	35.9%	35.1%
2015 budget "realistic"	34.6%	35.5%	31.6%	36.6%	44.2%	52.4%	60.6%
2015 budget "realistic" with oil shock	34.6%	36.0%	37.5%	45.6%	55.2%	65.0%	74.5%

Note: All figures as per 2001 IMF guidelines. The "realistic" scenario allows 10% nominal growth in the outer years. For more details, see this blog.

IMPACT ON PNG'S GROWTH RATE

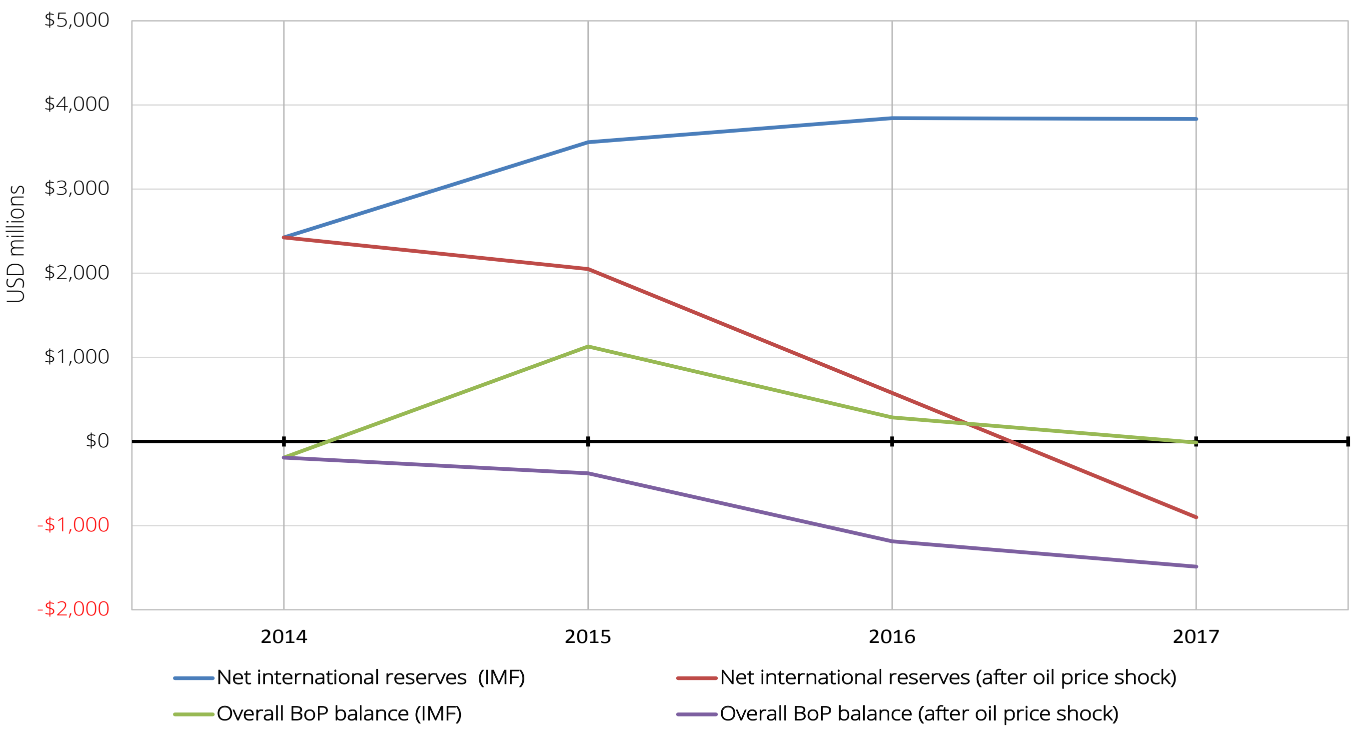
The change in the value of PNG's major new export inevitably also affects the measured size of the economy or GDP. This can be calculated by reducing the value of oil and gas extraction shown in the GDP table (Table 1) in Volume 1 of the 2015 budget documents. Reducing the level by 10 per cent in 2014 (as the fall in oil prices occurred late in 2014) and by 30 per cent in 2015 leads to revised growth forecasts of 7.0 per cent in 2014 and 6.9 per cent in 2015, down from 8.4 per cent and 15.5 per cent respectively. These falls are built into the analysis above. The PNG LNG project is extremely important for PNG. However, its importance has been diminished by the new commodity price outlook.

