



PAPUA NEW GUINEA

2016 ARTICLE IV CONSULTATION—PRESS RELEASE: AND STAFF REPORT

January 2017

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2016 Article IV consultation with Papua New Guinea, the following documents have been released and are included in this package:

- A **Press Release**.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on a lapse of time basis, following discussions that ended on September 30, 2016, with the officials of Papua New Guinea on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on November 11, 2016.
- An **Informational Annex** prepared by the IMF staff.
- A **Debt Sustainability Analysis** prepared by the staffs of the IMF and the World Bank.

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IMF Executive Board Concludes 2016 Article IV Consultation with Papua New Guinea

The Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation¹ with Papua New Guinea on November 29, 2016, and considered and endorsed the staff appraisal without a meeting on a lapse-of-time basis.²

Papua New Guinea is facing headwinds stemming from low commodity prices and is recovering from a major drought, which have weighed on economic growth, weakened the external position, and created fiscal challenges. Foreign exchange (FX) remains in short supply but inflows have recently picked up somewhat, and the gross foreign reserve position is expected to remain broadly stable. Revenues fell short of the budget in response to recent commodity price declines, prompting the Parliament to pass a supplementary budget 2016 that entails expenditure cuts. Inflation has increased somewhat, partly reflecting the exchange rate depreciation.

After strong economic growth driven by the new liquefied natural gas (LNG) project coming on stream in 2014-15, the underlying growth is expected to slow down reflecting base effects following the commencement of LNG production, as well as modest growth in the non-resource sector. The large LNG exports and import compression caused by the shortage of FX led to a strong current account surplus, largely offset by financial account outflows consistent with project development agreements. Inflation is expected to continue edging upwards in the near term due to the gradual exchange rate depreciation and prices of seasonal agricultural items.

Near-term risks to the outlook are tilted to the downside, as fiscal retrenchment may have a greater impact on the economy than currently expected and the limited availability of FX continues to constrain imports and economic activity. A further drop in commodity prices would weaken the external and fiscal positions. In addition, natural disasters, climate change and

¹ Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

² The Executive Board takes decisions under its lapse-of-time procedure when the Board agrees that a proposal can be considered without convening formal discussions.

weather-related shocks pose continual downside risks. Over the medium term, risks are more balanced due to the upside potential of new resource sector projects.

Executive Board Assessment

In concluding the 2016 Article IV consultation with Papua New Guinea (PNG), Executive Directors endorsed the staff's appraisal, as follows:

As a commodity exporter, the PNG economy has been hit hard by the drop in world commodity prices and a major drought. The authorities have responded to these shocks through fiscal tightening and a combination of modest exchange rate depreciation and FX sales. Strong economic growth driven by the start of the PNG LNG project has tailed off amidst weak non-resource sector growth. Inflation has begun to pick up reflecting earlier exchange rate depreciation and increases in prices of seasonal agricultural items. Prudent macroeconomic policies are therefore essential for maintaining debt sustainability and safeguarding the external position.

Additional fiscal adjustment is needed to ensure debt sustainability over the medium term. While the authorities should be commended for promptly passing a supplementary 2016 budget, further adjustment may be needed in view of financing constraints. Passage of a prudent 2017 budget should be commended, which will facilitate continued fiscal consolidation over the medium term, anchored by the existing 30 percent public debt-to-GDP fiscal anchor. The pace of adjustment should continue to balance the need to maintain debt sustainability against the costs of excessive fiscal adjustment in terms of growth and poverty reduction.

Greater revenue mobilization would create fiscal space for expenditures that would help address PNG's huge development and social needs. Measures drawn from the National Tax Review should be adopted going forward. In the near term, efforts should be undertaken to improve tax compliance. There is considerable scope for improving the fiscal regime for extractive industries.

Government expenditure quality should be improved through public financial management (PFM) reform. There is much scope for better deploying existing public sector resources towards effective public service delivery, including on core areas of health and education. Further PFM reforms should build upon the recently published public expenditure and financial accountability (PEFA) document and successes in rolling out the new information management system to encompass cash management issues. The sovereign wealth fund should be put into operation as soon as possible to help improve transparency and ensure that resource revenue is used in a manner that is consistent with macroeconomic stabilization and saving for future generations.

Greater exchange rate flexibility and a more efficient and transparent FX allocation mechanism are urgently needed. Lack of exchange rate flexibility has impeded PNG's adjustment to sharply lower world commodity prices, weakened the external and fiscal positions, and reduced the growth contribution from net exports. The pass-through of more rapid exchange rate depreciation into inflation would need to be countered through monetary policy tightening but transmission

channels are impeded by excessive banking system liquidity, implying the need for measures to absorb excess liquidity. Staff does not recommend Fund approval of the retention of the exchange restriction arising from FX prioritization and rationing of FX, of the tax clearance certificate requirement, and of the multiple currency practices (MCPs), because they are not temporary and in the absence of a timetable for their elimination.

An acceleration of structural reform is key for private sector development, in support of PNG's inclusive growth strategy. The business environment, particularly for agriculture and SMEs, needs to be strengthened through providing better infrastructure, access to financing, and law and order.

While staff welcomes the recent progress, more decisive action is needed to improve macroeconomic statistics. Noteworthy progress has been made to strengthen national accounts and government finance statistics. Priorities for further reform include balance of payments, international investment position, and debt data.

Selected Economic and Financial Indicators, 2012–17

Nominal GDP (2015):	US\$21.2 billion 1/					
Population (2015):	7.6 million					
GDP per capita (2015):	US\$2,745					
Quota:	SDR 131.6 million					
	2012	2013	2014	2015	2016	2017
				Est.	Proj.	
	(Percentage change)					
Real sector						
Real GDP growth	6.1	4.7	7.4	6.6	2.5	3.0
Resource 2/	-11.3	8.6	93.1	47.0	2.1	3.7
Nonresource	7.3	4.5	2.2	2.1	2.6	2.8
CPI (annual average)	4.5	5.0	5.2	6.0	6.9	7.5
CPI (end-period)	5.8	2.9	6.7	6.3	7.0	7.5
	(In percent of GDP)					
Central government operations						
Revenue and grants	21.3	20.9	21.7	18.3	17.4	16.7
<i>Of which:</i> Resource revenue	2.5	1.4	2.4	1.1	0.8	1.1
Expenditure and net lending	22.4	27.8	28.3	23.4	21.8	19.4
Net lending(+)/borrowing(-)	-1.2	-6.9	-6.5	-5.1	-4.4	-2.8
Nonresource net lending(+)/borrowing(-)	-3.7	-8.3	-8.9	-6.2	-5.2	-3.8
	(Percentage change)					
Money and credit (percentage change)						
Domestic credit	37.7	40.9	23.5	15.8	4.9	5.3
Credit to the private sector	12.1	17.5	3.5	3.4	5.7	8.0
Broad money	10.9	6.7	3.4	8.0	2.1	5.6
Interest rate (182-day Treasury bills; period average)	5.8	5.0	5.3	7.1	7.6	8.6
	(In billions of U.S. dollars)					
Balance of payments						
Exports, f.o.b.	6.3	6.0	8.8	8.9	8.3	8.6
<i>Of which:</i> Resource	4.5	3.8	6.8	6.7	6.1	6.2
Imports, c.i.f.	-7.7	-6.5	-4.1	-2.7	-3.0	-3.3
Current account (including grants)	-7.7	-6.7	0.7	2.3	1.5	1.4
(In percent of GDP)	-36.1	-31.5	3.0	10.9	7.7	6.5
Gross official international reserves	4.0	2.8	2.3	1.9	1.7	1.8
(In months of goods and services imports)	4.0	4.5	4.6	3.5	3.2	3.2
	(In percent of GDP)					
Government debt						
Government gross debt	19.1	25.0	28.1	30.4	33.5	33.5
External debt-to-GDP ratio (in percent) 3/	5.3	6.4	6.5	6.9	10.3	12.3
External debt-service ratio (percent of exports) 3/	1.5	1.4	1.1	0.7	1.4	1.9
Exchange rates						
US\$/kina (end-period)	0.4755	0.4130	0.3855	0.3325	...	...
NEER (2005=100, end-period)	124.6	120.6	114.2	116.4	...	...
REER (2005=100, end-period)	128.1	126.9	123.5	131.2	...	...
Terms of trade (2010=100, end-period)	116.2	113.9	106.2	100.2	93.1	92.6
Nominal GDP (in billions of kina)	44.3	47.5	54.7	59.0	61.9	68.7
Nonresource nominal GDP (in billions of kina)	38.3	41.4	44.4	47.9	52.1	57.5

Sources: Department of Treasury; Bank of Papua New Guinea; and IMF staff estimates and projections.

1/ Based on period average exchange rate.

2/ Resource sector includes production of mineral, petroleum, and gas and directly related activities such as mining and quarrying, but excludes indirectly related activities such as transportation and construction

3/ Public external debt includes external debt of the central government, the central bank, and statutory authorities.



PAPUA NEW GUINEA

STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION

November 11, 2016

KEY ISSUES

Context: Papua New Guinea (PNG) is a resource-rich economy, but low commodity prices and a major drought have weighed on economic growth and created fiscal challenges. Inflation has increased somewhat, partly reflecting the gradual exchange rate depreciation. Foreign exchange (FX) is in short supply, although inflows have recently picked up somewhat and the gross foreign reserve position is expected to remain broadly stable. Non-resource sector growth remains modest, underscoring the need for structural reform. In the lead-up to mid-2017 elections, the political situation has been more fluid than usual.

Risks: Near-term risks are tilted to the downside, as fiscal retrenchment may have a greater impact on the economy than currently expected and a restrictive FX allocation mechanism may prove unsustainable. Medium-term risks are more balanced due to the upside potential of new resource sector projects.

Main policy recommendations:

- The authorities recently adopted a prudent 2017 budget that helps lay the foundation for continued fiscal consolidation and maintenance of debt sustainability over the medium term. Nevertheless, further efforts are needed to boost revenues by adopting measures highlighted in the recent National Tax Review.
- Greater exchange rate flexibility, together with a more efficient and transparent FX market, would help facilitate the adjustment to external shocks while maintaining adequate foreign reserves, and yield a greater growth contribution from net exports.
- Monetary tightening would moderate the inflationary effects of faster exchange rate depreciation. The authorities were advised to absorb excess liquidity by active sterilization, refraining from direct monetary financing of the fiscal deficit, and improving liquidity management, to strengthen monetary policy transmission channels.
- A renewed focus is needed on creating the conditions for private sector development, particularly by improving infrastructure and financial access for non-resource sectors such as agriculture.

Approved By
**Odd Per Brekk and
 Zeine Zeidane**

Discussions were held in Port Moresby during September 19–30, 2016. The staff team comprised Clinton Shiells (head), David Grigorian, Shelvin Karan, Ryota Nakatani (all APD), Aditya Gaiha (MCM), and Amira Rasekh and Gabriela Rosenberg (both LEG). Nancy Lelang (OED) joined the discussions. Ricardo Davico and Nadine Dubost assisted from HQ.

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RECENT DEVELOPMENTS, OUTLOOK, AND RISKS

A. Context and Background

1. Papua New Guinea (PNG) is a resource-rich country with significant potential facing daunting challenges. In addition to mineral, oil, and gas deposits, PNG enjoys abundant fisheries, forestry, and potential for expanded agriculture and tourism. However, economic growth is impeded by structural factors that weaken the environment for private sector development, and poverty remains widespread.¹ Public expectations of benefits to the broader economy from resource wealth have yet to be realized, and there is much still to be gained from effective implementation of structural reforms to facilitate growth and development. In the lead up to the mid-2017 elections, the political situation has been more fluid than usual. The Prime Minister recently survived a vote of no confidence by a margin of 85 to 21.

2. Strong real GDP growth has been driven by the new gas sector project coming on stream, while underlying growth is modest and inflation has increased. The large liquefied natural gas project (PNG LNG) led to high real GDP growth during the project construction phase through 2014, and again in 2015 as LNG production reached full capacity. The current account surplus reflects LNG exports and import compression, largely offset by financial account outflows.² However, underlying (non-resource sector) growth has moderated since 2012, running below trend (a rough proxy for potential), which staff estimates to be around 3½–4½ percent per annum.

3. The recent decline in commodity prices and drought in 2015 and early 2016 have weakened the external and fiscal positions and lowered economic growth. Commodity price declines have reduced the profitability of resource sector firms, leading to sharply lower tax revenues. An El Niño-related drought caused widespread food shortages and led to the closure of a river-linked large mining operation (Ok Tedi) for several months.

4. The authorities responded to the recent shocks by cutting budgetary expenditures in supplementary 2015 and 2016 budgets and adopting a prudent 2017 budget. Fiscal spending and deficits were ramped up in 2012–14, financed through domestic borrowing. Late last year, expenditures were adjusted downwards sharply through a supplementary budget, spurred by lower revenue and tightening domestic financing constraints. Revenues fell short of the budget again in the first half of 2016 in response to recent commodity price declines, prompting the Parliament to approve a supplementary 2016 budget in late August that offsets roughly half the revenue shortfall through expenditure cuts. The 2017 budget approved by the parliament in early November

¹ The most recent official poverty rate estimate is 40 percent (from the 2009/10 Household Income and Expenditure Survey).

² The current account shifted from deficit during the LNG project construction phase, to surplus following the commencement of LNG exports. However, FX receipts are largely held offshore (consistent with project development agreements), so increases in exports have been largely offset by capital outflows.

maintains fiscal discipline by targeting a fiscal deficit broadly consistent with PNG's Medium Term Fiscal Strategy (MTFS), as elaborated below.

5. The Bank of Papua New Guinea (BPNG) responded to the terms of trade decline with a gradual depreciation of the Kina and FX rationing. Concerned about excessive currency depreciation, it imposed an FX trading margin in June 2014. As a result, the Kina appreciated by about 17 percent vis-à-vis the U.S. dollar initially, although it has since depreciated by 23½ percent. Despite significant unmet demand and FX queues, the exchange rate has been largely stable since May 2016. Consequently, and in contrast to many other commodity exporters, PNG's real effective exchange rate (REER) remained broadly unchanged between end-2012 and end-2015. Gross foreign reserves were US\$1.7 billion (3 months of imports) as of October 21, well short of the Fund's reserve adequacy metric. Further reserve losses have been avoided thus far by FX rationing. There are, however, signs that a pick-up in agricultural exports such as coffee, the higher gold price, and the resumption of operations at the Ok Tedi mine have led to increased FX inflows, while compressed imports have reduced FX demand. Monetary policy transmission has been impeded by excess liquidity (Figure 4).

