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PNG survey of recent developments, 2014-15

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Abstract

This paper provides a survey of economic and related developments in Papua New Guinea (PNG) over the last twelve months, roughly from July 2014 to June 2015. The early commencement of the mega PNG LNG project notwithstanding, economic circumstances in PNG are currently difficult. Moody's has downgraded the country's outlook (though not its credit rating) from stable to negative. The fall in oil and therefore gas prices has greatly reduced the short-term benefits of the LNG project. The commencement of LNG production has boosted GDP, but in other sectors economic growth seems low. There is extensive rationing of foreign exchange and the exchange rate is overvalued. After several years in which the growth of expenditure greatly outpaced that of revenue, and then a shock to revenue due to the oil price fall, the fiscal deficit is now unsustainable and difficult to finance. If unaddressed, these problems could lead to a further loss of foreign exchange reserves and severe cash rationing within government. There is also a risk of a further slowdown in economic activity, and damage to important government services. The exchange rate is now being gradually depreciated, and expenditure cuts are being implemented, but further currency depreciation, better expenditure prioritization, and a new medium-term fiscal strategy are needed to reduce risks and restore confidence. Given the fiscal stress and the risks to growth and government effectiveness, structural and public sector reforms are particularly important at this time, and are also discussed in the paper.

Contents

1 Introduction

This paper provides a survey of economic and related developments in Papua New Guinea (PNG) over the last twelve months, roughly from July 2014 to June 2015. The main economic event in this period is the fall in oil prices. While this shock, and the need for a policy response to it, provide the main focus, the paper also extends to broader issues central for PNG development, including public sector, structural and human development reforms. The paper draws on a mix of official statistics, recent reports and interviews with experts and official bodies. It covers a wide range of issues, but is comprehensive rather than exhaustive.

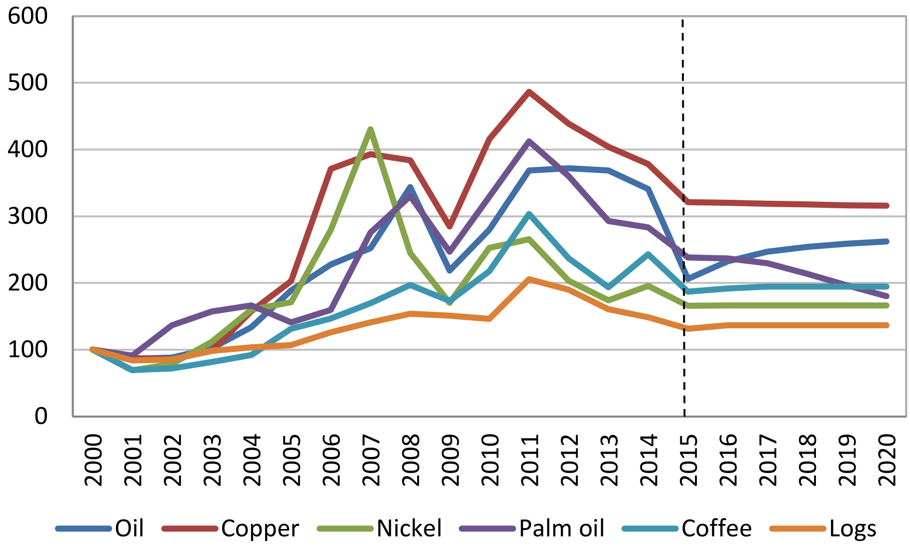
The paper begins with a brief outline of the international economic context and the domestic political context over the last year (Section 2). It then analyses growth (Section 3) and macroeconomic developments and prospects (Section 4). Fiscal trends and reforms are examined in Section 5. Sections 6 and 7 consider human development and structural (including public sector) reforms respectively. Section 8 concludes.

2 Context

2.1 International context

Global recovery has been uneven and weak since the Global Financial Crisis. Most commodity prices have been falling since 2011 (Figure 1). The price of oil held up until late 2014, but then plummeted quickly from just over $US 100 to around $US 50 a barrel, before recovering slightly, and then falling again. Low oil prices are expected to last for some time. Forecasts point towards a slow and gradual increase from current prices over the next twelve months. Falls in other commodity prices are also anticipated to have bottomed out, except for palm oil.

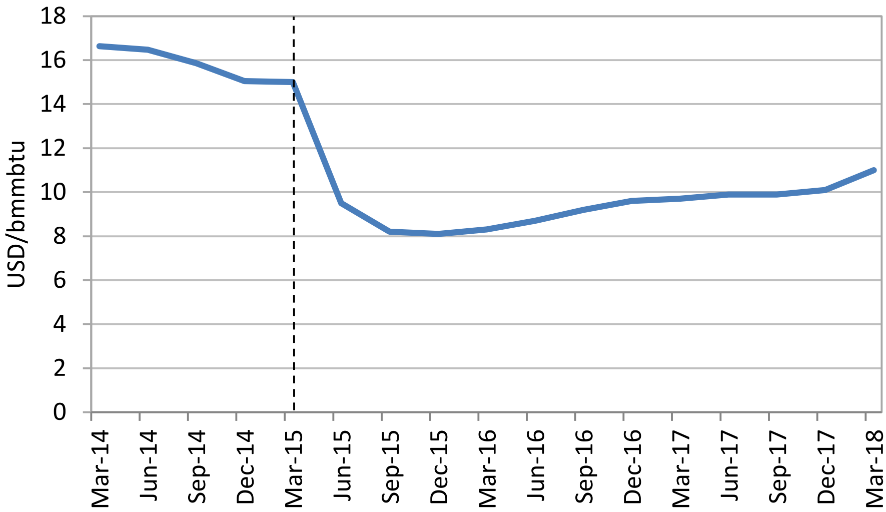
Figure 1 Growth in commodity prices 2000-2020 (2000=100)



Source: IMF (2015).
Note: 'Oil' denotes 'Crude Oil (petroleum)', 'Copper' 'Copper, grade A cathode', 'Nickel' 'Nickel, melting grade', 'Palm oil' denotes 'Palm oil, Malaysia Palm Oil Futures', 'Coffee' 'Commodity Coffee Price Index' and 'Logs' 'Hard Logs, Best quality Malaysian meranti'. The values to the right of the dashed line are projections.

Even though PNG LNG exports are governed by long-term contracts, prices in those contracts are set by formula, linked to the oil price. ANZ (2015a) forecasts that PNG can expect to face a 42 per cent drop in prices over the course of 2015, followed by a slight recovery (Figure 2). Oil Search (2015) reports that gas prices have already fallen to $US 8.10 per mmBtu in June 2015, down from $US 12.37 in March 2015, and $US 14.41 in June 2014, ahead of the drop forecast by ANZ. BPNG (2015d) puts the June LNG price at $US 9.5, 39 per cent below its price in November 2014, when the 2015 budget was presented. The implications of a much lower gas price are discussed later in this paper. More generally, how PNG (both the economy and economic policy) is responding to this very large external shock is a major theme of this paper.

Figure 2 Japanese LNG contract prices (USD/bmmbtu)



Source and notes: ANZ (2015a). The values to the right of the dashed line are projections.

2.2 Domestic political context

The current government enjoys a large and stable majority in the PNG Parliament. The Opposition camp remains small with a recent report putting the number of Opposition members at six. Don Polye, former Treasurer, replaced Beldan Namah as Opposition leader in December 2014. There have been a number of changes in cabinet composition due to the fallout from various political crises, but none of these seem to have diminished the Prime Minister's authority. The Prime Minister's party, the People's National Congress, now has around 60 of PNG's 111 MPs.

Some argue that this period of stability signals a new political culture in PNG (Claxton 2015). It is certainly a contrast to the instability of the 1990s, and even more so given that the Organic Law on Political Parties and Candidates which was introduced in the late 1990s to boost political stability no longer applies, having been declared invalid by the courts in 2010.

Nevertheless, while about half the businesses surveyed in the first quarter of 2015 by ANZ reported the political environment to be stable, about 30 per cent said it was deteriorating (ANZ 2015b). Political uncertainties stem from three possible sources.

First, the period of no-confidence (which now runs up to 42 months from the elections (Claxton 2015)) has come to an end. However, while the Opposition leader has threatened a vote of no confidence, it is now more difficult to effect a vote of no confidence, with 22 out of 111 MPs required to announce their support for a vote before it can be taken.

Second, and perhaps more significantly, there are a number of pending court cases against the Prime Minister. There is the referral from the Ombudsman relating to the Oil

Search loan (currently under appeal in the courts) and there is the Taskforce Sweep case relating to payments to Paraka Laywers, also under appeal.

Third, heightened economic uncertainty may manifest itself as political instability.

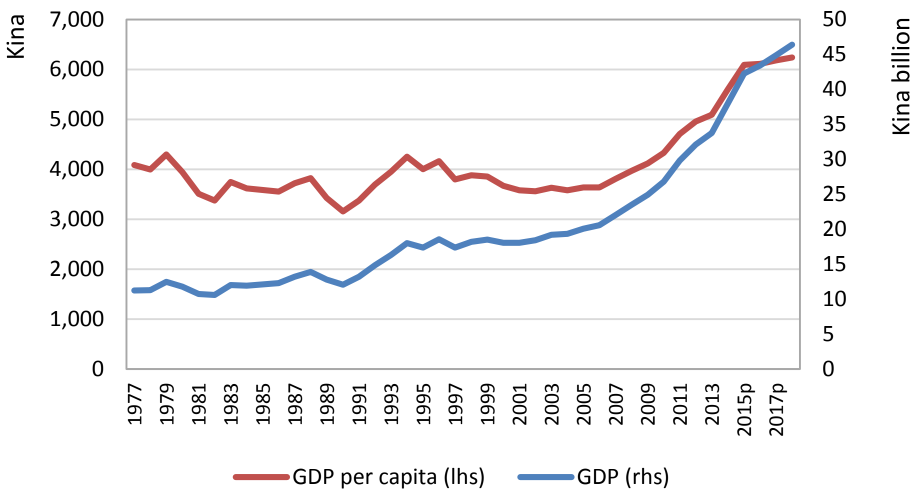
The electoral cycle will likely make it more difficult to tackle reform challenges. Elections are scheduled for 2017. This will make tough action difficult, including the expenditure cuts needed for a fiscal adjustment. Indeed, previous research shows a tendency for expenditure to increase in PNG in the run-up to an election (Faal 2007).

Elections were held in the first half of 2015 in Bougainville. Reports indicate that most candidates ran on an independence platform (see for example this news article), highlighting the probability of a pro-independence vote when the autonomous region holds its referendum, scheduled for some time between 2015 and 2020 according to the Bougainville peace agreement.