IMPACT ON BALANCE OF PAYMENTS AND INTERNATIONAL RESERVES

Table 3 of the IMF's recent 2014 Article IV report provides some detail on PNG's balance of payments. The conventional view is that PNG LNG exports would have returned the overall balance of payments to a surplus. This would have meant international reserves would have started increasing again. PNG LNG exports appear to account for around 50 per cent of the forecast $US10 billion in PNG's resource exports in 2015. The net effect of the assumed 30 per cent fall in LNG prices is to reduce the value of total exports by around 15 per cent. The impact of this is shown in the graph below.

The very top line shows the original forecast for an increase in PNG's net international reserves from $US2,427 million in 2014 to $US3,845 million by 2016. Allowing for the fall in oil prices, net international reserves are expected to fall to $US2,049 million in 2015, covering just over 3 months of imports of goods and services. Reserves would keep falling below this critical level and PNG would be out of foreign exchange by early 2017. This is because the original forecast had the overall balance of payments with large surpluses in 2015 and 2016. This would no longer be the case with lower oil prices, as is shown by the lower two lines. Clearly, given the need to have some level of import cover, something has to happen soon. Otherwise, PNG will be going to the IMF or another country seeking a large bail out.

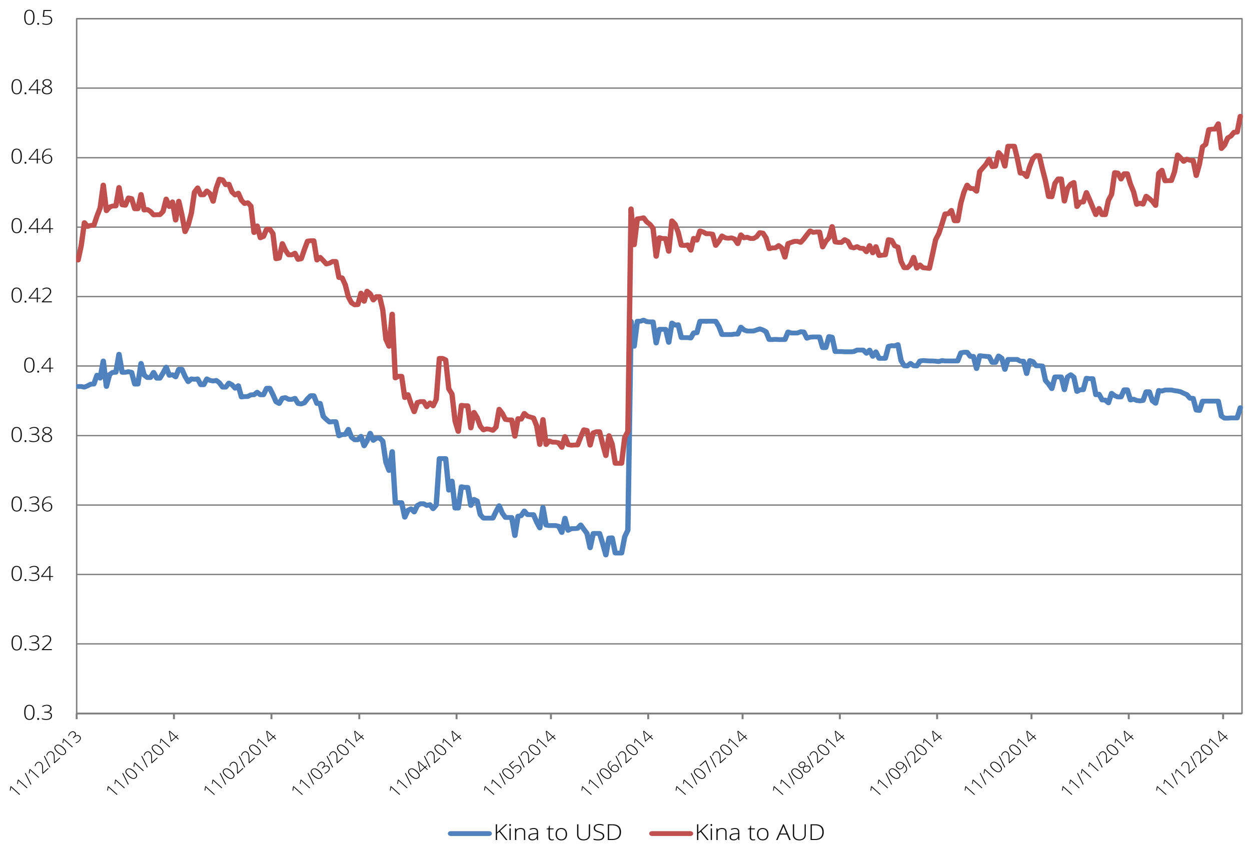
Figure 4: Impact of oil price shock on overall BoP balance and net international reserves