6. Improved GDP compilation has found 2013 nominal GDP to be around 40 percent above earlier National Statistics Office (NSO) estimates. The NSO has released revised nominal GDP estimates for 2006–13, which incorporate improvements in GDP compilation. The new estimates make better use of taxation and business survey data, resulting in a significantly expanded view of economic output (Box 1).³ The new GDP estimates imply lower tax, fiscal deficit, and debt ratios.

B. Outlook and Risks

7. Near-term economic growth is expected to decline from recent highs, and inflation is edging upwards. Lower real GDP growth rates in 2016 and 2017 reflect base effects following the commencement of LNG production, as well as more modest growth in the non-resource sector (Tables 1–5). The latter will be supported by pre-election and Asia-Pacific Economic Cooperation (APEC) related spending in 2017,⁴ but growth is expected to remain subdued in the absence of further private sector development.⁵ Headline inflation is expected to continue edging upwards in the near term, from 6 percent in 2015 to 7 percent in 2016, due to the gradual exchange rate depreciation and increases in prices of seasonal agricultural items. Continued moderate real GDP growth is consistent with a moderate expansion of private sector credit. Banks are expected to remain highly liquid, sound, and profitable.

³ Final estimates of real GDP levels have yet to be released. In the meantime, staff's macro framework assumes unchanged GDP deflators. On this basis, the revised nominal GDP data imply lower real GDP growth.

⁴ PNG will host APEC in 2018.

⁵ The historical average for the last 20 years is around 3 percent for total real GDP growth and 4 percent for non-resource real GDP growth. Long-run average working age population growth is nearly 3 percent.

8. Near-term risks are weighted to the downside, but medium-term risks are more balanced (Appendix I).

- Downside risks include the potential for fiscal consolidation to have a greater impact on the economy than currently expected. The political cycle could also increase fiscal pressures. In the external sector, there is a risk that the current FX allocation mechanism will prove unsustainable, which could lead to more rapid currency depreciation, possibly under disorderly conditions. A further drop in commodity prices would weaken the external and fiscal positions. In addition, natural disasters and other weather-related shocks pose continual downside risks, as demonstrated by the recent drought, although such drought conditions occur very infrequently.
- On the upside, the medium-term outlook could be boosted by additional LNG capacity expansion. Papua LNG (for which a final investment decision could be taken in 2017, with construction to commence as early as 2018, although this timetable is subject to delays) and the PNG LNG extensions, which together are expected to amount to around the same size as the initial PNG LNG project (which had an approximately US\$19 billion investment cost), are not included in the baseline projections pending final investment decisions. Other resource sector developments such as the Wafi-Golpu gold mine, pose similar upside risk (Box 2). For inclusive growth, upside risk derives from the potential for improved structural reform implementation to boost non-resource sector growth, as well as increased regional trade integration.
- The Debt Sustainability Analysis indicates that the risk of debt distress in PNG remains low, based on an assessment of public and publicly-guaranteed external debt. In line with the 2015 Article IV consultation, factoring in public domestic and private external debt, the overall risk of debt distress remains heightened.

POLICIES FOR MACROECONOMIC STABILITY

9. **Against this background, staff's view is that modifying the macroeconomic policy mix would facilitate PNG's adjustment to the large terms of trade shock.** The 2017 budget targets a prudent fiscal deficit that balances the need to bring down the debt ratio against the costs of excessive fiscal adjustment in terms of growth and poverty reduction, with a view to bringing the gross government debt-to-GDP ratio below 30 percent by 2021, consistent with the debt ratio ceiling in the authorities' Medium Term Fiscal Strategy (MTFS). Going forward, additional revenue measures should be implemented to lessen the need for expenditure cuts. Greater exchange rate flexibility would help strengthen the external and fiscal positions, yielding a larger growth contribution from net exports. More rapid exchange rate adjustment implies a need for monetary policy tightening to moderate the inflationary effects of the depreciation; in this regard, measures to strengthen monetary policy transmission channels are needed given the large stock of excess liquidity. Partially sterilized foreign exchange intervention and large money-financed fiscal deficits have played central roles in the liquidity build up, while limited central bank independence and weak

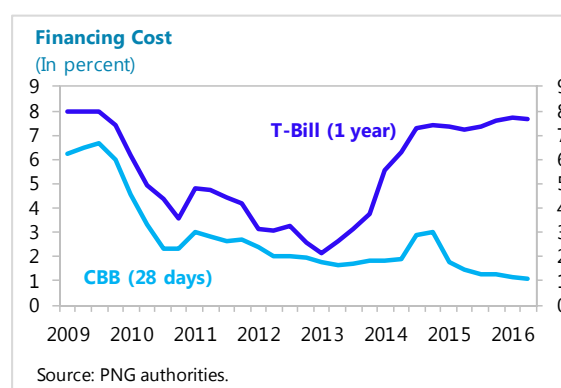
government cash management have constrained efforts to absorb it. Thus far, excess liquidity has not led to inflationary pressures because structural impediments constrain private credit growth but this could change if the economy picks up.

A. Improving Fiscal Stability

Fiscal policy should balance the need to maintain macroeconomic stability against the needs of an inclusive growth agenda. In the near term, expenditure cuts should offset the revenue shortfall and any financing gap. While the 2017 budget targets strike an appropriate balance, financing constraints may force additional expenditure cuts in the remainder of 2016. Over the medium term, improvements in public financial management (PFM) and elimination of unproductive government expenditures should also contribute. A comprehensive tax reform package that would enhance efficiency and raise revenues based on the recent National Tax Review should be another pillar of medium-term adjustment.

10. In 2015, fiscal pressures stemming from the sharp drop in world commodity prices and tightening domestic financing constraints necessitated significant expenditure adjustment:

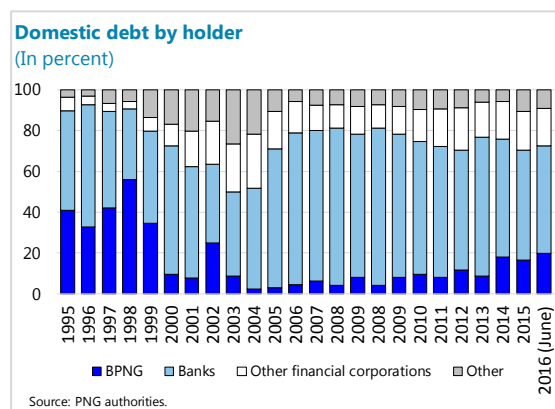
- Revenues were K3.0 billion (or 5.0 percent of GDP) below original budget estimates, with three-quarters of the shortfall due to lower resource revenues. Expenditures were reduced by K2.7 billion (or 4.6 percent of GDP) relative to the budget. Spending cuts were concentrated at the national government level, and included large reductions in expenditure relative to original budget projections for health and education with virtually no reduction in provincial/district government expenditure. There were reports of payment arrears (particularly public sector wages).
- Proceeds from a large asset sale was included in the 2015 budget as financing but the sale has been delayed, increasing the need for financing from other sources.⁶ Government securities auctions have been undersubscribed and financing costs have increased. Local financial institutions reportedly have a low appetite for additional government securities, given current holdings and internal risk limits. The BPNG's share of domestic debt has thus increased, reaching 20 percent in June 2016.



⁶ The asset is a 4.27 percent interest in the PNG LNG project, and was budgeted at K2.5 billion. The sale was delayed due to disagreements concerning the sale price and a slow vetting process to verify the relevant landowners under the communal land ownership system. The future timing of this asset sale is unclear.

11. The authorities sought new financing sources for the 2016 budget:

- A 5-year US\$500 million syndicated bank loan will likely finance the budget deficit in 2016. The US\$200 million first tranche was disbursed in August, and the second tranche is under discussion.
- Market conditions permitting, a debut sovereign bond issuance for \$500 million is now planned for 2017. The World Bank and ADB are providing project-related support.
- Prospects for additional domestic budgetary financing are limited as banks and superannuation funds are nearing internal limits for holding government securities.

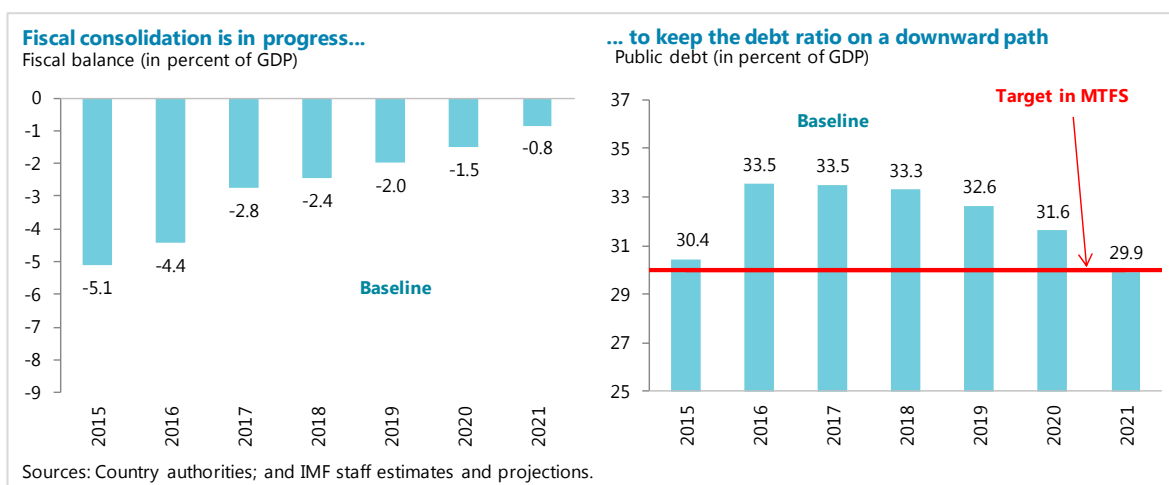


12. The 2016 supplementary budget included expenditure cuts and one-off revenue measures to offset the effects of declining world commodity prices and the weak domestic economy. Total revenue and grants in 2016 were expected to fall K1.9 billion (or 3.1 percent of GDP) short of the budget. In response, parliament passed a supplementary budget in August that included expenditure cuts of K0.9 billion (1.5 percent of GDP) and K1.0 billion in higher revenues from state-owned enterprise (SOE) and statutory authority dividends and asset sales. The timing of the asset sales is unclear and the dividends may not be consistent with the financial performance of the SOEs and statutory authorities. In light of external financing of US\$500 million (equivalent to nearly K1.6 billion) from the syndicated bank loan, it is unlikely that financing could be secured for the entire projected K3.1 billion deficit, necessitating further expenditure cuts. Such cuts should be concentrated in provincial/district government spending, which would have the least adverse growth impact according to a recent ADB study.⁷ In addition, PFM processes and governance are weakest for such expenditures. Cutting expenditures further, however, could be difficult in a pre-election year.

13. The 2017 budget targets a fiscal deficit that is consistent with a steadily declining debt-to-GDP ratio over the medium term, built upon broadly realistic revenue projections. The fiscal consolidation in 2017 will be driven mainly by spending, as revenue measures were limited primarily to enhanced tax compliance efforts. Revenues and grants are budgeted at K11.5 billion, an increase of K0.7 billion over the projected 2016 level, declining by 0.7 percentage points of GDP, with limited revenue measures having been included in the pre-election environment. Expenditures are budgeted at K13.4 billion, K0.2 billion lower than in the 2016 level. This implies a fiscal deficit of K1.9 billion (equivalent to 2.8 percent of GDP) and a debt-to-GDP ratio of 33½ percent. The public debt-to-GDP ratio is expected to decline over the medium term, to just under 30 percent of GDP in

⁷ Asian Development Bank, "Wok Bung Wantaim: Using Subnational Government Partnerships to Improve Infrastructure Implementation in Papua New Guinea," Manila, Philippines, 2016.

2021, in line with the legislated limit of 30 percent in the MTF5, which serves as the fiscal anchor.⁸ The pace of fiscal consolidation should be carefully calibrated to avoid a sharp contraction, implying a more gradual adjustment than specified in the MTF5. The staff's view is that the 2017 budget strikes an appropriate balance between the need to maintain debt sustainability and avoiding an economic contraction. Over the medium term, the authorities will need to specify the revenue and expenditure measures they will implement to achieve the targeted reduction in the fiscal deficit. As elaborated below, the National Tax Review provides a variety of recommendations on the revenue side but the contribution of each measure would need to be carefully assessed and quantified. On the expenditure side, also as elaborated below, there appears to be ample scope for increasing expenditure efficiency, particularly for provincial/district government capital expenditures.



14. Going forward, a comprehensive revenue reform would help raise revenue collections and create space for maintaining efficient public spending. The National Tax Review completed in October 2015—while falling short of providing a quantified list of possible revenue measures—assessed the changes needed to PNG's tax and non-tax revenue systems in support of the government's sustainable development objectives. Key recommendations included reductions in personal and corporate income tax rates, broadening the personal and corporate income tax bases through reduced tax exemptions, improving the return from natural resource extraction, and increasing consumption tax rates. The Review recommends reduced state equity participation in the resources sector, to be offset by reforms to the Additional Profit Tax, as well as reforms to other aspects of the mining and petroleum tax regime. The Tax Review echoes 2013 FAD TA by noting that the tax arrangements for PNG's mining and petroleum sectors are very generous compared to other resource rich countries and do not reflect the maturity of the PNG resource sector. Therefore, fiscal revenues from the resource sector may not improve significantly unless the government avoids granting tax holidays and concessions for subsequent resource projects. Finally, modernization of

⁸ Fiscal deficit and debt to GDP ratios in the authorities' 2017 budget are modestly lower than Fund staff projections reflecting staff's cautious assessment of the 2016 supplementary budget revenue measures and Fund staff's use of the WEO oil price projections to forecast the oil and gas sector GDP deflator.

the Internal Revenue Commission (IRC) and the PNG Customs Service is urgently needed to improve tax administration and compliance.