3 Growth

After a long period of low growth since independence, Papua New Guinea has enjoyed strong growth over the last decade on the back of high resource prices (Figure 3).

Figure 3 GDP and GDP per capita, 2012 prices



Source: Updated from Howes et al. (2014)
Notes: GDP deflator provided in budget documents used from 1994 onwards; CPI deflator before that. ‘p’ are projections. Some of the more recent estimates and projections have been subsequently revised.

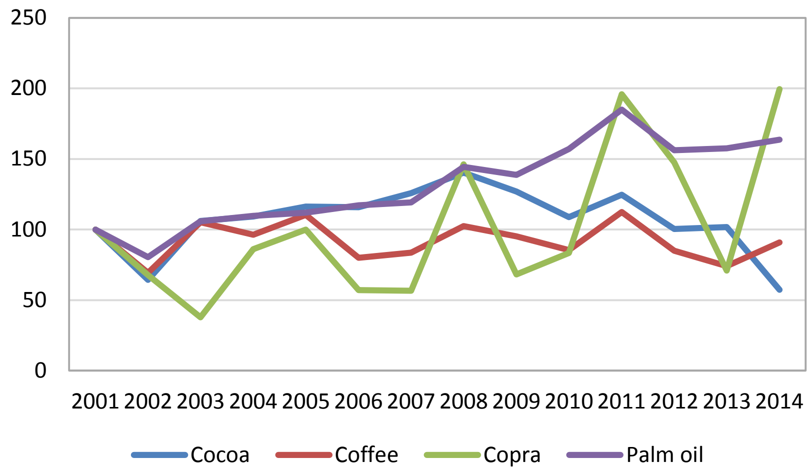
Due to the early commencement of the Exxon-Mobil PNG LNG project, 2014 real GDP growth is now estimated to be 13.3 per cent and 2015 growth at 11.0 per cent (Treasury 2015). This movement away from a much higher growth forecast for 2015 (initially 20, then 15.5 per cent) is mainly because the LNG project came on stream much earlier than expected, so that the impact of that project on growth in fact mainly came in 2014 rather than 2015. The indefinite closure, announced in July, of Ok Tedi, PNG's largest mine, due to a mine collapse and a lack of rain, will further reduce 2015 growth.

In resource-dependent economies, GDP (Gross Domestic Product) can be a misleading indicator of welfare. Most of the PNG LNG project is owned offshore, and so a significant proportion of revenue will be of no benefit to the Papua New Guinean economy. Although GNI (Gross National Income) is not calculated for PNG, GNI growth would be much lower than GDP growth for both 2014 and 2015.

In the production phase of the LNG project, its employment and broader economic impact would derive from the resulting government revenue. However, as the next couple of years are likely to be ones of fiscal consolidation, any such impact will be muted. Construction growth, which has been in the double digits for several years, will therefore likely slow, especially with the withdrawal of the stimulus provided by LNG construction.

Agriculture, which is still the country's major employer, has performed poorly in recent years, at least judging by agricultural commodity production. Growth in agricultural commodities is volatile, but on average low. Analysis of major agricultural commodities shows no trend growth since 2001 except for palm oil, and even there production has been flat in the last few years (Figure 4). Poor infrastructure, crop disease, a lack of support from commodity boards, and real exchange rate appreciation (see Section 4.1) have all hurt agricultural commodity production. Fresh produce production is believed to be increasing, but it is difficult to get data.

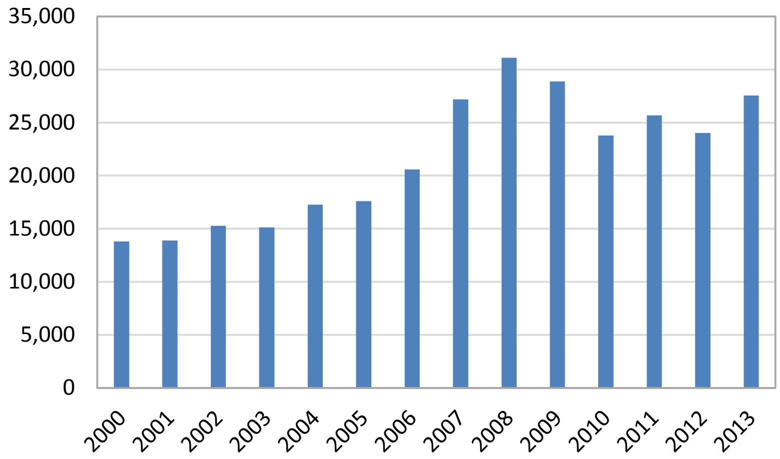
Figure 4 Agricultural commodity production (volumes, 2001=100)



Source: BPNG (2015c) up to 2013; Treasury (2014) for 2014 estimate.

Tourism numbers, after growing up to 2008, have stagnated in recent years, although cruise arrivals are up. Voigt-Graf and Howes (2015) suggest that this is due to a number of factors, including real exchange rate appreciation, and the crash of a plane carrying Kokoda tourists in 2009.

Figure 5 Annual tourist arrivals (by plane) to PNG



Source: Voigt-Graf and Howes (2015).

Logging exports are growing, but exports of marine product have been flat in volume terms in recent years (BPNG 2015c). PNG aims to increase on-shore processing of tuna by the creation of the Pacific Marine Industrial Zone (PMIZ) in Madang. Threats to the tuna industry include both over-fishing and illegal fishing. The latter has caused the EU to "yellow card" PNG in 2014. This is a warning prior to the imposition of import bans into the EU, a final decision on which is pending.

The communications sector has been a strength for the economy, with the mobile phone penetration rate increasing from about 2 per cent in 2006 to an estimated 41 per cent in

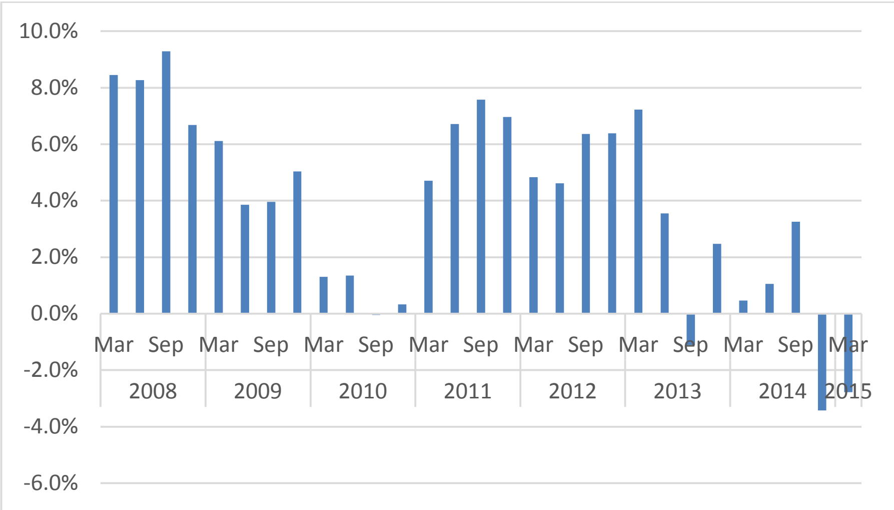
2014 (Suwamaru 2014). The transport, storage and communication sector of the economy also shows the fastest growth rate of any sector: an estimated real annual average growth rate of 17 per cent between 2003 and 2013.

Real growth outside of petroleum and mining ("non-mining GDP") is estimated by the PNG Treasury (2015) at only 1.2 per cent for 2014. Treasury has downgraded its non-mining real growth projection for 2015 from 4.0 to 3.3 per cent (Treasury 2015), but even this might be too high, especially with the risk of a drought this year. The Central Bank projects nominal private sector credit to grow only by 4.8 per cent in 2015 (BPNG 2015a, p.5), below the expected inflation rate.

Quarterly GDP growth figures are not released, but ANZ's Business Survey for the first quarter of 2015 shows that on average businesses reported a fall in sales in the first quarter of 2015 compared to both the last and the first quarter of the previous year (ANZ 2015b). Their second quarter survey showed slightly more firms reporting a rise in sales compared to the first quarter than a fall, but still on average a fall in sales relative to a year ago (ANZ 2015c).

Another quarterly index available is for formal employment. The loss of stimulus from the end of the LNG construction phase is clearly evident from this graph. Formal employment sector growth has been negative for the last two quarters, and is now back at levels seen in the second half of 2012.

Figure 6 Formal sector employment growth (quarterly, year on year)



Source: BPNG (2015c).

Imports are low. Last quarter imports for 2014 were the lowest since the first quarter of 2010, and preliminary figures put first quarter 2015 imports at their lowest level since 2006. (BPNG 2015c).

This may be linked to the rationing of foreign exchange. The ANZ 2015 first quarter survey of businesses mentioned earlier flags this as a major concern of companies (ANZ

2015b). Its second quarter survey went into this issue in more detail and found that 88 per cent of firms surveyed highlighted difficulties with getting foreign exchange (ANZ 2015c). 49 per cent said it was a "significant" cost to their business. The average waiting time faced by companies for foreign exchange was 25 days.

Foreign exchange rationing (further discussed in Section 4.1) will lead to companies minimizing imports and postponing investments, and will raise sovereign risk. More broadly, the macroeconomic risks discussed in the next section provide a downside risk to growth prospects.

The upside to growth centres around the potential for further large resource projects, including a second major LNG development - the Elk-Antelope gasfields. After a commercial dispute, it was determined that French oil and gas major Total S.A. will be the major joint venture partner. The most recent information is that a final investment decision will be made in 2017 or 2018. While PNG LNG projects are regarded as competitive relative to alternative suppliers, lower gas prices are expected to lead to later investment decisions.

In summary, in the short-term, there are significant downside risks to GDP growth, which will likely be low in 2016 and 2017. Longer term prospects are more positive.

4 Macroeconomic developments

4.1 Exchange rate and the balance of payments

The value of PNG's currency rose through the resource boom, and rapidly in 2011 and 2012 on the back of high resource prices and the construction phase of the LNG project. However, in 2013 the currency started depreciating in response to high government spending and then the conclusion of LNG construction in 2014.

The introduction of trading bands in June 2014 around a relatively high, non-market rate led to an immediate 17 per cent increase in the trading exchange rate against the USD, as is evident from Figure 7. Although the Central Bank maintains that the exchange rate regime is still a floating one (BPNG 2014, Box 1), this is hard to reconcile with the foreign exchange rationing now evident. There were a reported K1.5 billion in outstanding import bills waiting to be processed as of March 2015 according to the President of the Australia-PNG Business Council (Business Advantage 2015). Reportedly, companies not on the Bank of Papua New Guinea priority list can now wait for up to three months for foreign exchange orders to be filled. The IMF maintains that PNG has moved to a "de facto crawl-like exchange rate regime" (IMF 2014 p.9).