PNG'S EXCHANGE RATE

A commodity exporter such as PNG can use the exchange rate as a buffer to deal with sudden drops in mineral prices. Indeed, a market based exchange rate can be more important for dealing with volatility in resource prices than a sovereign wealth fund. Other commodity exporters are allowing their exchange rates fall relative to the US dollar to deal with price falls. As noted in an earlier blog, PNG moved away from a market based exchange rate on 4 June 2014. This had significant impacts on poor exporters in PNG: the earlier blog argued the change would have moved 130,000 coffee growers in the highlands to below the poverty line, with a major drop in income for all 2.1 million coffee growers as well as other small-scale producers. The value of the Kina against the US dollar has fallen slowly since the sudden appreciation on 4 June, and the appreciation from 4 June to 11 December is now around 11 per cent. However, Figure 5 below shows that, because the value of the Australian dollar has started depreciating against the US dollar (as expected for a commodity producer), the Kina has appreciated against the Australian dollar by over 22 per cent since 4 June, and is above its level from 12 months ago. This makes no economic sense unless payments against major loans in US dollars are being protected. With the fall in LNG prices, the exchange rate must move back to a market basis. It is one of the few tools available to deal with the growing shortage of foreign exchange. Unless the exchange rate is allowed to depreciated then, as shown above, international reserves will drop below three months of imports in just over 12 months.

Figure 5: Kina exchange rate over the last 12 months



CONCLUSION

The PNG LNG project has often been thought of as transformative for PNG. But just at the time the country was to benefit from the revenue and foreign exchange flows from this major project, international markets have dealt a cruel blow. The decline in oil and LNG prices also significantly reduces the viability of other LNG projects in the pipeline. With good policies, adjustments could be made to deal with such a drop in prices. However, PNG has moved to poor policies over the last six months such as moving away from a market based exchange rate, starting to print money to fund the deficit (as argued here), and deciding on an unsustainable fiscal policy in the 2015 budget. This means that to avoid a crisis the required adjustment is all the more painful.

There should be a public debate about the necessary actions to adjust. Some of the key measures needed were set out in the introduction. To recap:

- At the end of its financial year for 2014, the PNG government should not spend any extra money, but instead pocket any savings from unspent allocations.
- In face of such a large shock, the 2015 budget needs to be rewritten to avoid a spiralling deficit.
- PNG also needs to move back to a market-based, floating exchange rate to provide a “shock absorber” for the economy, and find better ways to fund the deficit than printing money.

PNG had set itself on a slippery slope towards a crisis, and the world just gave it a great big shove. Good public policy making in PNG just became much harder – but also more important.

ABOUT THE AUTHOR

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