15. The need to strengthen PFM was underscored by the recently published Public Expenditure and Financial Accountability (PEFA) Assessment (Box 3). Much scope remains to better deploy existing public sector resources towards effective public service delivery, including in core areas such as education, health, and law and order. The revenue shortfalls have provided impetus for stricter expenditure controls. The authorities have developed a high-level PFM reform strategy, known as the PEFA Road Map 2015-18, to address the deficiencies of the PFM systems identified in the PEFA. The first priority is placed on strengthening core PFM functions which will underpin and provide the platform for more advanced reforms, including the roll out of the new information management system (IFMIS). The road map is only a first step in the reform strategy, which should be complemented by fully articulated action plans and present more explicitly the role of line ministries.

16. Commendable progress has been made towards the rollout of the IFMIS, while other PFM reforms should be accelerated. Further steps to improve cash management are urgently needed to ensure effective use of public financial resources, beginning with tracking inflows from tax and other sources, and ending with tracking of outflows through payments by line ministries. Thirty-three agencies that account for 95 percent of the national budget are nearly covered by the IFMIS. These efforts have been supported by TA from the European Union. Work is underway to strengthen cash management supported by IMF TA. Passage of an amended PFM Act in August is another major reform since this brings greater accountability through mandatory audits and enhanced financial controls to statutory bodies such as the IRC and local level governments as well. Financial monitoring and performance of SOEs should also be improved. Severe cash management problems should be urgently addressed, including by implementing a new government banking framework, drawing upon recent IMF cash management TA recommendations. There are plans to improve the public procurement act next year.

17. The sovereign wealth fund (SWF) should be operationalized. With the legislation to establish the SWF now in place, the SWF should be operationalized as planned in 2016, even though little is expected to be saved in the near term under the current contribution rules and conditions. The Treasury Department is working on the establishment of a SWF for PNG, including the formation of the board, while the BPNG is examining possible models for the setting up of an administrative secretariat at BPNG. A technical report on the assessment of existing capacity in managing the assets and possible models for the establishment of the secretariat was completed in July 2016. BPNG is now working on developing a suitable model for the establishment of the secretariat.

Authorities' Views

18. The government remains firmly committed to existing fiscal anchors. Fiscal discipline through expenditure cuts last year and this year in supplementary budgets are important steps in the direction favored by staff. The additional revenue raising and expenditure cutting measures in

the 2016 supplementary budget maintains the fiscal deficit in the original budget. The government aims to achieve the MTFS objective of a balanced budget by 2021. Thus, public debt will remain sustainable through the medium term. The two new priorities for the 2017 budget are the general election and APEC preparations. Government will likely be unable to increase national infrastructure spending next year. It is committed to including a realistic revenue projection in the 2017 budget. The prospect of issuing a debut sovereign bond has served as a helpful disciplining device for macro policies. The authorities are assessing and evaluating the National Tax Review recommendations. It will be difficult to include revenue raising tax policy measures in the 2017 budget given the upcoming elections but the government will nevertheless consider raising indirect taxes such as 'sin taxes' (excises on alcohol, gambling, and tobacco) and the General Sales Tax (GST). Modernization of IRC and Customs will continue.

B. Monetary Policy and the Exchange Rate

The current FX allocation mechanism poses risks for sustainability of the external position and could result in disorderly exchange rate adjustment. Greater exchange rate flexibility and improved market efficiency and transparency would reduce the cost of adjustment to lower commodity prices and curtail risks. Steps to strengthen monetary policy effectiveness are urgently needed, as a tighter monetary policy stance may be called for to manage the pass-through from greater exchange rate depreciation to inflation.

19. Since the introduction of a trading margin for FX transactions in mid-2014, exchange rate adjustment has stalled in real effective terms. While the lower Kina/USD exchange rate has pushed up import prices, limited access to FX has been equally, if not more, challenging for businesses than if the Kina had depreciated more quickly. Since mid-2014, the nominal value of the Kina depreciated by around 5 percent against the Australian dollar, a key trading partner currency, and in real effective terms has depreciated by only 2 percent. Despite this depreciation, the FX market has remained short as reflected in the long queues of unmet import payment orders reported by banks, importers, and business associations, although the tightness of the FX market has moderated somewhat recently as FX inflows have picked up and imports have been compressed.

20. Staff found an additional restriction on current international payments and two multiple currency practices (MCPs) that are inconsistent with Article VIII of the IMF's Articles of Agreement (see Informational Annex). In last year's Article IV consultation, staff found that the tax clearance certificate regime was inconsistent with Article VIII and this restriction remains in place. This year, the mission found that the authorities had prioritized FX orders related to import payments, and among these, had given priority to the payments of selected importers and rationed FX causing shortages, delays, and arrears in current international payments (e.g., those related to non-priority imports, dividend payments, and consultancy fees). There are also indications from market participants that the reference rate/mid-rate is not truly market determined. The mission observed the presence of two MCPs. One MCP arises from the actual deviation of more than 2 percent between the rates used by the BPNG for its FX allocations to authorized FX dealers

(AFEDs) and the rates used by the AFEDs in transactions with their clients. In addition, a MCP arises from potential spread deviations of more than 2 percent between the rates set by the BPNG for its transactions with the government and embassies, and the exchange rates used by AFEDs in transactions with their clients.

21. Faced with an excess demand, BPNG has intervened to supply small amounts of FX and slow the rate of Kina/USD depreciation. Between 2010 and 2012, FX supply was abundant due to partially sterilized inflows associated with the PNG LNG project construction phase, and strong commodity prices. This upswing reversed in 2013, as FDI inflows declined and commodity prices fell, and the subsequent increase in LNG exports was not matched by increased FX inflows. BPNG has been providing limited FX amounts to the market, and in 2015 spent nearly US\$830 million in FX intervention, which was however insufficient to clear FX demand. By limiting its FX sales to the market, BPNG has avoided large reserve losses. Despite the FX shortage, the Kina/USD exchange rate has remained overvalued, which is expected to dissipate assuming a gradual depreciation into the medium term (Box 4). In addition, FX rationing has increased the risks of balance of payments problems, and hampered private sector investment by compressing imports, discouraging non-resource exports, and impeding dividend transfers abroad. Import compression has lifted the import coverage of foreign reserves. Staff found no evidence of a parallel FX market given recent actions by the authorities to monitor and close vostro bank accounts that could previously be used to channel parallel market transactions. However, there are clearly strong incentives for such a market to develop.

22. Staff urged BPNG to allow greater flexibility in the Kina/USD exchange rate and promote market efficiency and transparency. More flexibility in the exchange rate would allow the exchange rate to act as a shock absorber, which would help facilitate the adjustment to external shocks while maintaining adequate foreign reserves. It would also promote a greater economic growth contribution from net exports. Coupled with fiscal adjustment, more exchange rate flexibility would likely reduce overvaluation over time. At the same time, a return to a more effective auction system for FX would help allocate reserves more transparently and efficiently.⁹ An auction system would need to be underpinned by appropriate macroeconomic policies. Follow-up Fund TA could be helpful in this regard, including to develop measures that would increase market efficiency and transparency. Risks of faster depreciation include higher inflation, which should be contained by tightening liquidity as elaborated below, while balance sheet effects are limited given the low public external debt, and the bulk of private external debt has a natural hedge in the form of LNG exports.

23. A tighter monetary policy would likely be needed to manage the pass-through to inflation if faster currency depreciation were to take place, but monetary policy effectiveness appears constrained by excess liquidity. BPNG has kept the monetary policy interest rate (the Kina Facility Rate (KFR)) on hold at 6.25 percent since early 2013, which is roughly zero in real terms. However, changes in the monetary policy interest rate are not effective due to excess liquidity, as

⁹ International Monetary Fund (2015), "Evolution of PNG's FX Regime," Papua New Guinea—Selected Issues (IMF Country Report No. 15/219).

explained below. Moreover, bank lending rates are significantly higher in part due to pricing of credit risk. The liquidity build-up reflects domestic financing of large fiscal deficits and unsterilized FX purchases.

24. The current liquidity overhang has not resulted in rapid private credit growth thus far because of long-standing structural impediments. Although some interest rates are low or negative in real terms, private credit remains constrained, as near-zero deposit rates are coupled with significantly higher lending rates, in part due to pricing of credit risk. Structural factors—including with regard to law and order, contract enforceability, property rights, and land tenure—are key impediments to private credit growth that will take time to address. In this environment of constrained private sector credit, the large volume of banking sector liquidity has not fueled inflation but this could change if the economy picks up.

25. Staff advised the BPNG to absorb excess liquidity, following which it would be in a better position to evaluate whether there is a need to raise the current monetary policy interest rate. BPNG should absorb excess liquidity by active sterilization, stop monetizing the fiscal deficit, and improve liquidity management, drawing on MCM TA recommendations. Absorption of excess liquidity is impeded by the existence of public sector trust accounts held in the banking system rather than with the BPNG. MCM TA recommendations include: (1) moving government funds from the banks to the BPNG (which would also assist with cash management); and (2) until this transfer fully takes place, the BPNG should apply an additional reserve requirement to government funds held in the commercial banks. Reducing fiscal dominance and strengthening the BPNG's capacity to absorb excess liquidity through issuing central bank bills would allow the higher reserve requirements to be phased out.

26. The BPNG is reviewing its plans to change the specification of the monetary policy interest rate to improve monetary policy transmission. BPNG announced in March plans to change the policy interest rate from the overnight KFR, to the 63-day Treasury bill yield. However, staff noted that without measures to adjust liquidity, this proposed change is unlikely to be effective. Moreover, any new monetary policy interest rate should be an overnight or other shorter-term rate, to better reflect the stance of monetary policy, and the use of a Treasury bill yield for this purpose should be avoided to preserve central bank independence.

Authorities' Views

27. The low FX inflows resulting from continued low export commodity prices, and persistent import demand, contributed to the FX market imbalance and led to the depreciation of the Kina. In 2014, the BPNG introduced a trading margin of 75 basis points above and below the daily interbank rate to abolish the parallel market conducted by AFEDs. This measure reestablished a single market for FX transactions. The Kina has depreciated significantly vis-à-vis the U.S. dollar since then and is not overvalued in BPNG's view. There has been an increase in FX inflows starting in the second quarter of 2016, particularly from the mining and agriculture sectors, though supply is still low. Together with the intervention by BPNG, the recent increases in inflows assisted in meeting some of the import orders in the FX market, reduced the size of FX queues reported by

banks, and slowed the pace of depreciation of the Kina exchange rate. The supply of FX from these sources would have been sufficient to clear the outstanding import orders in the spot market. However, this did not happen because AFEDs used some of the spot inflows for foreign currency loans (trade finance) and forward contracts, instead of serving the spot market. The BPNG is discussing ways to improve the functioning of the spot market with authorized dealers. Further exchange rate depreciation would not stimulate export volumes due to production constraints but would only feed through into inflation.

28. The authorities disagreed with staff's findings of Article VIII breaches. BPNG's ability to draw down reserves is curtailed by the need to hold sufficient reserves for government payments and to maintain an orderly movement in the exchange rate. FX market efficiency is impeded by the oligopolistic behavior of commercial banks and importers. The BPNG does not impose any restrictions on commercial banks' operations in the spot FX market. The interbank/mid-rate for the Kina is determined by market participants. This market is not hampered by BPNG and is transparent. While BPNG advises commercial banks concerning the priorities for its FX allocation, it is entirely up to the banks to decide how to allocate the FX inflows. The shortages and delays in the FX market are in large part caused by the AFEDs' rationing of FX and provision of other products such as trade finance and forward contracts that divert some of the spot inflows. BPNG's interventions are either general or targeted, the former being done more often than the latter. In the general interventions, FX dealers decide on the allocation of the FX themselves, while for the limited targeted intervention, FX allocation for strategic imports of food, fuel, communications, medicine, and education, are decided by BPNG and FX dealers implement accordingly. The tax clearance certificate requirement is not a restriction on FX flows but rather is imposed by the IRC and BPNG only checks compliance; the certificate is not required for trade transactions.

29. Inflation outcomes are still considered manageable and therefore BPNG plans to maintain a neutral monetary policy stance in the coming months. BPNG is mindful of the upward trend in inflation and will closely monitor developments and may adjust its monetary policy stance as necessary, although the interest rate channel to curb inflation is weak. Constrained private credit growth reflects demand and commercial banks' risk perception. The BPNG announced in March its intention to have an alternative policy mechanism to address the weak transmission of the KFR to market interest rates. Persistently high banking system liquidity is contributing to the weak transmission of the KFR to market interest rates. The mechanism is still being considered in consultation with stakeholders, both domestic and external. The aim is to have a mechanism that will be more effective in ensuring that the policy signaling rate transmits to market interest rates. The authorities have agreed to open new trust accounts at the BPNG, with payments to be made using the new payment system (the Kina Automated Transfer System (KATS)), while leaving the existing trust accounts, whose balances have declined over time and are now very low, in place.

C. Financial Sector Issues

The banking system is sound, but access to financial services remains limited and financial inclusion efforts should continue.

30. The highly liquid banking system is sound and profitable, while PNG’s financial sector is shallow compared to many other middle-income countries in the region. Three large banks (two Australian and one domestic) play a dominant role in providing credit to the economy. Return on assets is around 2.0 percent (June 2016) and has averaged a healthy 2.5 percent over the last 10 years, and the capital adequacy ratio is high (32.3 percent in June 2016). The ratio of non-performing plus past-due loans to total risk-weighted assets is currently around 6 percent (June 2016), above the stable 10-year average of around 5 percent. However, banks only hold around half of their assets as loans, with the other half held largely as short-term securities and cash, due to structural (e.g., collateral) constraints as noted above. PNG’s ratio of domestic private credit to GDP is well below the average for East Asia and Pacific developing countries, Pacific Island Small States, and other Middle Income Countries.¹⁰ Given high banking system liquidity, and notwithstanding the aforementioned structural constraints on private credit growth, BPNG should ensure that its macro-financial surveillance is focused on identifying any pockets of credit growth that could create spillover risks to the economy.

31. Work is underway on financial inclusion and the payment system. PNG remains among the most underbanked countries on several indicators (numbers of branches, ATMs, and loan penetration). However, mobile access has been expanding, and financial inclusion efforts will benefit from the BPNG’s new KATS system, which represents substantial progress in payment system development and efficiency. While tiny compared to the banks, credit unions play a critical role in extending services to rural areas, in some cases being the only financial services provider. New credit union legislation will help to modernize the sector, but needs supporting regulations and guidelines.