Since last June, the Kina has fallen 11.0 per cent against the dollar (as of 30 June 2015). This however is still is a 3.6 per cent increase from the market rate immediately before the band introduction.

Figure 7 Kina vs $US: January 2010 to June 2015

Source: OANDA (2015); monthly bid averages.

The Central Bank has tightened regulations to try to prevent firms from hoarding dollars.

The IMF has suggested an increase in the rate of depreciation noting that the current pace will be insufficient to meaningfully reduce excess demand for foreign exchange, partly because an expectation of depreciation incentivises exporters to delay sales of and importers to bring forward purchases of foreign exchange (IMF 2014, p. 6).

Since the introduction of the band, global commodity prices, and especially oil prices, have fallen (Figure 1). Due to PNG's resource dependency, this will have shifted down the market-clearing exchange rate. An analysis of the 15 most resource-dependent countries that have floating exchange rates (detailed in Table 1) shows an average depreciation in their exchange rates versus the US dollar of 14.5 per cent in the year since May 2014. None of these countries have seen an exchange rate appreciation over this period. This makes PNG's appreciation stand out, especially as PNG emerges from Table 1 as a highly resource-dependent economy.[1]

[1] It might be thought that the commencement of the LNG project would have strengthened PNG's currency. However, as discussed below, with low prices, it appears to be making little contribution to foreign exchange earnings, and not enough to offset the inflows lost from the closing of Ok Tedi and the end of the LNG project's construction phase.

Table 1 Fifteen most resource-dependent economies with floating exchange rates, and PNG

Country	%Δ exchange rate 1 Jun 2014-30 Jun 2015	Natural resource rents as % of GDP	Largest export categories as % of GDP
Brazil	-40.15	6.5	Iron ore, oil
Madagascar	-33.37	9.8	Textiles, cloves
Ghana	-32.88	17.8	Gold, oil
Uganda	-28.54	13	Coffee, oil
Norway	-27.26	10.9	Oil, LPG
Mexico	-21.91	7.7	Automobiles, electronics
Australia	-21.77	7.2	Iron ore, coal
Mozambique	-21.37	14	Aluminium, coal
S Africa	-15.89	6.8	Gold, coal
Chile	-15.72	16	Copper, sulphates
Peru	-13.82	9.7	Gold, copper
Indonesia	-14.40	6.6	Coal, LPG, oil
Zambia	-8.54	19.4	Copper, corn
Solomon Islands	-7.21	33.3	Timber, gold
Mongolia	-7.20	28	Coal, copper
PNG	3.55	31.6	LNG, gold

Sources and notes: Resource dependency is measured by the ratio of natural resource rents to GDP, as measured by the World Bank Databank. Exchange rates from OANDA datasets using average rates for the months of May 2014 & 2015. Export categories from The Observatory of Economic Complexity datasets, 2012, PNG export category data taken from BPNG export data statistics, 2014.

It is also relevant to look at the real exchange rate, which takes into account not only exchange rate movements, but also relative inflation. The real exchange rate has appreciated steadily since 2005, as would be expected given the resource boom. The IMF reports that, from a value of 100 in 2005, the REER increased to 112.7 in 2010, 122, 5 in 2011, 144.3 in 2012 and 143 in 2013. (IMF 2014, p.5). The PNG Central Bank reports further real exchange rate appreciation of 6.1 per cent in 2014 (BPNG 2015a, p.7). ANZ (2015d) reports that PNG's real exchange rate has almost doubled since 2000, and argues that the currency needs to depreciate. Figure 7 shows that the exchange rate is only back at 2008 levels. With much higher inflation in PNG than the US, and the resource boom over,[2] one would expect further currency depreciation.

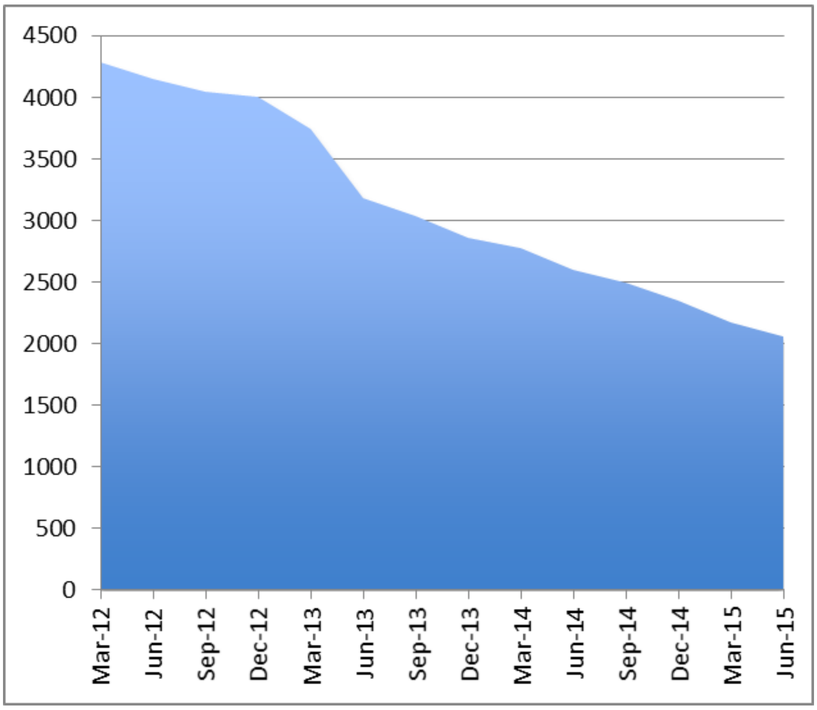
[2] The 2015 MYEFO, discussed in the next section, estimates mining and petroleum taxes for 2015 at K400 million. These taxes rose to K2.3 billion in 2007, but are now below 2000 levels, even before inflation.

According to Shatz and Tarr (2000), the maintenance of overvalued exchange rates in the CFA zone in Africa in the 1980s and 1990s resulted in a dramatic deterioration of the agricultural sector as well as countries' external positions. Exchange rate misalignment has been important aspect in exchange rate crises in developing world in the past 20 years, with examples including Mexico, East Asia, Russia and Brazil.

Experience has also shown that attempts to maintain an overvalued exchange rate in the medium term impede growth. Research suggests that exchange rate misalignment is strongly correlated with low per capita GDP growth, low productivity, low export growth and low agricultural sector growth (Edwards 1989). Overvaluation reduces economic efficiency, increases capital flight and often leads to calls for protectionist yet economically inefficient policies such as tariffs (Edwards 1989). It also often hits the poorest: in PNG's case, rural producers of export commodities.

PNG's foreign exchange reserves have halved since early 2012 from $US 4 billion to just above $US 2 billion at the end of June (Figure 8). This was one reason cited by Moody's for its recent change in PNG's credit rating outlook from stable to negative. Reserves correspond to about nine months of import cover, but given outstanding bills for foreign currency, actual coverage is less.

Figure 8 Foreign Exchange Reserves (millions $US)



Source: BPNG monthly updates; data every three months.

Prospects for the balance of payments are unclear. While the current account balance has gone into surplus because of the commencement of LNG production, the extent of the surplus has been reduced by the fall in oil prices. Meanwhile, the capital account has gone into deficit due to LNG project debt repayments and dividends. Given that these payments are unchanged by the oil price fall, the smaller than anticipated rise in the current account surplus puts at risk the earlier expectation of a rebuilding of foreign exchange reserves.

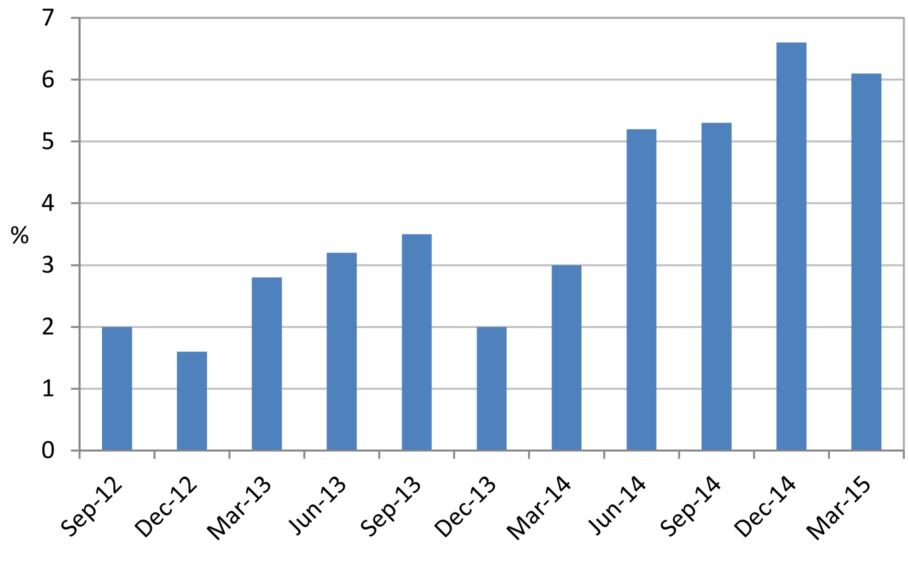
In its March 2015 projections, the Central Bank projects an increase in foreign exchange reserves this year from K5.98 billion at the start of the year to K8.73 at the end, but this is only on the back of assumed official foreign borrowing (BPNG 2015a). For 2016 and 2017, the Bank projects stable foreign exchange reserves. Flanagan (2014) projects that the overall balance of payments will remain in deficit in 2015 as well as later years, and that foreign exchange reserves will be depleted by 2017. The ANZ takes an intermediate position, suggesting that foreign exchange reserves will stay at $US 2 billion in 2015 and increase to $US 2.8 billion in 2016 (ANZ 2015a).

The balance of payments will clearly improve if commodity prices rise, or when construction commences for the next big resource project. But, in the meantime, management of the foreign exchange system will be a challenge. Further depreciation of the exchange rate is clearly needed, with the goal of eliminating foreign exchange rationing and moving back to a managed float. A fiscal correction will reduce the demand for imports. Failure to act will lead either to on-going foreign exchange rationing or a possible depletion of foreign exchange reserves. Both will be negative for growth, stability and business confidence.

4.2 Inflation and monetary policy

Inflation has been on an upward path. However, with low commodity prices and growth, it is projected to fall to 4.9 per cent in 2015.

Figure 9 Inflation 2012-2015 (quarterly, year on year)



Source: BPNG (2015c). Figures are quarterly CPI, compared to the previous year.

PNG's policy interest rate, the Kina facility rate, is unchanged at 6.25 per cent. Liquidity remains high with the ratio of liquid assets to deposits at around 46 per cent. Broad money is growing at 6-8 per cent (BPNG 2015b).

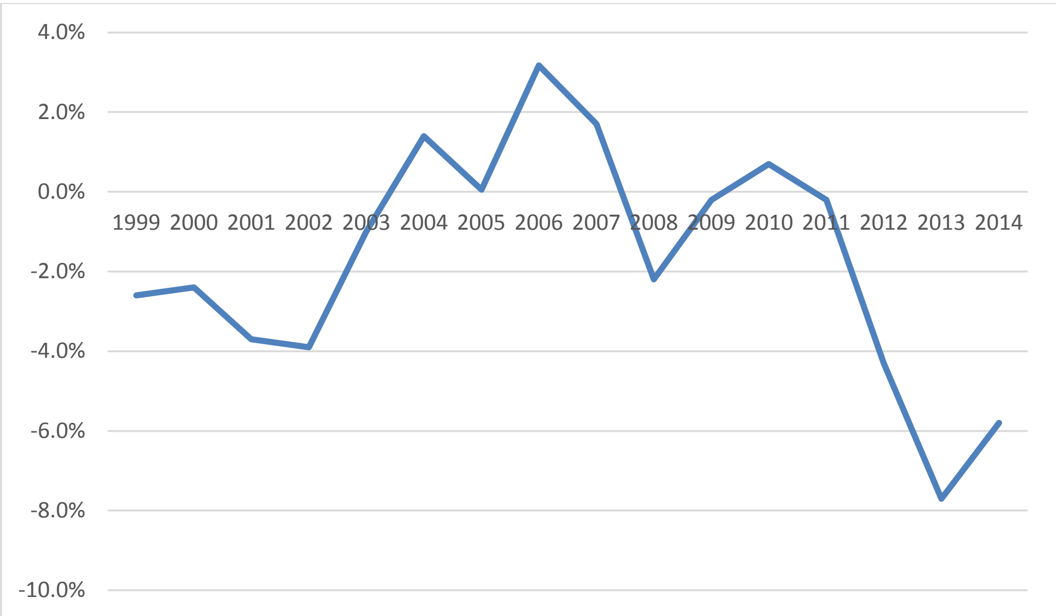
In September 2014, the Central Bank announced that it was purchasing government bonds that had not been taken up by the public or the private sector (BPNG 2014). In May it announced that it had ended this practice (BPNG 2015b). It is believed that the Central Bank purchased in excess of K1 billion of government bills: Moody's reports that the Central Bank's holdings of government securities reached PGK2.35 billion at end-2014, up from PGK 956 million at end-August 2014 (Moody's 2015).The resulting monetization of the deficit must have put upward pressure on inflation, and it is welcome that it was only adopted as a temporary measure.

5 Fiscal trends and reforms

5.1 Recent fiscal developments and outlook

PNG has experienced a run of large budget deficits in recent years (Figure 10). The 2014 deficit was preliminary fiscal outcome of the National Government for 2014 shows a deficit of K2,992 million or 5.8 per cent of GDP, using the latest growth estimates (Treasury 2015).

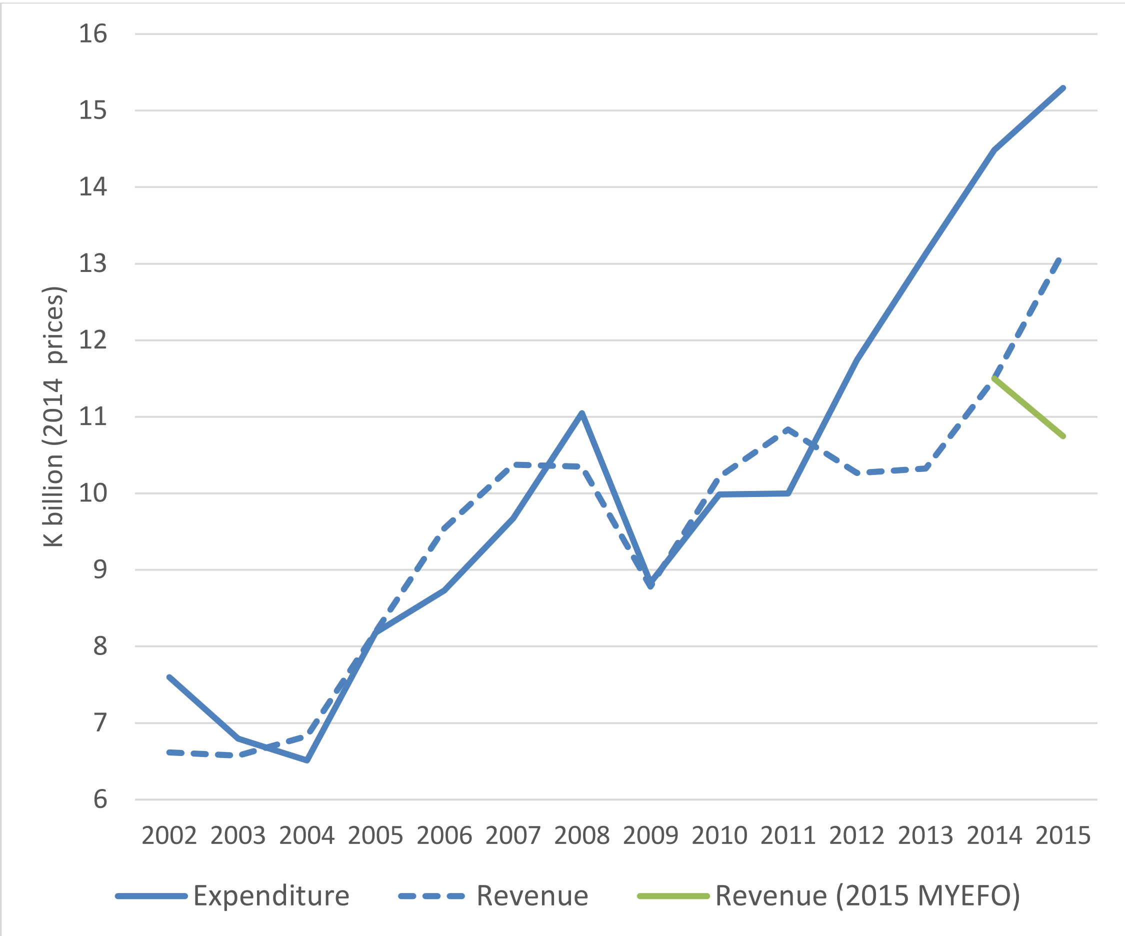
Figure 10 Fiscal surpluses and deficits in PNG (% GDP), 1999 to 2014



Source: PNG budget documents.

The large deficits in recent years have come about because of rapid growth in government spending (Figure 11). Between 2011 and 2014, government spending increased by 45 per cent (an annual average real growth rate of 13 per cent). Revenue has not kept pace. Growth in revenue between 2011 and 2014 was only 6 per cent after inflation. Rapid growth in revenue (14 per cent after inflation) was anticipated in 2015, which would have helped fill the gap, but the Government's 2015 Mid-Year Economic and Fiscal Outlook (MYEFO) estimates that 2015 revenue will be back at 2011 levels in real terms.

Figure 11 PNG government revenue and expenditure (adjusted for inflation, in 2014 prices)



Source: PNG budget documents; Up to 2014 are actuals, 2015 revenue estimate from 2015 budget (dashed line) and MYEFO (solid line); there is no separate expenditure estimate in the MYEFO so the only 2015 expenditure number shown is from the 2015 budget.

The rapid growth in expenditure reflects increased spending on infrastructure and education, and greatly increased funding to provincial, district and local levels of government (mainly under the control of individual MPs). All categories of expenditure have grown quickly, but the emphasis has been on the development (or project) budget which has grown as a share of the total budget from 32 per cent in 2004 to 43 per cent in 2014.

While some degree of expansionary fiscal policy was perhaps sensible, PNG now finds itself in a difficult position. The 2015 national budget projected a deficit of K2.3 billion or 4.4 percent of nominal GDP. However, the 2015 MYEFO forecasts a large revenue shortfall for 2015 of about K2.5 billion or 20 per cent below its budget target (Treasury 2015). 2015 revenue is now projected to be slightly below its nominal 2014 level. (The revenue/GDP ratio estimated by the MYEFO is 22.1 per cent, by far the lowest seen this side of the millennium.) The MYEFO indicated that expenditure cuts were underway, but did not quantify them, and based its deficit calculations on the assumption of no expenditure cuts, giving rise to a projection of a massive deficit of 9.4 per cent of GDP. This would be impossible to finance, but where the deficit will come in between 4.4 and 9.4 per cent of GDP remains to be seen.

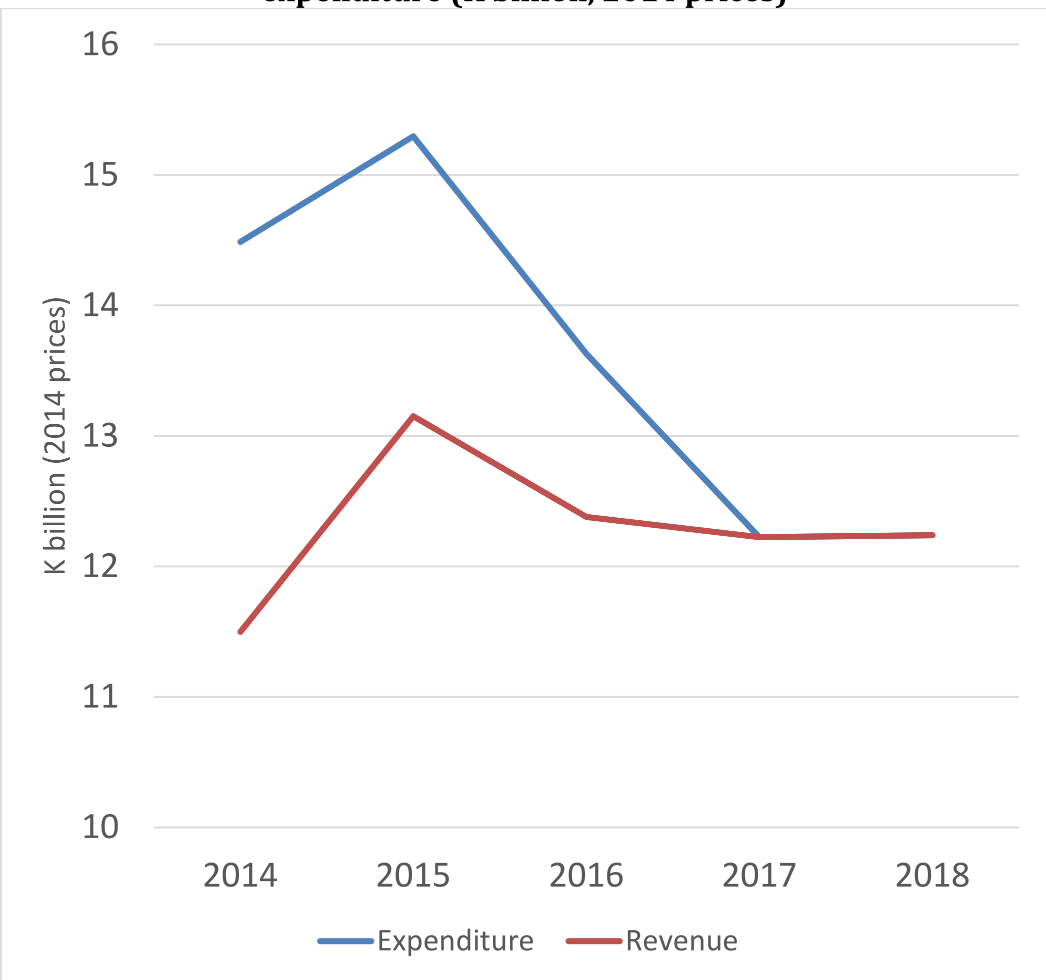
The Treasury Secretary announced in May that a budget review would be undertaken, and the Treasurer announced to Parliament in early June that a mini-budget would be prepared in the next couple of months (Minister for Treasury 2015). There was no mention of this in the MYEFO, but, subsequent to the MYEFO's release, the Treasurer announced that the government would hand down an Appropriations Reduction Bill in 2015, with the aim of restricting the deficit to its budgeted level of 4.4 per cent. Just how much expenditure can and will be cut remains unclear though.