32. The authorities continue to strengthen the AML/CFT regime and address the risks of withdrawal of correspondent banking relationships (CBRs). Owing to significant progress in enhancing the legal and regulatory framework, PNG successfully exited the Financial Action Task Force (FATF) “gray” list in June 2016. The authorities are committed to ensuring the effectiveness of the AML/CFT regime through strengthening institutions and enhancing domestic cooperation. In the context of increased regulatory compliance costs and the FATF listing, some financial institutions and money remitters in PNG previously experienced withdrawal of CBRs. The volume of CBR transactions nevertheless increased, which suggests consolidation of CBRs in other financial institutions. To mitigate the risks of CBR withdrawals, including in light of Bank of South Pacific’s branch network in the Pacific, the authorities are encouraged to continue enhancing the compliance of their regulatory and supervisory frameworks with international standards, including for AML/CFT.

Authorities’ Views

33. The banking system remains sound and stable. Credit growth was slow last year reflecting the drought and Ok Tedi mine closure. Real estate prices grew modestly, with excess capacity of office space and rentals having come down since 2012-13, and banks are very cautious. Banks’ exposure to the government though their holdings of government securities is significant,

¹⁰ International Monetary Fund (2015) “Financial Inclusion and Access—Supporting Inclusive Growth,” Papua New Guinea—Selected Issues (IMF Country Report No. 15/319).

accounting for nearly one third of their total assets. Commercial bank lending to SOEs has been minimal, with the exception of one SOE that borrowed from a commercial bank to make a dividend payment. A new law on credit unions is potentially important for increasing financial inclusion.

34. After the passage of a suite of laws in July 2015 on AML/CFT, certain measures were implemented, including the recruitment of key personnel for the Financial Analysis and Supervision Unit (FASU). In May 2016, the Asia Pacific Group conducted an onsite audit of progress made on meeting the requirements of the FATF. These led to the delisting of PNG from the gray list by the FATF in June 2016.

STRUCTURAL REFORMS FOR INCLUSIVE GROWTH

Despite strong ambitions, gains in inclusive growth have been elusive. In the context of multiple challenges and capacity constraints, priority should be placed on improving conditions for private sector development and making the most of non-renewable resource sector wealth.

35. A renewed focus is needed on improving the conditions for private sector development, particularly in non-resource sector SMEs.¹¹ Infrastructure (including notably access to affordable electricity and road construction and air and sea transportation to allow perishable products to reach markets), access to financing by implementing the authorities' financial inclusion strategy, and law and order are key elements of the environment for private sector development. The non-resource private sector is particularly important to inclusive growth, by increasing economic diversification and expanding employment opportunities, particularly given the capital-intensive nature of resource sector firms. Agriculture in particular is likely to be a source of unrealized potential, and the government should continue to move forward with the ADB and World Bank to enhance productivity (i.e., the World Bank's Productive Partnerships in Agriculture Project for smallholder coffee and cocoa producers). Tourism also has considerable potential. The current SME reform process is a positive step but must be carefully tailored. In this regard, restrictions on foreign investors may adversely affect private sector growth. Measures to increase competition would also help increase economic efficiency and support inclusive growth.

36. Non-renewable resource sector wealth can be better leveraged through tax reform and transparency. State equity participation increases the economy's exposure to resource sector developments through additional fiscal risks, even though those risks can be off-balance sheet in nature and non-transparent. Against this background, tax reform coupled with enhanced transparency has the potential to improve the resource sector's ability to contribute to broader economic growth. Recent publication of PNG's first Extractive Industries Transparency Initiative (EITI) report represented an important step forward for transparency, and highlighted deficiencies in the resource sector, including reporting by large multinational firms.

¹¹ International Monetary Fund (2015) "Structural Reforms for Sustainable and Inclusive Growth in PNG," Papua New Guinea—Selected Issues (IMF Country Report No. 15/319).

Authorities' Views

37. **The government will continue to implement structural reforms to boost investments and broaden the tax base through growth in the non-mineral sectors, especially agriculture.**

This is crucial because PNG will continue to face low world commodity prices and other supply shocks. The government will encourage and support SMEs by providing training on financial literacy and entrepreneurial skills, and financial inclusion initiatives. Given the constraints on the government's capacity to formulate, implement, and monitor such projects, engaging in programs such as Public-Private Partnerships, including by SOEs, will be encouraged and the necessary legislation put in place to help ensure more cost effective service delivery.

STATISTICS AND OTHER ISSUES

38. **Sustained effort is being made to improve macroeconomic statistics but further progress is needed to support transparency and policymaking.** In addition to revised nominal GDP estimates covered by ongoing TA, the government financial statistics framework is being updated, and PNG is about to report in the Government Financial Statistics Yearbook for the first time.¹² These improvements have resulted from a sustained and committed effort by the authorities, leveraging IMF TA. Nevertheless, more progress is urgently needed, including among others, in balance of payments and international investment position data, and in making data publicly available.

STAFF APPRAISAL

39. **As a commodity exporter, the PNG economy has been hit hard by the drop in world commodity prices and a major drought.** The authorities have responded to these shocks through fiscal tightening and a combination of modest exchange rate depreciation and FX sales. Strong economic growth driven by the start of the PNG LNG project has tailed off amidst weak non-resource sector growth. Inflation has begun to pick up reflecting earlier exchange rate depreciation and increases in prices of seasonal agricultural items. Prudent macroeconomic policies are therefore essential for maintaining debt sustainability and safeguarding the external position.

40. **Additional fiscal adjustment is needed to ensure debt sustainability over the medium term.** While the authorities should be commended for promptly passing a supplementary 2016 budget, further adjustment may be needed in view of financing constraints. Passage of a prudent 2017 budget should be commended, which will facilitate continued fiscal consolidation over the medium term, anchored by the existing 30 percent public debt-to-GDP fiscal anchor. The pace of adjustment should continue to balance the need to maintain debt sustainability against the costs of excessive fiscal adjustment in terms of growth and poverty reduction.

¹² Volume 1 of the 2016 Budget used the Government Financial Statistics Manual 2014.

41. Greater revenue mobilization would create fiscal space for expenditures that would help address PNG's huge development and social needs. Measures drawn from the National Tax Review should be adopted going forward. In the near term, efforts should be undertaken to improve tax compliance. There is considerable scope for improving the fiscal regime for extractive industries.

42. Government expenditure quality should be improved through PFM reform. There is much scope for better deploying existing public sector resources towards effective public service delivery, including on core areas of health and education. Further PFM reforms should build upon the recently published PEFA document and successes in rolling out the new information management system to encompass cash management issues. The SWF should be put into operation as soon as possible to help improve transparency and ensure that resource revenue is used in a manner that is consistent with macroeconomic stabilization and saving for future generations.

43. Greater exchange rate flexibility and a more efficient and transparent FX allocation mechanism are urgently needed. Lack of exchange rate flexibility has impeded PNG's adjustment to sharply lower world commodity prices, weakened the external and fiscal positions, and reduced the growth contribution from net exports. The pass-through of more rapid exchange rate depreciation into inflation would need to be countered through monetary policy tightening but transmission channels are impeded by excessive banking system liquidity, implying the need for measures to absorb excess liquidity. Staff does not recommend Fund approval of the retention of the exchange restriction arising from FX prioritization and rationing of FX, of the tax clearance certificate requirement, and of the MCPs, because they are not temporary and in the absence of a timetable for their elimination.

44. An acceleration of structural reform is key for private sector development, in support of PNG's inclusive growth strategy. The business environment, particularly for agriculture and SMEs, needs to be strengthened through providing better infrastructure, access to financing, and law and order.

45. While staff welcomes the recent progress, more decisive action is needed to improve macroeconomic statistics. Noteworthy progress has been made to strengthen national accounts and government finance statistics. Priorities for further reform include balance of payments, international investment position, and debt data.

46. It is proposed that the next Article IV consultation with PNG will be held on the standard 12-month cycle.

Box 1. Papua New Guinea: GDP Revision 2006-13

In March 2016, The National Statistics Office (NSO) of PNG released a new set of nominal GDP estimates for 2006-13 after an 8-year hiatus. This was a revision to the nominal GDP for 2006 which was last released in March 2008 while the estimates for 2007-13 were released for the first time. The release includes new data sources as well as a revised industrial classification and was presented using the System of National Accounts 2008 standards and conventions.

The PNG Standard Industrial Classification (PNGSIC) 2014 has been derived from the United Nations International Standard Industrial Classification (ISIC) Revision 4. The ISIC Revision 4 has been modified to reflect the various forms of economic activity in PNG and replaces the ISIC Revision 3 which formed the basis of the previous GDP releases. The PNGSIC 2014 is more detailed than the PNGSIC 2000 and identifies new industries separately, especially the service-related industries.

Taxation and business survey data were the major sources for estimating the formal sector economic activity. Non-identifiable GST sales data and annual income tax returns data were collected from the Internal Revenue Commission and this was complemented by the annual Survey of Business Activities and the quarterly Business Liaison Survey to estimate output in the non-financial business sector given the absence of business register information. Similarly, output in the mining sector was estimated using Balance of Payments data. The BPNG was the primary source for data on the financial sector.

Information from the 2009/10 Household Income and Expenditure Survey (HIES) was used to estimate the informal economy and economic activity by the household sector. Household production was estimated for the 2009/10 reference year and extrapolated using the consumer price index and population estimates. The informal sector consists of betel nut production and trade; household lending activity; retailing by street vendors; transport; household manufacturing; and household construction.

The revised estimates are a significant upward revision from previous released numbers by NSO and also from IMF staff and PNG Treasury's estimates for 2007-13. The revised volume estimates or Real GDP for 2006-13 have not yet been finalized. Table 1 highlights the magnitude of the revisions.

Table 1. Papua New Guinea: Nominal GDP

	(In billions of Kina)							
	2006	2007	2008	2009	2010	2011	2012	2013
Previous Nominal GDP - IMF staff estimates (A)	16.9	18.8	21.6	22.3	26.4	30.5	32.1	34.6
Revised Nominal GDP - PNG NSO (B)	25.4	28.0	31.2	31.8	38.6	42.6	44.3	47.5
Difference (B-A)	8.5	9.2	9.6	9.5	12.2	12.1	12.2	12.9

Box 2. Papua New Guinea: Upcoming Mining and Petroleum Projects

Interest in PNG's mining and petroleum sector continues despite the current low oil and gas prices. As of March 2016, there were 123 active exploration licenses, 68 exploration licenses pending renewal, and 72 new applications for exploration licenses with the Mineral Resources Authority of PNG. The three major projects that are currently advanced include the Papua LNG project, Nautilus Minerals Solwara 1 project, and the Wafi-Golpu mine.

Papua LNG Project

The Papua LNG project is PNG's largest undeveloped gas resource and its second LNG project based on the Elk-Antelope gas fields in Gulf province. It is a joint venture project consisting of Total SA, which will also be the operator (40.1 percent), InterOil (36.5 percent) and Oil Search (23 percent), and expected to produce around 7 million tons annually. The final development concept and the sizing and capacity of facilities are currently being finalized and construction had been earmarked for 2018. However, this could now be delayed due to ExxonMobile's purchase of InterOil and their plans to sequence this development with the train extensions at the PNG LNG project and other plans to achieve synergies with the PNG LNG project.

The Papua LNG project remains viable despite the current low global gas prices. The project is being touted as the lowest cost LNG project compared to other similar green field investments around the world and has the added benefit of being close to the world's major LNG markets in Asia. According to the joint venture, global LNG demand will exceed contracted supply in the 2020s, just when Papua LNG is expected to deliver its first gas.

Major Mining Projects in Advanced Stages

The Nautilus Solwara 1 project will be the world's first deep seabed mining project for copper, gold, zinc, and silver. The Solwara 1 project is located 30 kilometers offshore from New Ireland in the Bismarck Sea at a depth of 1,600 meters. Currently, construction of the Production Support Vessel and other specialized equipment is underway and mining was expected to start in the first half of 2018. However, given recent funding constraints, this could now be delayed.

The Wafi-Golpu project has 4.8 million tons of copper and 11 million ounces of gold. At its peak, it is expected to produce 150,000 tons of copper and 320,000 ounces of gold annually with an estimated mine life of 23–30 years. The project is located 65 kilometers from Lae city and is going through various stages of feasibility studies.

Others

There are several other mining and gas projects that are in various stages of exploration. One of the major ones is the Frieda River project in East and West Sepik province which is in an advanced exploration stage. It is PNG's largest undeveloped copper-gold project and one of the top 10 undeveloped open pit copper mines in the world. Other notable mining projects include the Crater Mountain Project in Eastern Highlands province (gold), Mt. Kare project between Hela and Enga provinces (gold and silver), Yandera project in Madang (copper), Hessen Bay (iron sands), Woodlark in Milne Bay (gold), Mayur Resources projects in Gulf province (copper, gold, coal and iron sands), and Kili Teke project in Hela province (gold and copper deposits) as well as possible re-development of the now closed Paguna copper mine in Bougainville. There are also a number of potential gas developments such as the Stanley condensate stripping project, P'nyang field to support Papua LNG project expansion, aggregation of a number of gas accumulations in the Western province, and offshore Pandora gas project.

Box 3. Papua New Guinea: Public Expenditure and Financial Accountability Assessment

The first Public Expenditure and Financial Accountability (PEFA) Assessment since 2009 was finalized in August 2015. It includes a set of 30 indicators organized around seven 'pillars' or core dimensions of PFM performance, with the aim of identifying areas where measures are needed to improve fiscal discipline, resource allocation, and the efficiency of public service delivery.

Overall performance was mixed. Scores were relatively stronger for pillars related to the credibility of fiscal strategy and budget, and policy-based planning and budgeting. Performance for other pillars was weaker, and the authors concluded that there is much scope for improvement, particularly regarding fiscal accounting/reporting, management and acquisition of assets and liabilities, transparency and auditing, and budget control and execution (Figure 1).

The authorities have developed a high-level PFM reform strategy to address the deficiencies of the PFM systems. First priority is placed on strengthening core PFM functions, including notably the new information management system roll out. However, several aspects of the reform strategy need to be strengthened to ensure a successful implementation of the PFM reform.