It was expected that the commencement of LNG production would support a large expansion of government activity. However, several factors have prevented this. First, the large fiscal deficits of previous years require addressing. Interest costs have increased rapidly from K460 million in 2012 to K1.1 billion in 2015. Second, oil and therefore LNG price falls have reduced revenue projections. Flanagan (2014) calculates that with an LNG price fall of greater than 25 per cent there will be no tax revenues from the LNG project for the next decade (until accelerated depreciation provisions expire). Third, funds have been taken off-budget, in particular through the 2014 purchase of Oil Search shares financed by LNG dividends (Yala et al. 2014), which of course are also reduced by the price fall. Fourth, other mining projects are doing badly (Ok Tedi) or not producing revenue due to a tax holiday (Ramu Nickel). Fifth, consistent with sluggish economic activity, non-resource revenues have also been hit. GST revenues, personal income tax, company tax, excise and import duties are now all estimated at (roughly) 2014 nominal levels or below.

A new medium-term fiscal strategy is required. The earlier target of a return to fiscal balance by 2017 is no longer plausible. While PNG's revenue projections are often conservative, the current revenue projections do not take into account the fall in LNG prices (as they were produced at the time of the December budget). The budget projections over the forward estimates may therefore, on this occasion, in fact be realistic or even optimistic. The fiscal adjustments aspired to in the 2015 budget (shown in Figure 12) rest on a sharp contraction in expenditure, which is implausible, especially in the run up to an election. They also assume revenue for 2015 (27 per cent of GDP) greatly in excess of what is now estimated (22 per cent). As Moody's noted when explaining its downgrade of PNG's outlook to negative, "the government has not formulated a policy response that would realign expenditures to conform to the planned glide path to a balanced budget by 2017" (Moody's 2015).

There will have to be three key elements in any new fiscal framework. One is a slower path to balance: eliminating the deficit by 2017 is now simply unrealistic. Another is expenditure restraint. Given the rapid growth in expenditure in recent years, there should be plenty of areas to cut, but important services are still underfunded, so sensible budgetary adjustments will be needed. With revenue back at 2011 levels, it is very hard to see how essential services can be protected unless some of the massive post-2011 increases in constituency funding (over more than K1 billion) are reversed. The third is tax reform. The review currently underway chaired by Sir Nagora Bogan may be a source of recommendations for sensible ways to boost revenue.

Figure 12 Fiscal adjustment as envisaged in the 2015 budget: revenue and expenditure (K billion, 2014 prices)



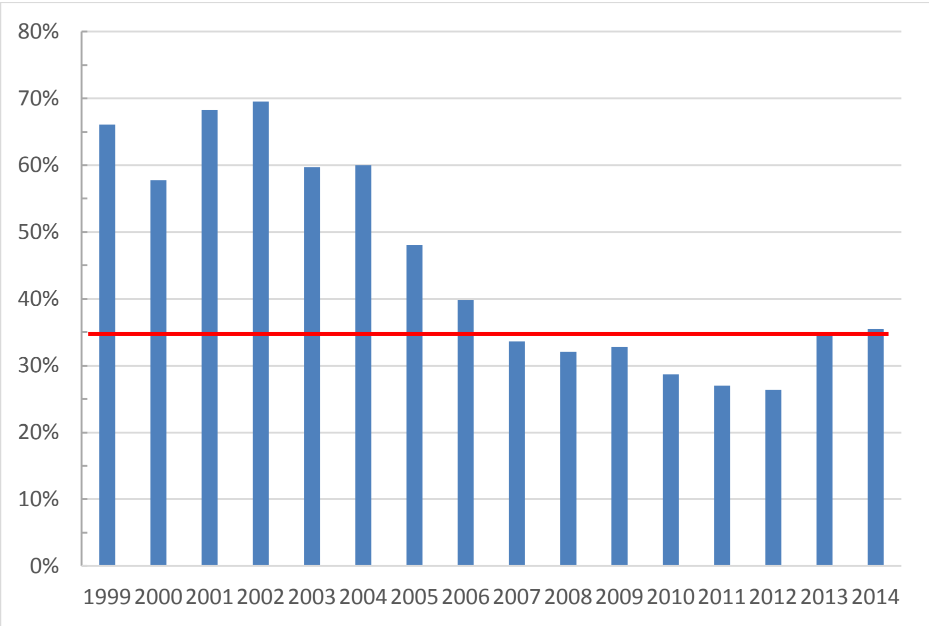
Source and notes: 2014 revised estimates replaced by actuals. 2015 budget revenue estimate reduced in MYEFO to K10.8 billion (Figure 11).

Longer term fiscal prospects are brighter. Future LNG projects will bring about increased revenue in both their production and revenue phase. There is therefore a strong case for expenditure restraint and prudent fiscal management at the current time and for delaying non-essential expenditures.

5.2 Government debt and deficit financing

After a decade of declining levels, government debt has risen sharply in recent years as a result of the large deficits (Figure 13). At the end of 2014, total public debt outstanding was K15.4 billion or 35.5 per cent of GDP (Treasury 2015). The current legislated debt limit is 35 percent of GDP. The Fiscal Responsibility Act (as amended) does allow the target to be exceeded in a single year, but requires the government to return debt below 35 per cent the next year. The 2015 budget targeted a fall in debt to 28 per cent of GDP but this assumed significant off-budget borrowing, plans for which have now been abandoned, as discussed further below.

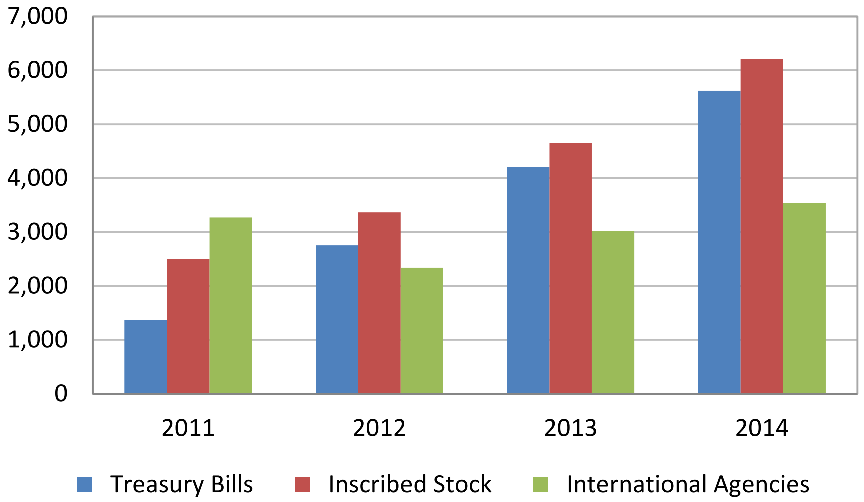
Figure 13 Debt/GDP ratio



Source: PNG budget documents. Note: Red line indicates Fiscal Responsibility cap.

PNG has three sources of government debt: Treasury Bills (short-term domestic debt); Inscribed Stock (longer-term domestic debt); and concessional borrowing from international agencies. Most of the rapid increase in debt in recent years has come from domestic sources, both Treasury Bills and Inscribed Stock. The government would like to shift its domestic debt towards longer maturities, but has had limited success with this given limited demand. Interest rates increased on government debt reaching 14 per cent on ten-year bonds in 2014 (ADB 2015c).

Figure 14 Net debt by type (K million)



Source: PNG budget documents.

Given the difficulties faced last year in financing the deficit (discussed in Section 4.2), the government has been contemplating off-shore borrowing. PNG certainly has the room to borrow off-shore: foreign debt is only 23 per cent of total debt, well below the prescribed 40 per cent ceiling in the Medium Term Debt Strategy. However, the recent Moody's "negative outlook" rating will make commercial borrowing more expensive and difficult to arrange.[3] The 2014 budget announced that the government would sell a portion of its stake in the LNG project, namely the amount it holds on behalf of landowners. This was valued in the budget at K2.5 billion, well above earlier valuations. Borrowing off-budget, with the proceeds of the sale being returned to government, would reduce the government's debt burden, as is required under the Fiscal Responsibility Act. However, the timetable was ambitious, and the MYEFO announced that this plan had been abandoned for the current year.

Even if off-shore (but on-budget) borrowing can be arranged for this year, it would be ill-advised unless if executed as part of a reform program. Without fiscal reform, financing difficulties will re-emerge in 2016 and 2017.

5.3 Sovereign Wealth Fund

PNG has had plans to introduce a Sovereign Wealth Fund (SWF) for several years. After an extensive process of debate and consultation, SWF legislation was initially passed in early 2012. The 2012 SWF in fact included two funds: a stabilisation fund through which government revenues from minerals and petroleum would flow; and a

[3] S&P did not downgrade PNG's rating or outlook, but that was earlier in February 2015, when less was known about LNG prices. The Moody's downgrade in outlook (not ratings) was in May 2015.

development fund which would utilize LNG dividends. However, it was subsequently declared that the legislative procedure followed was invalid (Osborne 2014). Over the next couple of years, new legislation was drafted, resulting in a new bill that was presented and passed the first and second readings of Parliament in February 2015 and was voted into law in July 2015. The new law is quite different to the old one. It also establishes two funds, but this time a stabilisation and a savings fund. And there is no longer the commitment to pass all resource revenues to the SWF. In particular, discretion over how much to declare in dividends is now left with the companies receiving them, whereas in the past all resource dividends were to go to the SWF. This is consistent with the government's ambitions to grow the state-owned presence in the resources sector, but significantly waters down the ambition of the SWF, and will reduce transparency.

With the end of the resource boom, the stabilisation fund of the SWF is unlikely to accumulate revenue in the coming years. And the savings fund will add to the fiscal management challenge, since a portion of whatever resource dividends are received by government are to be placed in the savings fund and not used for at least a decade.

6 Human development

To date, resource wealth has not been sufficiently translated into increased opportunities for all citizens, especially the large majority in rural areas. In the last household survey from 2010, 40 per cent of the country's population lives on less than the global poverty line of $US1.25 per day, virtually unchanged from 1996, the last time that there was a household survey (Gibson 2014). Poverty may have fallen in more recent years, with rapid employment growth. On the other hand, relatively high inflation would have hurt those remaining in the informal sector. In 2013, PNG ranked 157th out of 187 countries on the Human Development Index (UNDP 2015a). And it ranks close to the bottom on the international gender equality index, with an estimated two out of three woman having experienced gender-based violence. Clearly, there is much to be done.

6.1 Free education and health

The signature policies of the government in respect of education and health are, respectively, its free education and free health policies. The abolition of school tuition fees was implemented in 2012: the fourth attempt to abolish such fees in PNG's history and the most long-lasting to date. A survey of schools undertaken in 2012 by researchers from the National Research Institute (NRI) and the Australian National University (ANU) shows that most schools are receiving their subsidies from government (given in lieu of the fees), and that the abolition of tuition fees led to an increase in school enrolments between 2011 and 2012 of 17 per cent (Howes et al. 2014). Attendance rates are, however, down, suggesting that enrolment figures might be inflated (since government payments are dependent on the number enrolled). Overcrowding in schools has increased, with larger class sizes.

One interesting point revealed by this research is that schools are much better off financially than they were a decade earlier (when a similar survey was carried out). While revenues from parents have declined, this has been more than compensated for by the increase in income from the national government. Overall, as Table 2 shows, per student revenue has increased from K159 in 2001 to K336 in 2012 (both measured in 2012 prices). This suggests that the government payments offered to compensate schools for the abolition of tuition fees in fact overcompensate the schools (in part because many students did not pay the fees in any case). In turn this suggests that the government could reduce its payments to schools without reintroducing tuition fees.

Table 2 Revenues per student 2001 and 2012 in 2012 prices

Source of revenue	2001	2012	Growth
Parents	70	12	-82%
	(8)	(1)	
National Government	48	249	419%
	(3)	(9)	
Provincial Governments	7	7	-11%
	(2)	(2)	
Other (donors, church, other government, etc.)	33	68	103%
	(7)	(19)	
Total	159	336	112%
	(11)	(21)	

Source: Howes et al. (2014). Note: Standard errors in brackets.

At the start of 2015, the government announced that project school fees would also be abolished. These are distinct from the tuition fees that were abolished in 2012: project fees raise funds for specific school projects. This has been characterised as a “step too far” (Walton 2015), in particular because these (and tuition) fees were implemented flexibly, and that very few students were turned away from school because of an inability to pay their fees. With government school payments unlikely to increase in the coming years, and at risk of a cut, project fees should be reintroduced.

The government’s free health policy was approved by the National Executive Council in 2013. The implementation of the Free Primary Health Care and Subsidised Specialists Service Policy is in two phases. The first phase, which commenced early in 2014, involves rural health facilities, and the second phase involves the implementation of the policy at the public and provincial hospitals.

The same ANU-NRI research cited above also surveyed health clinics. While the survey was undertaken prior to the implementation of the free health policy, its findings are nevertheless relevant (Wiltshire and Mako 2014). The survey of health clinics found that 83 per cent receive funds from user fees, which is a higher percentage than any other sources. Moreover, the survey found that 41 per cent of clinics did not receive any external support from government (Howes et al. 2014). The amount allocated to implement the free health policy is small (only K11 million) and, as the data shows, no mechanism exists to reliably transfer government funds and resources to clinics (Wiltshire and Mako 2014). While the intention of the free primary health care policy is to improve access to services, the implementation risks may weaken, rather than strengthen, the health system.

The key point here is that schools have been receiving government funds directly for over a decade. Health clinics have not. Rather than abolishing health user fees, the government should first develop mechanisms to get government funds and/or resources to health clinics.

6.2 Reforms for gender equality

Papua New Guinea has a Gender Inequality Index (GII) value of 0.617, ranking it 134 out of 148 countries in the 2012 index (UNDP 2015b). In PNG, 2.7 per cent of parliamentary seats are held by women, and 6.8 per cent of adult women have reached a secondary or higher level of education compared to 14.1 per cent of their male counterparts (UNDP 2013). Gender–based violence (GBV) against PNG women has been and is still endemic.

In terms of policy progress, news is mixed. Efforts to reserve a significant number of parliamentary seats for women appear to have been abandoned.

On the education front there is some positive news from the ANU-NRI survey (Howes et al. 2014). Whereas in 2001 there was about one girl in primary school for every two boys, today the ratio is virtually one to one. There are also many more female school teachers and principals today: in 2002, only 13 per cent of primary school principals were females. In 2012, it was 27 per cent, more than double. The number of female teachers also increased sharply: from 27 to 55 per cent. The increasing participation of females in the professional work force will bring increased income and status for women.

In recent years, efforts to reduce violence against women have received great attention from policy makers due to the work of civil society organisations and increased media coverage. In March 2014, the Family Protection Act 2013, which had been passed by Parliament unanimously, was certified. The Act criminalises domestic violence; gives legislative backing for interim protection orders; and gives police the power to remove perpetrators from their homes to protect the victim.

The Act is a strong statement of political will, but, as always, everything will hang on implementation. Research from Lae in 2013 estimated that the probability of a conviction resulting from the rape of an adult was as low as one in 338 (Howes and

Lokuge 2013). There are an increasing numbers of NGOs helping survivors and providing referral services. At the moment, however, most solutions seem to rest in the relocation of the survivor, reflecting the difficulty of prosecuting the perpetrator.

On the economic front, women dominate informal trade in PNG, and several projects are underway to make markets safer for women to work in (Wang 2014).

7 Structural reforms

In recent years, the PNG economy has seen significant progress in some key areas of structural reform. The opening of markets and resulting improvements in the telecommunication sector and air transport have produced significant welfare gains. The rapid increase in mobile penetration rates noted earlier (Section 3) clearly shows the benefits of deregulation and private sector entry. But much remains to be done. In order to diversify the economy and increase employment and small-business opportunities, significant attention is needed to reduce the costs of doing business (Section 7.1), develop infrastructure (7.2), commercialize state-owned enterprises (7.3), and pursue public sector reform (7.4).

7.1 Reducing the costs of doing business

PNG is a costly place to undertake business (as well as for households to live). The significant real exchange rate appreciation seen in recent years (see Section 3.1) indicates that PNG is becoming more expensive relative to the rest of the world. The prices of goods and services, bank interest rates and fees, and housing prices and rentals are high in PNG. There are no easy solutions to these problems. They require increased competition, and a better enabling environment.

Increasing competition means reducing entry barriers. However, the World Bank's "Ease of Doing Business for 2014" ranked PNG 133 out of 189 countries (World Bank 2015). Analysis of the data shows that PNG's performance has not worsened in absolute terms, but that it is not keeping up with improvements made by other countries. Some reforms are evident, such as the shift by the Investment Promotion Authority to online certification, but these are not enough.

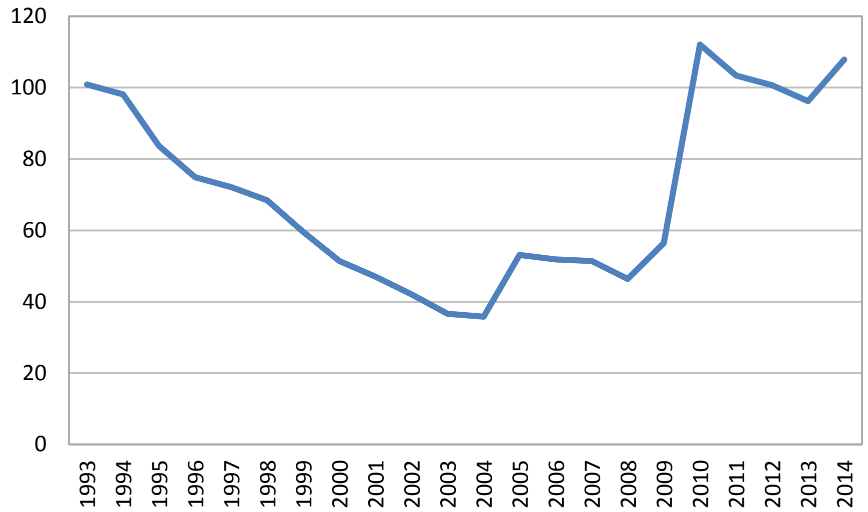
Recent analysis of the financial sector (ADB 2015e; Chand 2015) shows very high spreads between landing and deposit rates (about ten percentage points) and extraordinarily high profitability levels (returns on equity in excess of 30 per cent). There have been improvements in recent years in extending financial access including through microfinance and mobile banking, but it is still estimated that only about 15 per cent of the population has access to the formal financial sector (ADB 2015a). Moreover, recent policy moves – for example, the introduction of below-market lending rates by the state-owned National Development Bank – may undermine progress to date (ADB

2015d). The overriding need is to increase competition in the financial market. The takeover of the small Maybank by the Kina Group may be a positive step in this direction.

In the labour market, a liberal policy to allowing the hiring of foreign workers has helped overcome skilled labour gaps. Voigt-Graf (2015a) shows that the number of foreign employees and business visitors has increased rapidly. The number of employment-related arrivals has increased by 7.9 per cent a year between 2002 and 2013, compared to annual average growth in the formal labour force over the same period of 4.5 per cent (Voigt-Graf 2015a). The ratio of visitors for employment to total formal employment increased from 6 per cent in 1996 to 21 per cent in 2013 (Voigt-Graf 2015b). Increasingly, PNG is turning to Asia for its skilled labour work force: in 2000, 76 per cent of visitors for employment-related purposes came from developed countries, but this proportion had declined to 49 per cent in 2012 (Voigt-Graf 2015b).