Figure 1. Average Performance by Seven PEFA Pillars



Note: Data used for ratings mainly covered 2011, 2012 and 2013. Average performance of pillars: indicator score "A" is equal to 3 and score "D" equal to 0. The step between A and D scores is 0.5. Source: PEFA Report

- Credibility of the fiscal strategy and budget** was satisfactory, as net deviations from the budget were small, though expenditure composition varied considerably. Recurrent spending (e.g., wages, goods and services, etc.) tended to be higher than budgeted due to weak expenditure controls and data, while the development budget tended to be lower, offsetting the former.

Box 3. Papua New Guinea: Public Expenditure and Financial Accountability Assessment (concluded)

- **Policy-based planning and budgeting** was orderly and well understood, and progress has been made in embedding the medium-term dimension into fiscal planning. However, expenditure and ceilings for agencies were only applied one year into the future, and did not cover half of the budget representing capital/development expenditure.
- **The comprehensiveness and transparency** of the budget was limited. First, the presentation could be more analytical and open to external scrutiny and policy accountability. But more importantly, the extent of unreported government operations appears to be large.
- **Predictability and control in budget execution** is weak. Transfers related to the government's main operational account are poorly accounted for and bank reconciliations are often delayed. Cash flow forecasts are prepared, but information provided to executing departments is not reliable, and rules for reallocation are not always respected. Payroll controls are weak and compromised by the decentralization of responsibility to departments and provinces/districts.
- **External scrutiny and audit** performance is weak, and there is little evidence that recommendations are followed up systematically, reflecting the absence of effective accountability mechanisms, legal recourse to impose penalties on non-complying officials, and related concerns.
- **Asset and liability management** is weak, with numerous statutory bodies fulfilling a range of commercial, social and regulatory functions, often with long delays in reporting. Preparation of capital budgets appeared fragmented, and few departments undertake rigorous economic analyses of investment projects. The legal basis for borrowing and issuing guarantees was deemed unclear, fragmented, and contradictory.
- **Accounting, recording, and reporting** are hampered by unreliable records, bank reconciliations are not carried out in a timely manner, and the coverage and classification of data do not allow direct comparisons with the original budget. No recognized accounting standards are used to prepare public financial statements, which are only submitted for audit 15-16 months after the end of the year (3-6 months is standard).

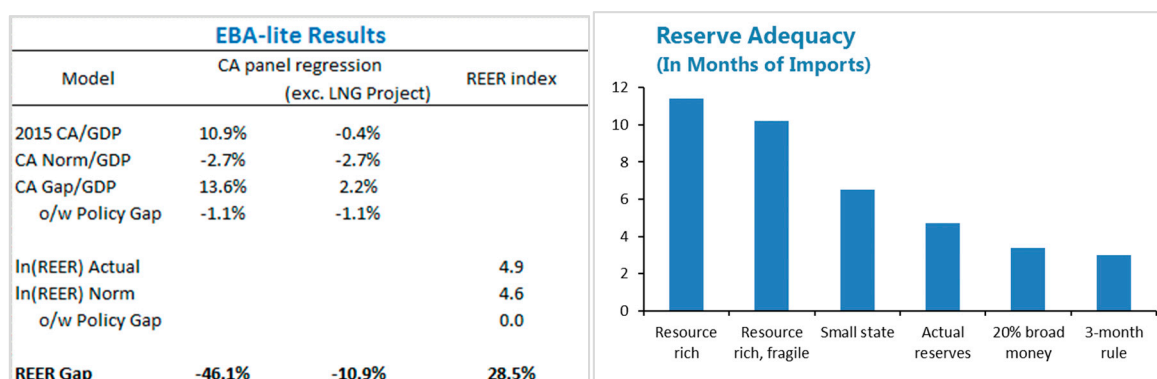
Box 4. Papua New Guinea: External Assessment

PNG's external position is moderately weaker than implied by fundamentals and desirable policies, given its weak gross foreign reserve position and overvalued real effective exchange rate.

PNG's real effective exchange rate (REER) appreciated in 2015, as LNG production reached full capacity and LNG exports gained momentum. It has been depreciating in 2016, albeit very modestly, reflecting the persistent imbalance in the FX market. Notwithstanding the current depreciation of the Kina, excess demand for FX persists due to low foreign currency inflows. Restricted access to FX has contributed to a compression of imports.

The extended External Balance Assessment (EBA) methodology, EBA-lite tool, provides mixed results. Although the REER is likely overvalued if we adjust for LNG production and take into account FX rationing, the exchange rate misalignment is expected to disappear eventually as ongoing depreciation continues gradually into the medium term. The EBA-lite current account balance (CAB) analysis implies a current account norm of -2.7 percent of GDP, compared to an estimated outcome of 10.9 percent of GDP, suggesting that the REER is undervalued by around 46 percent. However, the 2015 current account surplus should be viewed in conjunction with the financial account outflows associated with the increase in nonresident bank balances of foreign LNG project owners. If we exclude LNG exports, the CAB is estimated at -0.4 percent of GDP, and the EBA-lite CAB analysis suggests that the REER is undervalued by only 10.9 percent. In any case, a fundamental issue with the EBA-lite methodology is that it does not incorporate the effects of FX rationing. The market exchange rate does not reflect the premium imposed by FX rationing on domestic buyers. The EBA-lite REER index model, on the other hand, points to overvaluation of about 29 percent, consistent with the limited exchange rate adjustment thus far to the large terms of trade shock.

Despite improvements in the current account, the reserves to import ratio is below the level implied by the reserve adequacy metric approach.¹ Although the metric approach suggests that reserves should strengthen reflecting the increase in LNG exports starting in 2014, FX receipts are mostly held offshore consistent with project development agreements, so the net FX inflow from the LNG exports is limited. Also, declines in commodity prices have led to lower reserve levels.



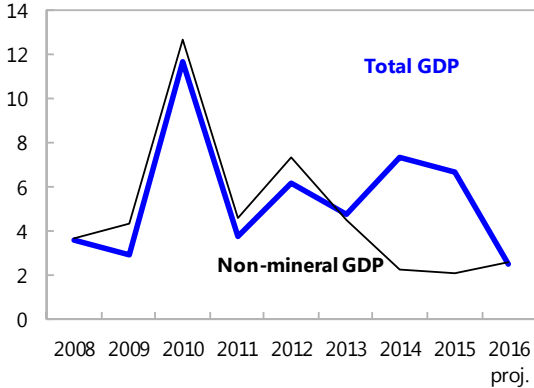
Source: IMF staff estimates and projections.

¹ Because of the limitation of data, central government's data is used instead of general government data. The assessment here is based on staff's judgement because there is a wide range of adequate levels of reserves, depending on methods used.

Figure 1. Papua New Guinea: Real Sector

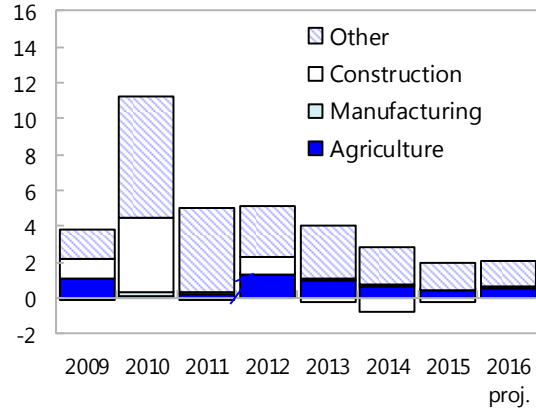
In the near term real GDP growth is expected to decline from recent highs...

Real GDP Growth
(In percent)



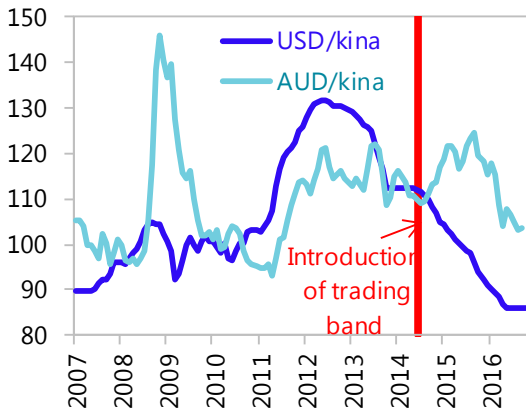
...in part due to base effects from recent strong resource sector growth.

Non-Mineral Sectors Contribution
(In percent of GDP)



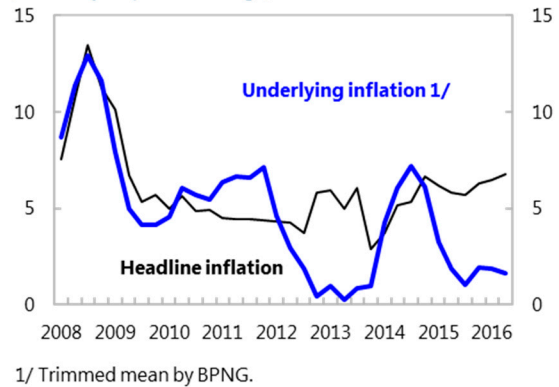
Pass-through of exchange rate depreciation...

Exchange Rate
(2010=100)



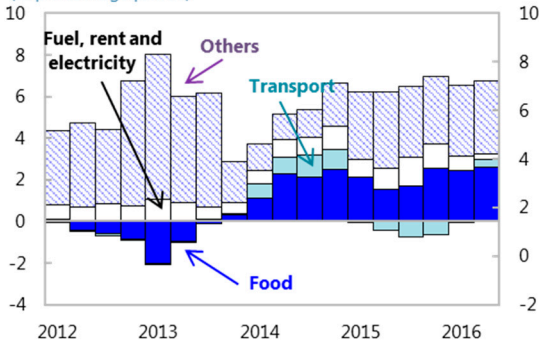
... has become evident in increased inflation...

CPI Inflation
(Year-on-year percent change)



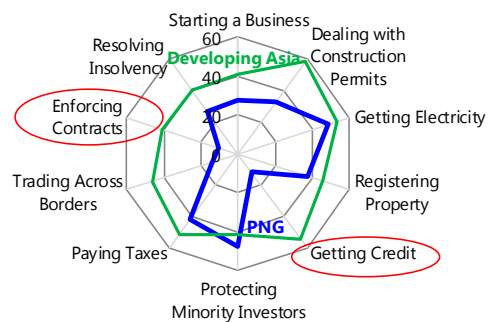
...by raising prices for imported goods.

Contribution to CPI Inflation
(In percentage points)



Structural reform is needed to remove impediments to private sector development.

Doing Business Categories, 2016
(Percentile rank, higher is better)

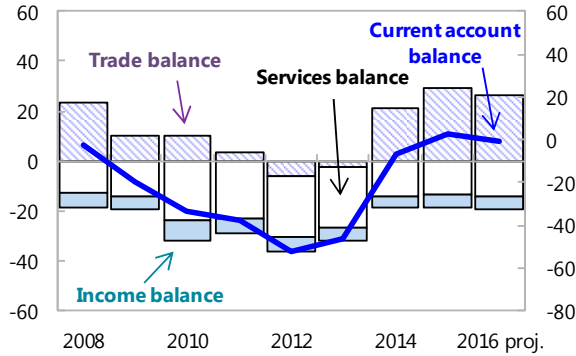


Sources: Country authorities; and IMF staff estimates and projections.

Figure 2. Papua New Guinea: External Sector

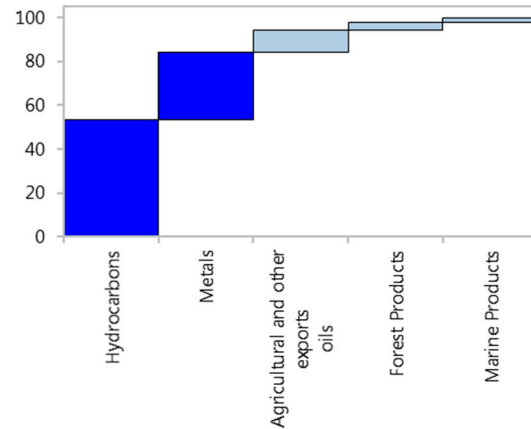
The commencement of LNG exports has pulled the current account into surplus...

Current Account
(In percent of GDP)



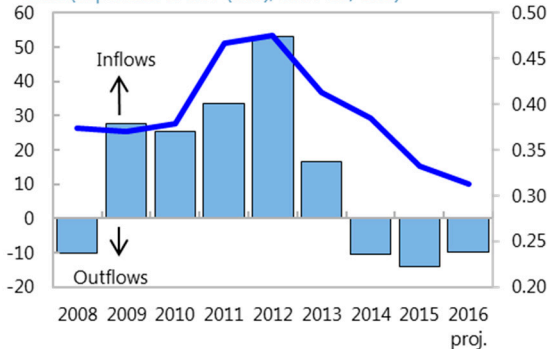
...and hydrocarbons now represent the bulk of exports, alongside metals.

Export Product Share, 2015
(In percent)



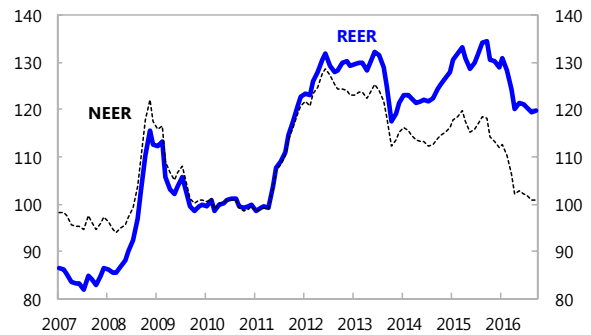
Higher exports are offset by financial account outflows, contributing to a shortage of FX and nominal exchange rate depreciation...

Capital and Financial Account Balance and Exchange Rate
(In percent of GDP (LHS), and PGK/USD)



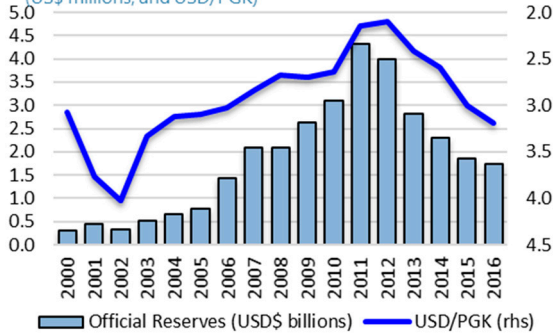
... but less adjustment has occurred in the real effective exchange rate and against key trading partner currencies.

Real Effective Exchange Rate
(2010 = 100)



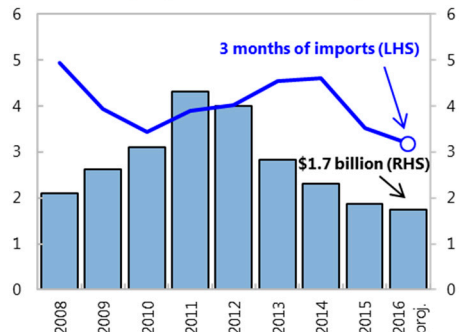
The BPNG has intervened to slow the pace of exchange rate depreciation...

Gross Official Reserves and Exchange Rate
(US\$ millions, and USD/PGK)



...and as a result reserves have fallen (equivalent to about 3 months of imports).

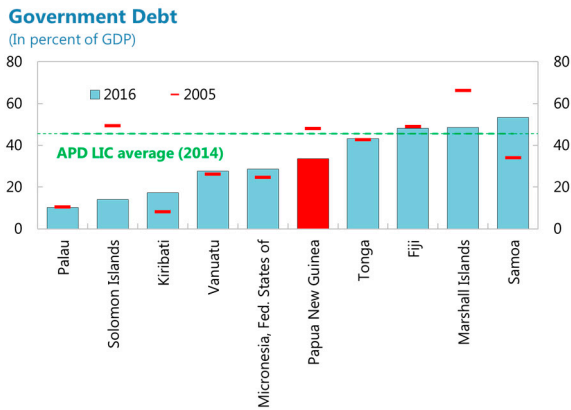
Gross Official Reserves
(In months of imports) (In US\$ billion)



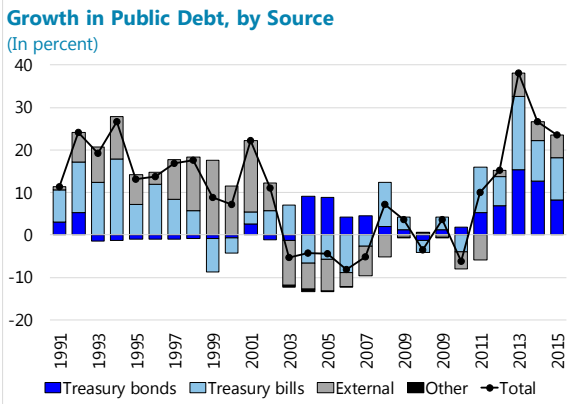
Sources: Country authorities; and IMF staff estimates and projections.

Figure 3. Papua New Guinea: Fiscal Sector

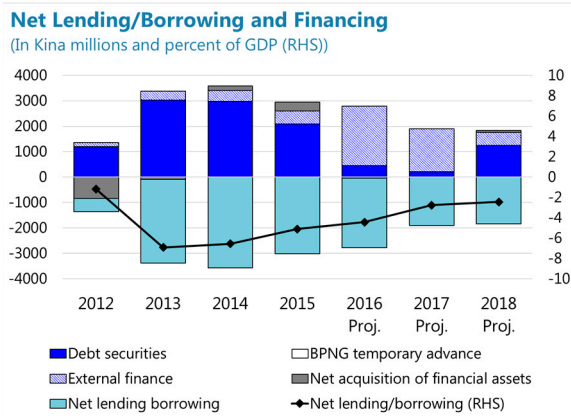
PNG has a moderate debt ratio relative to peer countries...



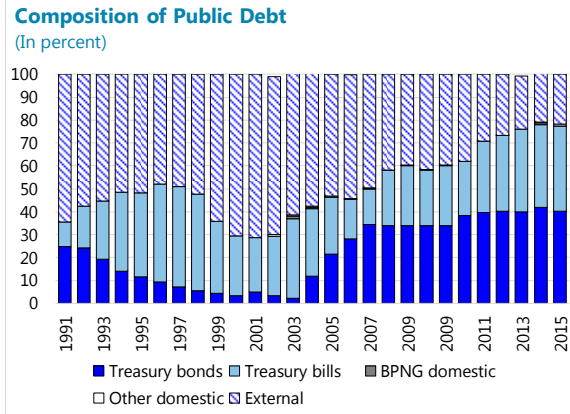
But debt has grown sharply, as a result of successive deficits...



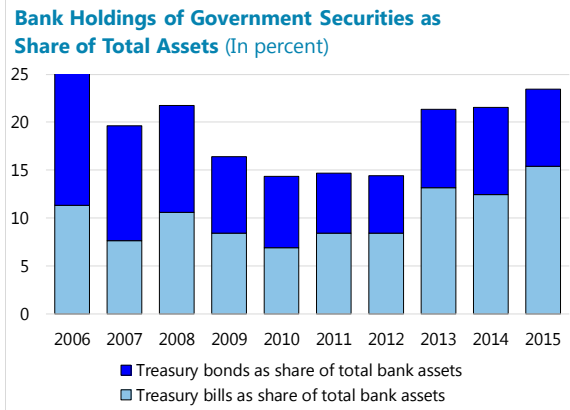
More recently, deficit financing has turned back to external sources.



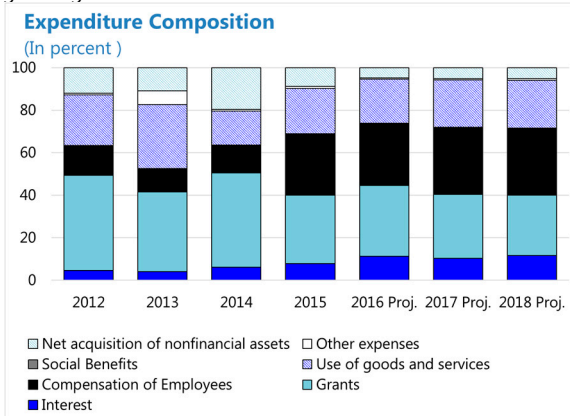
...and over the years PNG has switched from external to domestic debt funding.



...and having increased holdings of government securities since 2013, banks have moved more to Treasury bills.



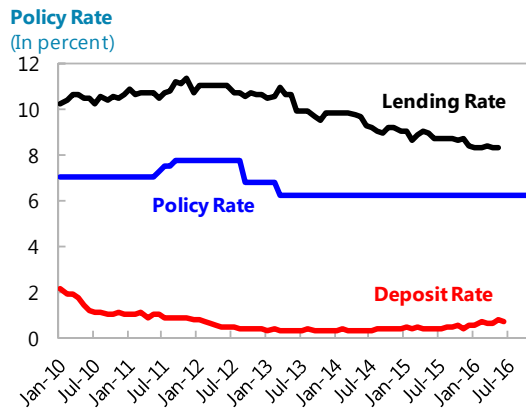
A large share of expenditure on grants represents allocation to provinces, and interest payments have been growing.



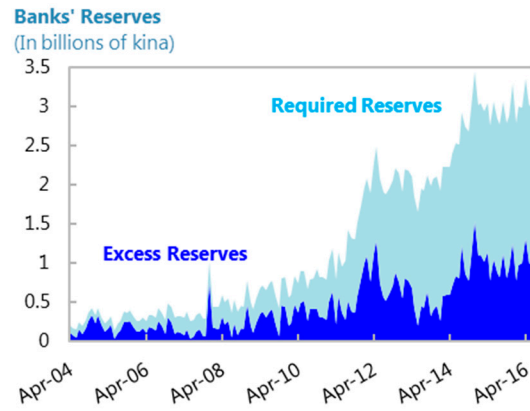
Sources: Country authorities; and IMF staff estimates and projections.

Figure 4. Papua New Guinea: Monetary Sector

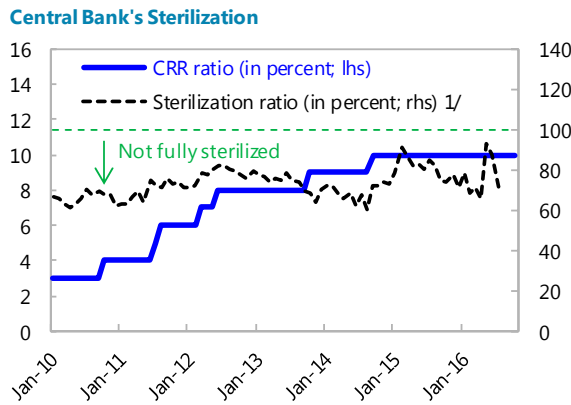
The policy stance has remained unchanged...



... while excess liquidity has increased reflecting money-financed fiscal deficits ...

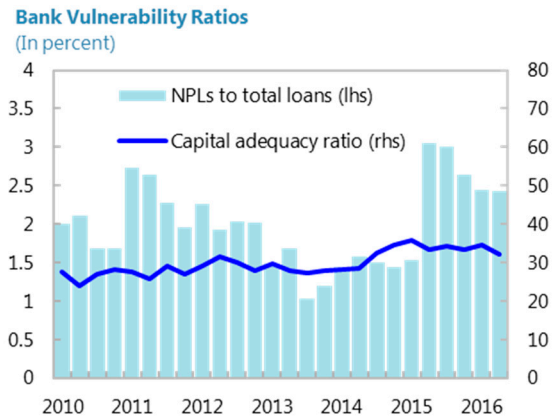


...and insufficient sterilization of FX inflows.

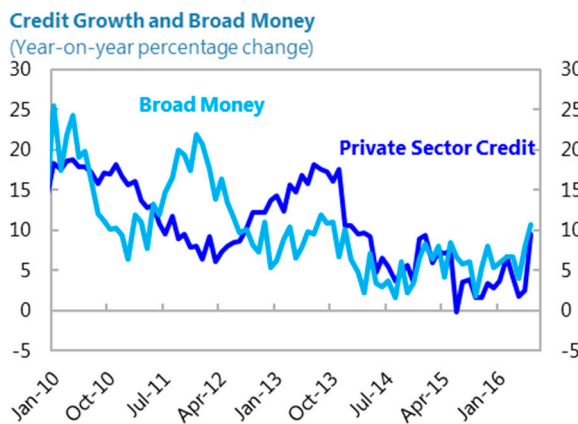


1/ Ratio of CBBs plus CRR deposits, to BPNG foreign assets.

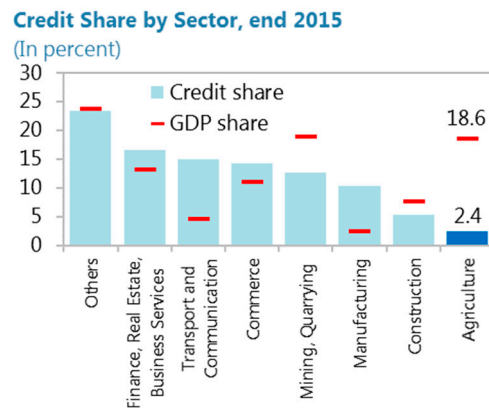
Banks have solid capital buffers and NPLs are relatively low.



Private sector credit growth remains weak.



Agriculture needs more credit to increase yields and improve the quality of production.



Sources: Country authorities; and IMF staff estimates and projections.

Table 1. Papua New Guinea: Selected Economic and Financial Indicators, 2012–17

Nominal GDP (2015):	US\$21.2 billion 1/					
Population (2015):	7.6 million					
GDP per capita (2015):	US\$2,745					
Quota:	SDR 131.6 million (14th Review: SDR 263.2 million)					
	2012	2013	2014	2015	2016	2017
				Est.	Proj.	
	(Percentage change)					
Real sector						
Real GDP growth	6.1	4.7	7.4	6.6	2.5	3.0
Resource 2/	-11.3	8.6	93.1	47.0	2.1	3.7
Nonresource	7.3	4.5	2.2	2.1	2.6	2.8
CPI (annual average)	4.5	5.0	5.2	6.0	6.9	7.5
CPI (end-period)	5.8	2.9	6.7	6.3	7.0	7.5
	(In percent of GDP)					
Central government operations						
Revenue and grants	21.3	20.9	21.7	18.3	17.4	16.7
<i>Of which</i> : Resource revenue	2.5	1.4	2.4	1.1	0.8	1.1
Expenditure and net lending	22.4	27.8	28.3	23.4	21.8	19.4
Net lending(+)/borrowing(-)	-1.2	-6.9	-6.5	-5.1	-4.4	-2.8
Nonresource net lending(+)/borrowing(-)	-3.7	-8.3	-8.9	-6.2	-5.2	-3.8
	(Percentage change)					
Money and credit (percentage change)						
Domestic credit	37.7	40.9	23.5	15.8	4.9	5.3
Credit to the private sector	12.1	17.5	3.5	3.4	5.7	8.0
Broad money	10.9	6.7	3.4	8.0	2.1	5.6
Interest rate (182-day Treasury bills; period average)	5.8	5.0	5.3	7.1	7.6	8.6
	(In billions of U.S. dollars)					
Balance of payments						
Exports, f.o.b.	6.3	6.0	8.8	8.9	8.3	8.6
<i>Of which</i> : Resource	4.5	3.8	6.8	6.7	6.1	6.2
Imports, c.i.f.	-7.7	-6.5	-4.1	-2.7	-3.0	-3.3
Current account (including grants)	-7.7	-6.7	0.7	2.3	1.5	1.4
(In percent of GDP)	-36.1	-31.5	3.0	10.9	7.7	6.5
Gross official international reserves	4.0	2.8	2.3	1.9	1.7	1.8
(In months of goods and services imports)	4.0	4.5	4.6	3.5	3.2	3.2
	(In percent of GDP)					
Government debt						
Government gross debt	19.1	25.0	28.1	30.4	33.5	33.5
External debt-to-GDP ratio (in percent) 3/	5.3	6.4	6.5	6.9	10.3	12.3
External debt-service ratio (percent of exports) 3/	1.5	1.4	1.1	0.7	1.4	1.9
Exchange rates						
US\$/kina (end-period)	0.4755	0.4130	0.3855	0.3325	...	...
NEER (2005=100, end-period)	124.6	120.6	114.2	116.4	...	...
REER (2005=100, end-period)	128.1	126.9	123.5	131.2	...	...
Terms of trade (2010=100, end-period)	116.3	113.9	106.2	100.0	93.1	92.6
Nominal GDP (in billions of kina)	44.3	47.5	54.7	59.0	61.9	68.7
Nonresource nominal GDP (in billions of kina)	38.3	41.4	44.4	47.9	52.1	57.5

Sources: Department of Treasury; Bank of Papua New Guinea; and IMF staff estimates and projections.