At the other end of the labour market, the minimum wage was increased in June 2014 from K101.80 to K128 a week. Adjusting for inflation, this has brought the minimum wage back to, or slightly above, earlier highs recorded in the early 1990s and in 2010.

Figure 15 Minimum wage in 2012 prices (K per week)



Note: 2014 average for first nine months.
Source: Calculated from BPNG (2015c) quarterly data on minimum wage and CPI.

Most of the land within PNG remains under customary tenure. Disputes over land ownership are common (for example, land claims related to the LNG project are being contested in the courts). There is also a shortage of land available for development. PNG does have various models by which land can be brought into development. These include purchase or leasing by the state of customary land, and a new model developed under the National Land Development Program by which customary groups can secure a formal title to land that they can then lease (Yala and Lyons 2012).

Nevertheless, a number of obstacles to better utilization of land remain. Perhaps the most important is corruption. As Chand et al. (2014) write: "The circulation of dubious titles that are indistinguishable from their genuine counterpart make land titles as a whole of minimal value" (p.10). Corruption also seems to have been a factor in the SABL (Special and Agricultural Businesses Leases) scandal, under which a large number of leases covering some 5.2 million hectares were issued. An outcry over these leases led to the establishment of an inquiry in 2011. The inquiry and a number of court decisions found "gross abuse and/or failure to comply with due and proper processes in the granting and administration of SABL titles" (Luluaki 2014, p. 2). Although the Inquiry recommended that the majority of titles be quashed, and the government has supported this decision, no action has yet been taken.

PNG businesses are also affected by various non-economic constraints. Recent research by the World Bank found that crime is a major constraint for business, with 81 per cent of businesses surveyed saying that it was a constraint on investment and expansion (World Bank 2014). Law and order was also identified by the third Institute of National Affairs survey of businesses (conducted in 2014) to be the top business constraint, followed by corruption and infrastructure. Despite much emphasis on police reform, little improvement in policing is yet evident.

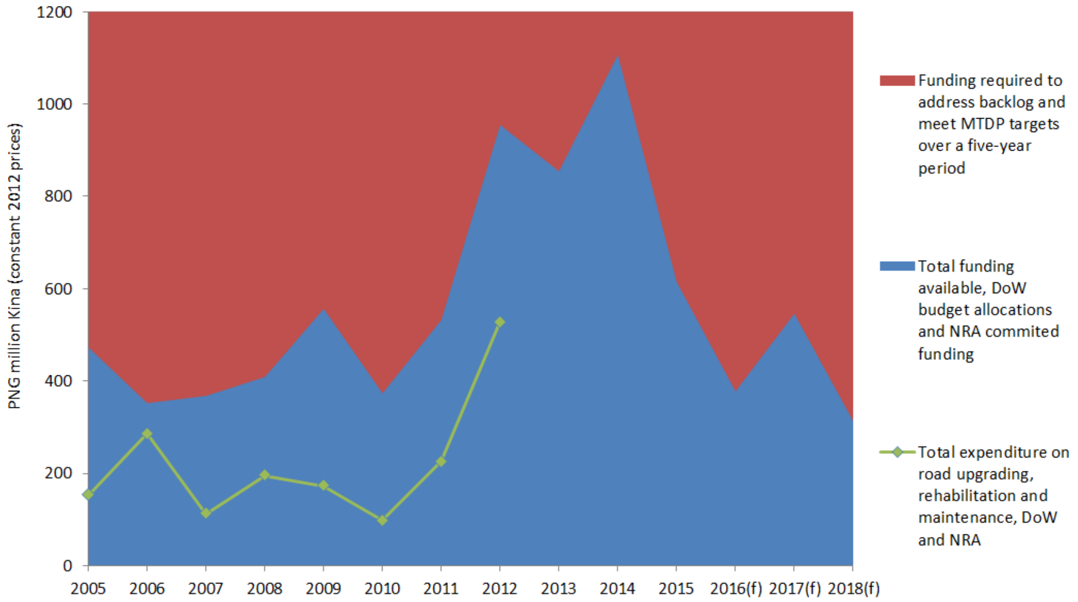
7.2 Infrastructure

Some progress has been made in recent years in improving the state of PNG's infrastructure. For example, between 2007 and 2011 the proportion of the national road network in good condition increased from 33 to 46 per cent (ADB 2015b). The first phase of the expansion of the Lae Port, PNG's largest (accounting for more than 60 per cent of PNG trade), is now complete. And a decision has been made to relocate the Port Moresby Port to the nearby Port of Motukea, which has been acquired by the government. This would both reduce port congestion and transform the Central Business District of the nation's capital.

Despite these improvements, there is a long way to go. More than three-quarters of roads become impassable at some point during the year (ADB 2015b) And only about 10 per cent of the population have access to electricity (Dornan 2014).

Moreover, there are several risks to infrastructure going forward. First, the need for expenditure cuts in the coming years (discussed in Section 4.1) will, unless there is careful prioritization, lead to a decline in the quality of roads. This is illustrated by Figure 16 below, which shows total funding for road rehabilitation and maintenance. While this has increased in recent years, it has already fallen in this year's budget and is set to decline further due to fiscal constraints.

Figure 16 Funding for national road rehabilitation and maintenance



Source: Matthew Dornan, based on budgetary and planning documents

Second, despite an expressed enthusiasm for public-private partnerships and the passage of the 2014 Public Private Partnership Act, actual progress in this direction has been slow. For example, despite an agreement with the ADB in 2008 that the expanded Lae Port would be run through a public-private partnership model (ADB 2008), such an arrangement is yet to be put in place.

Third, many infrastructure sectors are dominated by poorly-performing state-owned enterprises (SOEs).

7.3 State Owned Enterprise (SOE) reforms

SOEs in PNG dominate many infrastructure sectors. Their poor performance is indicated not only by weak financial performance (average return on equity of just 3.4 per cent for the period 2007-2012 (ADB 2015e, p.55)) but also, and more importantly, by the underperformance of those infrastructure sectors themselves.

The government aims to restructure its ownership arrangements under what is called the Kumul Trust. According to a May 2015 announcement and subsequent legislation, companies not involved in mining or oil will remain under the IPBC, which will be renamed Kumul Consolidated Holding Limited. All of PNG's mining interests including in Bougainville Copper, OK Tedi Mining Limited and in the Ramu Nickel project will be transferred to Petromin, which will be renamed Kumul Mining Holding Limited. NPCP, which holds PNG's 16.6 per cent interest in the PNG LNG project, will be renamed Kumul Petroleum Holding Limited, and will be responsible for co-developing future gas and oil projects.

The Kumul agenda is driven by the desire of the government to participate in resource projects, as it did in the LNG project. The main questions around it concern governance and financing. It is unclear who will manage the three Kumul companies, what the role of the so-called "Kumul Trust" is, and to what extent management in practice will be independent of political oversight.

The government has also announced a policy of partial privatization. Sales of SOEs of up to 49 per cent will be encouraged, starting with Air Nuigini. Partial privatization has the potential to induce better performance. The key to successful SOE reform is to instil SOEs with private sector discipline, competitive market pressures, and clear consequences for non-performance. This forces SOEs to meet their costs of capital and divest any activities that are not commercially viable. While in theory this could be done under public ownership, experience suggests that in practice this is very difficult, especially in non-competitive markets. As the ADB has recently written of PNG: "Corporatization has not prevented political interference in SOE operations" (ADB 2015e, p. 55)[4]. A policy of partial privatization would be no guarantee of an end to political interference but it would shift the balance of objectives towards commercial ends. Unfortunately, the policy seems to be moving at a very slow pace. Few references have been made to it since the PM's September 2014 announcement.

Finally, the government seems to have embarked on a policy of putting senior and experienced expatriate executives in charge of its SOEs. Former PNG LNG head, Peter Graham, has taken over as head of Ok Tedi, and former Digicel PNG head, John Mangos, has taken over as head of PNG Power.

7.4 Public sector reform

The last year has been an active one for public sector reform (good and bad) in three areas: corruption; strengthening of the National Executive Council (NEC) or Cabinet; and decentralization.

On the important issue of corruption, the year was decidedly one of mixed results. In June 2014, the government approved the disbanding of the anti-corruption Operation Taskforce Sweep after it pressed charges against the Prime Minister over the issue of excessive government payments to legal firms. Although the courts stayed that decision, the government defunded the Taskforce.

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[4] The ADB report notes that "IPBC has also consistently failed to publish annual reports with audited financial statements for both itself, and individual SOEs." It also notes that: "Recent moves to replace Telikom's chief executive officer, direct the National Development Bank to reduce its interest rates, and overturn an electricity price increase approved by the regulator all undermine SOEs' commercial mandate and independence." (ADB 2015e, p, 55).

As a result of investigations by Taskforce Sweep and the Ombudsman, a number of politicians have been subject to charges, and in some cases imprisonment. Over the course of 2014 and up to May 2015: one former minister was imprisoned for corruption (Paul Tiensten, initially for 9 and then another 3 years); two other MPs were sentenced for shorter periods (Francis Potape and Havila Kavor); and another 10 have been referred to the Public Prosecutor by the Ombudsman Commission or arrested and charged by the police, including three ministers (Puka Temu, Ben Micah and Delilah Gore), the former Opposition leader, Beldan Namah, and the Prime Minister.

The Ombudsman was forced in May of this year to vacate his position on account of reaching the mandatory retirement age of 55. No replacement has yet been appointed, and the Ombudsman has petitioned the courts to allow him to stay on. In the meantime, Ombudsman Phoebe Sangetari has once again been appointed Acting Chief Ombudsman.

In other anti-corruption developments, legislation to introduce an Independent Commission Against Corruption was introduced in 2014, but not yet passed into law. PNG is pursuing its candidacy for the Extractive Industries Transparency Initiatives. And MP David Arore was disqualified from Parliament for offering inducements to vote, including money and food, practices that are known to be widespread in PNG elections.

On balance, despite considerable progress and efforts, the anti-corruption effort has gone backward over the last year due to the disbandment of Taskforce Sweep.

A number of reforms have placed increasing concentration of power in the hands of the executive. The Public Services (Management) Act 2013 establishes a Ministerial Executive Appointments Committee to recommend from a shortlist provided by the Secretary of the Department of Personnel Management a candidate for departmental secretary to the NEC (Section 28). This is a departure from the earlier practice under a 2003 regulation whereby the Secretary of the Department of Personnel Management would present to the NEC recommendations from the Public Service Commission in respect of three candidates. In other words, the power to recommend has been shifted from the Public Service Commission to a sub-Committee of NEC, and indeed the Commission has lost its role completely in the selection process of Departmental heads.

Another area in which the executive has asserted its power is in the area of higher education. Article 109 of the new Higher Education Act gives the NEC the right to appoint: university chancellors, all non-elected governing board members; and vice-chancellors or CEOs. This is a marked departure from the status quo, under which universities are self-governing.

In what may be the governance reform with the longest-lasting and deepest impact, the District Development Authorities (DDAs), legislated for in late 2013, are now up and running. As Wiltshire (2014) explains:

> All public servants in the district, including police, teachers and health workers will come under the District Authority, whose CEO will be the District Administrator. The Members of Parliament that represent open district electorates and hold 89 of the 111 seats in the National Parliament, commonly referred to as Open MPs, will be the Chair of their respective District Authority, giving them greater influence over funding allocations and human resources."

On the positive side, the huge increase in funds (through the District Support Improvement Program or DSIP) and authority (through the DDAs) to MPs could shift the incentives for MPs to focus on local public goods and services, and for elections to be fought on who can run the district the best. On the negative side, there is high potential for waste, and politicization, and it is difficult, if not impossible, to run complex systems, such as health and education, which require mainly recurrent funds, on a district by district basis through project funding.

8 Conclusion

Conclusions for both the short term and the long term can be drawn from this paper. In the short-term (2015 to at least 2017), this is a time of unexpected risk for the PNG economy. Ramped up expenditure, an appreciated exchange rate, and then oil price falls have given rise to both fiscal and external risks. Foreign exchange rationing and the likelihood of sharp expenditure cuts and/or government cash rationing are hurting confidence, growth, and spending effectiveness. It is encouraging that the exchange rate is being allowed to depreciate gradually, and that the government has announced that expenditure cuts will be implemented and announced. Further reforms needed include a new multi-year fiscal strategy, which will need to feature significant but realistic and prioritized expenditure restraint, and further exchange rate depreciation.

In the longer term, economic prospects are brighter, with additional LNG and other resource projects on the horizon. But experience suggests that resource booms may do little to boost the living standards of ordinary Papua New Guineans. The longer-term challenges are those of structural and public sector reform to ensure productive spending and promote broad-based economic growth.

Ideally, the longer-term reform program would be launched at the same time as the macroeconomic corrections currently needed. Necessity is the mother of reform as well as invention. The short-term macroeconomic reforms will, on their own, do little to instil confidence in the economy. A program of structural and public-sector reforms would unlock PNG's economic potential.

References

ADB 2008 *Loan Agreement (Lae Port Development Project) between The Independent State of Papua New Guinea and Asian Development Bank*, The Asian Development Bank, Manilla.

ADB 2015a *Papua new Guinea sector assessment (summary): private sector*, The Asian Development Bank, Manilla.

ADB 2015b *Papua New Guinea sector assessment (summary): transport*, The Asian Development Bank, Manilla.

ADB 2015c *Papua New Guinea Economic Analysis (summary)*, The Asian Development Bank, Manilla.

ADB 2015d *Papua New Guinea sector assessment (summary): Public Sector Management*, The Asian Development Bank, Manilla.

ADB 2015e *Building a dynamic Pacific economy – strengthening the private sector in Papua New Guinea*, The Asian Development Bank, Manilla.

ANZ 2015a "Pacific Quarterly: lower oil prices will not end PNG'S LNG boom", The Australia and New Zealand Banking Group Limited, 23 February.

ANZ 2015b "ANZ PNG Quarterly Business Survey", The Australia and New Zealand Banking Group Limited, 1 April.

ANZ 2015c "ANZ PNG Quarterly Business Survey", The Australia and New Zealand Banking Group Limited, 9 July.

ANZ 2015d "Pacific Quarterly: no rest for currency watchers", The Australia and New Zealand Banking Group Limited, 26 August.

BPNG 2014 "Monetary Policy Statement by the Governor of the Bank of Papua New Guinea, Mr Loi Bakani". *Bank of Papua New Guinea*, Port Moresby, September 30.

BPNG 2015a "Monetary Policy Statement by the Governor of the Bank of Papua New Guinea, Mr Loi Bakani", *Bank of Papua New Guinea*, Port Moresby, March 31.

BPNG 2015b "Monthly Economic Review April", *Bank of Papua New Guinea*, Port Moresby. June 4.

BPNG 2015c "QEB Statistical Tables", *Bank of Papua New Guinea*, Port Moresby.

BPNG 2015d "Monthly Economic Review June", *Bank of Papua New Guinea*, Port Moresby. June 4.

Chand, S, Ondopa, J and Nao, L 2014 "Use of Land Leases as Collateral for Accessing Formal Sector Finance in Papua New Guinea", *The National Research Institute Issues Paper #07*, Port Moresby.

Chand, S 2015 "Bank interest rate margins in Papua New Guinea", National Research Institute, Issues paper #13, Port Moresby.

Claxton, C 2015 "Papua New Guinea at 40: Signs of a New Political Culture?" *State, Society & Governance in Melanesia In Brief 2015/23,* The Australian National University, Canberra.

Dornan, M 2014 "Energy poverty and access to electricity in the Pacific: heading in the wrong direction?" *The Development Policy Blog*, Development Policy Centre, ANU.

Edwards, S 1989 *Real Exchange Rates, Devaluation and Adjustment: Exchange Rate Policy in Evidence from Developing Countries,* Cambridge, Mass: MIT Press.

Faal, E 2015 "Political Budget Cycles in Papua New Guinea", *IMF Working Paper WP/07/219*, International Monetary Fund, Washington, DC.

Flanagan, P 2014 "Papua New Guinea's vanishing LNG export boom", *Development Policy Centre Policy Brief 10*, ANU, Canberra.

Gibson, J 2013 "Two decades of poverty in Papua New Guinea", *presentation to the PNG Update, 2013*, Australian National University, Canberra.

Graham, P 2014 "Developing the PNG LNG project", Australia PNG Business Council Forum and Trade Expo, pnglng.com

Howes, S and Lokuge, K 2013 "Sexual violence in Lae: impunity and resistance", *The Development Policy Blog*, The Development Policy Centre, ANU.

Howes, S, Mako A, A, Swan, A, Walton, G, Webster, T and Wiltshire, C 2014a *A lost decade? Service delivery and reforms in Papua New Guinea 2002-2012*, The National Research Institute, Port Moresby, and the Development Policy Centre, ANU, Canberra.

Howes, S, Mako, A, A, Swan, A, Walton, G, Webster, T, and Wiltshire, C 2014b "Good news on the gender front in Papua New Guinea", *The Development Policy Blog*, The Development Policy Centre, ANU.

IMF 2014, "Papua New Guinea 2014 Article IV Consultation – Staff report; and press release", *International Monetary Fund Country Report no. 14/325*, IMF, Washington, DC.

IMF 2015, *World Economic Outlook Database*, April.

Luluaki, J 2014 "Issues and lessons for policy arising from the application of the laws relating to special agricultural and business leases and related matters", *The National Research Institute Issues Paper 8*, Port Moresby.

Minister for Treasury 2015 "Ministerial Statement: Update on 2015 Budget and State of the Economy by Hon. Patrick Pruaitch, CMG, MP", Port Moresby.

OANDA 2015 "Historical Exchange Rates", *OANDA Corporation*.

Oil Search 2015. ASX Announcement. Activities for the Quarter ended 30 June 2015, Osborne, D 2014. "An analysis of the Papua New Guinea Sovereign Wealth Fund's process of formulation and progress towards establishment" *The National Research Institute Issues Paper 9,* Port Moresby.

PNG LNG (2014) "The PNG LNG story", Port Moresby.

Shatz, H and Tarr, D 2000 "Exchange Rate Overvaluation and Trade Protection: Lessons from Experience," *World Bank Policy and Research Working Paper Number 2289*, World Bank, Washington, DC.

Suwamaru, J, K 2014 "Impact of Mobile Phone Usage in Papua New Guinea", *State, Society & Governance in Melanesia In Brief* 2014/41, ANU, Canberra.

Treasury 2014 *National Budget – 2015*, Papua New Guinea Department of Treasury, Port Moresby.

Treasury 2015 *Mid Year Economic and Fiscal Outlook 2015*, Papua New Guinea Department of Treasury, Port Moresby.

UNDP 2013 *Human Development Report 2013: Papua New Guinea*, United Nations Development Programme, Washington, DC.

UNDP 2015a *Table 1: Human Development Index and its components*, United Nations Development Programme, Washington, DC.

UNDP 2015b *Table 5: Gender-related development index (GDI)*, United Nations Development Programme, Washington, DC.

Voigt-Graf, C 2015a "Visitor arrivals and the economic boom in Papua New Guinea", *The Development Policy Blog*, The Development Policy Centre, ANU, Canberra.

Voigt-Graf, C 2015b "The changing composition of PNG's foreign workforce", *The Development Policy Blog*, The Development Policy Centre, ANU, Canberra.

Voigt-Graf, C, and Howes, S 2015 "Why have PNG tourist numbers stagnated?", *The Development Policy Blog*, The Development Policy Centre, ANU, Canberra.

Walton, G 2015 "Eliminating project fees in PNG schools: a step too far?" *The Development Policy Blog*, The Development Policy Centre, ANU, Canberra.

Walton, G, Swan, A, and Howes, S 2015 "Papua New Guinea's Tuition Fee-Free policy: is it working?" *The Development Policy Blog*, The Development Policy Centre, ANU, Canberra.

Wang, Y 2014 "Women's market participation and potential for business advancement: a case study of women traders in Papua New Guinea", *The National Research Institute*, Discussion Paper 141, Port Moresby.

Wiltshire, C 2014 "Without fear or favour? O'Neill's District Authorities to build capacity and consolidate MP powers in PNG", *The Development Policy Centre Blog*, The Development Policy Centre, ANU, Canberra.

Wiltshire, C and Mako, A 2014 *Financing PNG's free primary health care policy: user fees, funding and performance*, The National Research Institute, Port Moresby and The Development Policy Centre, Canberra.

World Bank 2014 "The Costs of Crime and Violence in Papua New Guinea", *The World Bank Group*, Wahsington, DC.

World Bank 2015 *Ease of Doing Business Index: Papua New Guinea*, The World Bank Group, Washington, DC.

Yala, C., Sanida, O and Mako, A 2014 "State's Acquisition of Equity in Oil Search Ltd has Significant Implications for the PNG Economy," National Research Institute, Port Moresby.

Yala, C and Lyons, K 2012 "The National Land Research Framework for the Papua New Guinea National Land Development Program", NRI Discussion Paper No. 122, Port Moresby.