1/ Based on period average exchange rate.

2/ Resource sector includes production of mineral, petroleum, and gas and directly related activities such as mining and quarrying, but excludes indirectly related activities such as transportation and construction.

3/ Public external debt includes external debt of the central government, the central bank, and statutory authorities.

Table 2a. Papua New Guinea: Summary Operations of the Central Government, 2012-17
(In millions of Kina)

	2012	2013	2014	2015	2016 Proj.	2017 Proj.
Revenue and Grants	9,419	9,897	11,875	10,776	10,764	11,449
Taxes	8,219	8,880	10,232	8,931	8,827	9,158
Taxes on income, profits, and capital gains	5,629	5,848	6,779	5,894	5,658	5,819
Taxes on payroll and workforce	4	6	15	18	17	18
Taxes on goods and services	2,183	2,549	2,884	2,453	2,585	2,762
Taxes on international trade and transactions	403	476	555	565	567	560
Grants	931	878	868	820	1,223	1,045
Other Revenue	269	140	775	1,026	715	1,246
Resource revenue	1,117	667	1,301	652	478	729
Mining and Petroleum Taxes	994	667	794	195	89	77
Mining and Petroleum and Gas Dividends	122	0	507	0	0	500
Other Dividends (NPCP)	0	0	0	456	300	75
Grants from other general government units 1/	0	0	0	0	89	77
Non-resource revenue	8,302	9,231	10,573	10,124	10,287	10,720
Expenditure 2/	9,947	13,176	15,454	13,789	13,504	13,350
Expense	8,741	11,741	12,427	12,579	12,859	12,665
Compensation of employees	1,397	1,448	2,026	3,993	3,963	4,204
Use of goods and services	2,380	3,964	2,469	2,955	2,801	2,971
Interest	452	521	933	1,075	1,511	1,383
Grants 3/	4,453	4,952	6,862	4,429	4,497	4,013
Social benefits	0	0	0	0	0	0
Other expenses	59	855	137	128	88	93
Out of scope for GFS coding purposes	0	0	0	0	0	0
Net acquisition of non-financial assets	1,206	1,435	3,027	1,209	645	685
Gross operating balance	678	-1,844	-552	-1,803	-2,094	-1,216
Net lending (+)/borrowing (-)	-528	-3,278	-3,579	-3,012	-2,740	-1,901
Primary balance	-76	-2,757	-2,646	-1,938	-1,229	-518
Non-resource net lending (+)/borrowing (-)	-1,645	-3,945	-4,881	-3,664	-3,217	-2,630
Non-resource primary balance	-1,192	-3,424	-3,948	-2,589	-1,707	-1,247
Net financial transactions	524	3,278	3,579	2,951	2,740	1,901
Net acquisition of financial assets	835	97	-174	-349	45	0
Net acquisition of financial liabilities	1,359	3,375	3,405	2,602	2,785	1,901
Domestic	1,197	3,032	2,983	2,081	446	218
Treasury bills	497	1,449	1,420	1,076	232	113
Treasury bonds	500	1,277	1,563	1,005	214	104
Other accounts payable	200	305	0	0	0	0
External	162	344	422	521	2,339	1,683
Debt securities	0	0	0	0	0	1,500
Loans	162	344	422	521	2,339	183
Government deposits	3,767	3,952	4,338	3,490	3,513	3,513
Gross government debt	8,486	11,878	15,365	17,967	20,752	23,010
Domestic	6,118	8,845	11,828	13,909	14,355	14,573
Treasury bills	2,752	4,201	5,621	6,696	6,928	7,041
Treasury bonds	3,367	4,644	6,207	7,213	7,427	7,531
External	2,367	3,033	3,537	4,058	6,397	8,437
Debt securities	0	0	0	0	0	1,500
Loans	2,367	3,033	3,537	4,058	6,397	6,937
Memorandum items:						
Gross government debt, percentage of GDP	19.1	25.0	28.1	30.4	33.5	33.5
Contingent liabilities 4/	5,840	5,797	4,977	5,077	2,483	2,505
Future unfunded superannuation liabilities	2,100	2,100	2,100	2,100	2,100	2,100
SOE borrowing	3,740	3,697	2,877	2,977	383	405
Contingent liabilities, percentage of GDP	13.2	12.2	9.1	8.6	4.0	3.6
Nonresource GDP at current prices	38,319	41,438	44,353	47,868	52,055	57,515
GDP at current prices	44,315	47,459	54,661	59,010	61,866	68,729

Sources: Department of Treasury; and IMF staff estimates and projections.

1/ Withdrawals from the Stabilization Fund (mining and petroleum taxes; mining, petroleum and gas dividends.)

2/ As the authorities integrated the recurrent and development budgets from 2014 there is a discontinuity in the classification.

3/ Grants include spending on wages and salaries, goods and services, and capital expenditure.

4/ Contingent liabilities include future unfunded superannuation liabilities with Nambawan Super and SOE borrowing.

Table 2b. Papua New Guinea: Summary Operations of the Central Government, 2012-17
(In percent of GDP)

	2012	2013	2014	2015	2016 Proj.	2017 Proj.
Revenue and Grants	21.3	20.9	21.7	18.3	17.4	16.7
Taxes	18.5	18.7	18.7	15.1	14.3	13.3
Taxes on income, profits, and capital gains	12.7	12.3	12.4	10.0	9.1	8.5
Taxes on payroll and workforce	0.0	0.0	0.0	0.0	0.0	0.0
Taxes on goods and services	4.9	5.4	5.3	4.2	4.2	4.0
Taxes on international trade and transactions	0.9	1.0	1.0	1.0	0.9	0.8
Grants	2.1	1.8	1.6	1.4	2.0	1.5
Other Revenue	0.6	0.3	1.4	1.7	1.2	1.8
Resource revenue	2.5	1.4	2.4	1.1	0.8	1.1
Mining and Petroleum Taxes	2.2	1.4	1.5	0.3	0.1	0.1
Mining and Petroleum and Gas Dividends	0.3	0.0	0.9	0.0	0.0	0.7
Other Dividends (NPCP)	0.0	0.0	0.0	0.8	0.5	0.1
Grants from other general government units 1/	0.0	0.0	0.0	0.0	0.1	0.1
Non-resource revenue	18.7	19.4	19.3	17.2	16.6	15.6
Expenditure 2/	22.4	27.8	28.3	23.4	21.8	19.4
Expense	19.7	24.7	22.7	21.3	20.8	18.4
Compensation of employees	3.2	3.1	3.7	6.8	6.4	6.1
Use of goods and services	5.4	8.4	4.5	5.0	4.5	4.3
Interest	1.0	1.1	1.7	1.8	2.4	2.0
Grants 3/	10.0	10.4	12.6	7.5	7.3	5.8
Social benefits	0.0	0.0	0.0	0.0	0.0	0.0
Other expenses	0.1	1.8	0.3	0.2	0.1	0.1
Out of scope for GFS coding purposes	0.0	0.0	0.0	0.0	0.0	0.0
Net acquisition of non-financial assets	2.7	3.0	5.5	2.0	1.0	1.0
Gross operating balance	1.5	-3.9	-1.0	-3.1	-3.4	-1.8
Net lending (+)/borrowing (-)	-1.2	-6.9	-6.5	-5.1	-4.4	-2.8
Primary balance	-0.2	-5.8	-4.8	-3.3	-2.0	-0.8
Non-resource net lending (+)/borrowing (-)	-3.7	-8.3	-8.9	-6.2	-5.2	-3.8
Non-resource primary balance	-2.7	-7.2	-7.2	-4.4	-2.8	-1.8
Net financial transactions	1.2	6.9	6.5	5.0	4.4	2.8
Net acquisition of financial assets	1.9	0.2	-0.3	-0.6	0.1	0.0
Net acquisition of financial liabilities	3.1	7.1	6.2	4.4	4.5	2.8
Domestic	2.7	6.4	5.5	3.5	0.7	0.3
Treasury bills	1.1	3.1	2.6	1.8	0.4	0.2
Treasury bonds	1.1	2.7	2.9	1.7	0.3	0.2
Other accounts payable	0.5	0.6	0.0	0.0	0.0	0.0
External	0.4	0.7	0.8	0.9	3.8	2.4
Debt securities	0.0	0.0	0.0	0.0	0.0	2.2
Loans	0.4	0.7	0.8	0.9	3.8	0.3
Government deposits	8.5	8.3	7.9	5.9	5.7	5.1
Gross government debt	19.1	25.0	28.1	30.4	33.5	33.5
Domestic	13.8	18.6	21.6	23.6	23.2	21.2
Treasury bills	6.2	8.9	10.3	11.3	11.2	10.2
Treasury bonds	7.6	9.8	11.4	12.2	12.0	11.0
External	5.3	6.4	6.5	6.9	10.3	12.3
Debt securities	0.0	0.0	0.0	0.0	0.0	2.2
Loans	5.3	6.4	6.5	6.9	10.3	10.1
Memorandum items:						
Contingent liabilities 4/	13.2	12.2	9.1	8.6	4.0	3.6
Future unfunded superannuation liabilities	4.7	4.4	3.8	3.6	3.4	3.1
SOE borrowing	8.4	7.8	5.3	5.0	0.6	0.6
Nonresource GDP at current prices	38,319	41,438	44,353	47,868	52,055	57,515
GDP at current prices	44,315	47,459	54,661	59,010	61,866	68,729

Sources: Department of Treasury; and IMF staff estimates and projections.

1/ Withdrawals from the Stabilization Fund (mining and petroleum taxes; mining, petroleum and gas dividends.)

2/ As the authorities integrated the recurrent and development budgets from 2014 there is a discontinuity in the classification.

3/ Grants include spending on wages and salaries, goods and services, and capital expenditure.

4/ Contingent liabilities include future unfunded superannuation liabilities with Nambawan Super and SOE borrowing.

Table 3. Papua New Guinea: Balance of Payments, 2012–21
(In millions of U.S. dollars)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
				Est.						
							Proj.			
Current account balance 1/	-7,679	-6,660	655	2,301	1,542	1,371	1,302	1,259	1,123	1,138
Resource	-5,241	-2,525	2,672	2,817	2,223	2,151	2,151	2,144	2,112	2,098
Nonresource	-2,438	-4,135	-2,017	-516	-681	-780	-849	-885	-989	-960
Trade balance	-1,373	-516	4,646	6,151	5,305	5,320	5,294	5,243	5,133	5,194
Exports (f.o.b.)	6,332	5,951	8,758	8,900	8,334	8,588	8,760	8,920	9,043	9,189
Resource	4,502	3,826	6,819	6,703	6,083	6,250	6,319	6,353	6,377	6,430
Nonresource	1,830	2,125	1,939	2,197	2,251	2,338	2,441	2,568	2,666	2,759
Imports (f.o.b.)	-7,705	-6,468	-4,112	-2,749	-3,029	-3,268	-3,466	-3,677	-3,911	-3,994
Resource	-4,726	-2,930	-1,700	-1,239	-1,355	-1,455	-1,472	-1,483	-1,497	-1,509
Nonresource	-2,979	-3,538	-2,413	-1,510	-1,674	-1,813	-1,994	-2,194	-2,413	-2,486
Services	-5,142	-5,076	-3,150	-2,804	-2,864	-2,829	-2,886	-2,944	-3,002	-3,063
Income	-1,284	-1,200	-956	-1,231	-1,064	-1,288	-1,313	-1,302	-1,310	-1,336
Current Transfers	119	132	115	183	165	168	207	261	303	342
Capital and financial account balance	11998	3444	-2897	-2715	-1664	-1286	-931	-1115	-816	-517
Capital account balance	15	15	10	20	18	16	18	17	17	17
Direct investment	1,883	904	864	584	602	591	606	621	637	653
Portfolio investment	670	-116	385	235	249	308	288	225	281	264
Other investment	9,430	2,640	-4,156	-3,553	-2,532	-2,200	-1,842	-1,979	-1,751	-1,452
Medium- and long-term loans	8,221	-193	-1,003	-2,048	-1,261	-1,030	-1,072	-1,208	-1,280	-981
Commercial banks	-88	-6	-47	-13	-22	-20	-20	-20	-20	-20
Other	1,298	2,840	-3,105	-1,491	-1,250	-1,150	-750	-750	-450	-450
Net errors and omissions	-799	-1387	-715	0	0	0	0	0	0	0
Overall balance	-321	-1,176	-520	-414	-121	85	371	143	307	621
Financing	321	1,176	520	440	121	-85	-371	-143	-307	-621
Reserve assets	321	1,176	520	440	121	-85	-371	-143	-307	-621
Memorandum items:										
Current account (in percent of GDP)	-36.1	-31.5	3.0	10.9	7.7	6.5	5.9	5.4	4.5	4.2
Resource	-24.6	-11.9	12.2	13.3	11.1	10.3	9.8	9.2	8.5	7.8
Nonresource	-11.5	-19.6	-9.2	-2.4	-3.4	-3.7	-3.9	-3.8	-4.0	-3.6
Net international reserves (end-year)										
In millions of U.S. dollars	4,001	2,826	2,305	1,865	1,744	1,829	2,200	2,343	2,650	3,272
Gross official reserves (end-year)										
In millions of U.S. dollars	4,001	2,826	2,305	1,865	1,744	1,829	2,200	2,343	2,650	3,272
In months of imports of goods and services	4.0	4.5	4.6	3.5	3.2	3.2	3.7	3.8	4.2	5.1
Public external debt-service-exports ratio (in percent) 2/	1.5	1.4	1.1	0.7	1.4	1.9	1.8	2.4	5.4	4.0
Public external debt-GDP ratio (in percent) 2/	5.3	5.9	6.2	6.4	10.0	11.9	12.1	11.3	10.3	10.1

Sources: Data provided by the Papua New Guinea authorities; and IMF staff estimates and projections.

1/ Includes staff's estimates related to the PNG LNG project.

2/ Public external debt includes external debt of the central government, the central bank, and statutory authorities.

Table 4. Papua New Guinea: Monetary Developments, 2012–17

	2012	2013	2014	2015	2016	2017
					Proj.	
Bank of Papua New Guinea (In millions of kina; end of period)						
Net foreign assets	8,004	6,363	5,501	4,695	5,007	5,569
Foreign assets	8,415	6,842	5,980	5,226	5,572	6,165
Foreign liabilities	412	479	479	532	565	596
Net domestic assets	-4,170	-2,510	-218	476	364	398
Domestic credit	-438	-99	1,362	1,229	1,079	1,078
Net credit to government	-487	-156	1,301	897	899	897
Claims	499	863	2,353	1,688	1,713	1,712
Central government deposits	985	1,019	1,052	791	815	815
Credit to other sectors	49	56	60	332	181	181
Other items, net	-3,732	-2,411	-1,580	-753	-715	-679
Of which: Central bank securities	-5,149	-3,199	-2,312	-1,573	-1,495	-1,420
Reserve money	3,834	3,853	5,283	5,171	5,371	5,968
Currency in circulation	1,679	1,749	1,852	1,891	1,907	2,042
Deposits of other depository corporations	2,142	2,101	3,431	3,280	3,464	3,925
Required reserves	1,391	1,652	1,910	2,025	2,056	2,165
Excess reserves	751	449	1,521	1,255	1,408	1,760
Other deposits	13	3	0	0	0	0
Depository Corporations Survey (In millions of kina; end of period)						
Net foreign assets	9,475	8,269	6,826	5,876	6,245	6,945
Net domestic assets	7,491	9,835	11,891	14,342	14,399	14,859
Domestic credit	9,131	12,862	15,888	18,399	19,303	20,323
Net credit to central government	297	2,755	4,164	5,344	5,629	5,740
Claims on other sectors	8,834	10,107	11,724	13,055	13,674	14,583
Claims on the private sector	8,434	9,914	10,264	10,612	11,222	12,118
Other items, net	-1,639	-3,028	-3,997	-4,056	-4,904	-5,464
Broad money	16,967	18,104	18,716	20,219	20,645	21,805
Narrow money	11,148	12,047	13,440	14,845	14,750	15,337
Currency outside other depository corporations	1,214	1,300	1,392	1,443	1,585	1,740
Demand deposits	9,934	10,746	12,048	13,402	13,165	13,597
Quasi-money	5,756	5,995	5,215	5,312	5,833	6,405
Securities other than shares	62	62	62	62	62	62
(Annual percentage change)						
Net foreign assets	-6.3	-12.7	-17.5	-13.9	6.3	11.2
Net domestic assets	44.7	31.3	20.9	20.6	0.4	3.2
Net domestic credit	37.7	41	23.5	15.8	4.9	5.3
Of which: Private sector	12.1	17.5	3.5	3.4	5.7	8.0
Broad money	10.9	6.7	3.4	8.0	2.1	5.6
<i>Memorandum items:</i>						
Reserve money (percentage change)	17.6	0.5	37.1	-2.1	3.9	11.1
Gross international reserves (in millions of U.S. dollars)	4,001	2,826	2,305	1,865	1,744	1,829
Nominal nonresource GDP/Broad money	2.3	2.3	2.4	2.4	2.5	2.6

Sources: Bank of Papua New Guinea; and IMF staff estimates and projections.

Table 5. Papua New Guinea: Medium-Term Scenario, 2012–21

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
				Est.	Proj.					
Growth and prices (percentage change)										
Real GDP 1/	6.1	4.7	7.4	6.6	2.5	3.0	3.2	3.4	3.4	3.4
Resource	-11.3	8.6	93.1	47.0	2.1	3.7	-0.3	-0.3	-0.3	-0.3
Nonresource	7.3	4.5	2.2	2.1	2.6	2.8	3.8	3.9	3.9	3.9
CPI (period average)	4.5	5.0	5.2	6.0	6.9	7.5	6.5	6.0	6.0	6.0
CPI (end-period)	5.8	2.9	6.7	6.3	7.0	7.5	6.0	6.0	6.0	6.0
Central government operations (in percent of GDP)										
Total revenue and grants	21.3	20.9	21.7	18.3	17.4	16.7	16.7	16.9	17.1	17.3
Total revenue	19.2	19.0	20.1	16.9	15.4	15.1	15.3	15.6	15.9	16.1
<i>Of which:</i> Resource revenue	2.5	1.4	2.4	1.1	0.8	1.1	1.1	1.3	1.5	1.6
Grants	2.1	1.8	1.6	1.4	2.0	1.5	1.4	1.3	1.2	1.2
Total expenditure	22.4	27.8	28.3	23.4	21.8	19.4	19.2	18.8	18.5	18.1
Expense	19.7	24.7	22.7	21.3	20.8	18.4	18.2	17.9	17.6	17.1
Net acquisition of nonfinancial assets	2.7	3.0	5.5	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Primary balance	-0.2	-5.8	-4.8	-3.3	-2.0	-0.8	-0.2	0.2	0.7	1.2
Nonresource net lending(+)/borrowing(-) (Revenue - expenditure)	-3.7	-8.3	-8.9	-6.2	-5.2	-3.8	-3.6	-3.3	-3.0	-2.4
Net lending(+)/borrowing(-) [Overall balance]	-1.2	-6.9	-6.5	-5.1	-4.4	-2.8	-2.4	-2.0	-1.5	-0.8
Nonresource primary balance (in percent of nonresource GDP)	-2.7	-7.2	-7.2	-4.4	-2.8	-1.8	-1.4	-1.1	-0.8	-0.4
Gross public debt (in percent of GDP) 2/										
Domestic	13.8	18.6	21.6	23.6	23.2	21.2	21.0	21.2	21.3	19.8
External	5.3	6.4	6.5	6.9	10.3	12.3	12.3	11.5	10.4	10.1
Balance of payments (in millions of U.S. dollars) 3/										
Exports, f.o.b.	6,332	5,951	8,758	8,900	8,334	8,588	8,760	8,920	9,043	9,189
<i>Of which:</i> Resource	4,502	3,826	6,819	6,703	6,083	6,250	6,319	6,353	6,377	6,430
Imports, c.i.f.	-7,705	-6,468	-4,112	-2,749	-3,029	-3,268	-3,466	-3,677	-3,911	-3,994
Current account	-7,679	-6,660	655	2,301	1,542	1,371	1,302	1,259	1,123	1,138
(In percent of GDP)	-36.1	-31.5	3.0	10.9	7.7	6.5	5.9	5.4	4.5	4.2
Overall balance (including exceptional financing)	-321	-1,176	-520	-414	-121	85	371	143	307	621
Gross official reserves (in millions of U.S. dollars)										
(In months of goods and services imports, c.i.f.)	4.0	4.5	4.6	3.5	3.2	3.2	3.7	3.8	4.2	5.1
(In months of nonmining imports, c.i.f.)	7.5	9.2	9.5	7.3	6.5	6.4	7.2	7.2	8.0	9.6
Public external debt service-export ratio (in percent) 4/										
	1.5	1.4	1.1	0.7	1.4	1.9	1.8	2.4	5.4	4.0
Memorandum items:										
Nominal GDP (in millions of kina)	44,315	47,459	54,661	59,010	61,866	68,729	75,180	81,947	89,361	97,506
Nominal GDP (change in percent)	4.1	7.1	15.2	8.0	4.8	11.1	9.4	9.0	9.0	9.1
Nominal GDP (in millions of U.S. dollars)	21,268	21,144	21,823	21,185	19,966	20,949	21,976	23,365	24,974	26,838
Assumed commodity prices: 5/										
Gold (U.S. dollars per ounce)	1,669	1,411	1,266	1,160	1,282	1,357	1,374	1,391	1,404	1,427
Copper (U.S. dollars per ton)	7,959	7,331	6,863	5,510	4,761	4,839	4,879	4,910	4,937	4,962
Liquefied Natural Gas Price Index (2005=100)	258	247	242	156	104	101	101	101	101	101
Oil (U.S. dollars per barrel)	105.01	104.07	96.25	50.79	42.96	50.64	53.09	54.44	56.29	57.65

Sources: Department of Treasury; Bank of Papua New Guinea; and IMF staff estimates and projections.

1/ Real GDP growth projections are based on the chained Laspeyres measure.

2/ Public external debt includes external debt of the central government, the central bank, and statutory authorities.

3/ Includes staff's estimates related to the PNG LNG project.

4/ Public external debt service includes changes in check float.

5/ IMF World Economic Outlook. Liquefied Natural Gas (LNG) price index is Indonesian LNG in Japan.

Table 6. Papua New Guinea: Financial Soundness Indicators, 2011–15
(In percent)

	2011	2012	2013	2014	2015
Capital Adequacy					
Capital to risk-weighted assets 2/	26.9	28.0	27.9	34.5	33.4
Tier 1 capital to risk-weighted assets	19.6	20.1	21.0	27.2	27.6
Asset Quality					
Nonperforming loans to total loans	2.0	2.0	1.2	1.4	2.6
Past due loans to total loans	5.1	2.8	2.2	2.7	3.9
Provision for losses to NPL	158.2	170.9	288.0	240.9	143.8
Earnings and Profitability					
Return on assets	2.2	2.3	2.4	2.0	1.7
Return on equity 3/	23.1	23.7	21.2	26.2	21.4
Liquidity					
Liquid assets to total assets	58.5	56.6	55.2	51.5	49.0
Loan-to-deposit ratio	46.3	46.9	50.3	57.2	60.5
Other					
Capital to total assets 2/	12.8	13.6	15.2	16.1	15.4
Risk-weighted assets to total assets	47.5	48.7	54.5	46.8	46.2
Sources: Bank of Papua New Guinea; and IMF staff calculations.					
1/ Fourth quarter data for each year.					
2/ Capital base includes Tier 1 and 2 capital.					
3/ Return on equity is calculated with Tier 1 capital.					

Table 7. Papua New Guinea: Millennium Development Goals, 1991-2015

	1991	1996	2000	2005	2009	2013	2014	2015
Goal 1: Eradicate extreme poverty and hunger								
Target 1.A: Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day								
Poverty gap at \$1.90 a day (2011 PPP) (%)		28.1			15.9			
Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population)		53.2			39.3			
Income share held by lowest 20%		2.2			4.7			
Target 1.B: Achieve full and productive employment and decent work for all, including women and young people								
Employment-to-population ratio, 15+, total (%) (modeled ILO estimate)	70.0	68.5	70.1	70.9	70.7	70.4	70.4	
Employment-to-population ratio, ages 15-24, total (%) (modeled ILO estimate)	56.8	53.1	56.0	56.8	55.3	54.4	54.5	
Target 1.C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger								
Mainnutrition prevalence, weight for age (% of children under 5)				18.1				
Goal 2: Achieve universal primary education								
Target 2.A: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling								
Literacy rate, youth female (% of females ages 15-24)			64.1			64.1	64.1	
Literacy rate, youth male (% of males ages 15-24)			69.1			69.1	69.1	
Primary completion rate, total (% of relevant age group)	43.3	51.5	55.1			78.6		
Goal 3: Promote gender equality and empower women								
Target 3.A: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015								
Proportion of seats held by women in national parliament (%)								
School enrollment, primary, female (% gross)	56.7	66.6	65.6	51.7	56.9	109.3		
School enrollment, secondary, female (% gross)	8.7	9.7				34.6		
School enrollment, tertiary (gross), gender parity index (GPI)		0.7						
Share of women in wage employment in the nonagricultural sector (% of total nonagricultural en	27.9		32.1					
Goal 4: Reduce child mortality								
Target 4.A: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate								
Immunization, measles (% of children ages 12-23 months)	69.0	24.0	62.0	63.0	55.0	70.0	65.0	
Mortality rate, infant (per 1,000 live births)	64.4	60.5	58.3	55.6	51.6	47.0	45.7	
Mortality rate, under-5 (per 1,000 live births)	88.0	82.0	78.5	74.2	67.9	60.9	59.1	
Goal 5: Improve maternal health								
Target 5.A: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio								
Maternal mortality ratio (modeled estimate, per 100,000 live births)	447	371	342	277	249	224	220	215
Births attended by skilled health staff (% of total)		53.2	41.0	42.0				
Target 5.B: Achieve, by 2015, universal access to reproductive health care								
Contraceptive prevalence (% of women ages 15-49)		25.9						
Adolescent fertility rate (births per 1,000 women ages 15-19)	70.8	68.2	66.3	62.8	59.5	56.1	55.3	
Pregnant women receiving prenatal care (%)		76.7		78.8				
Goal 6: Combat HIV/AIDS, malaria, and other diseases								
Target 6.A: Have halted by 2015 and begun to reverse the spread of HIV/AIDS								
Prevalence of HIV, female (% ages 15-24)	0.1	0.3	0.5	0.4	0.3	0.3	0.3	0.3
Prevalence of HIV, male (% ages 15-24)	0.1	0.2	0.3	0.2	0.1	0.2	0.2	0.2
Prevalence of HIV, total (% of population ages 15-49)	0.1	0.4	0.8	0.9	0.8	0.8	0.8	0.8
Target 6.C: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases								
Incidence of tuberculosis (per 100,000 people)	370	392	418	426	416	417	417	
Tuberculosis case detection rate (% of all forms)	22.0	17.0	47.0	48.0	44.0	74.0	84.0	
Goal 7: Ensure environmental sustainability								
Target 7.A: Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources								
Target 7.B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss								
Forest area (% of land area)	74.2	74.2	74.2	74.2	74.1	74.1	74.1	74.1
CO2 emissions (kg per 2011 PPP \$ of GDP)	0.3	0.2	0.3	0.4	0.4	0.3		
CO2 emissions (metric tons per capita)	0.5	0.5	0.5	0.7	0.8	0.8		
Marine protected areas, (% of territorial waters)	0.3		0.4				0.4	
Terrestrial protected areas (% of total land area)	1.9		3.1				3.1	
Target 7.C: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation								
Improved sanitation facilities (% of population with access)	20.1	19.6	19.2	19.1	19.0	18.9	18.9	18.9
Improved water source (% of population with access)	33.6	33.9	35.1	37.1	38.7	39.9	40.0	40.0
Goal 8: Develop a global partnership for development								
Target 8: Various								
Net ODA received per capita (current US\$)	93.5	78.8	51.2	43.8	61.5	89.8	77.4	
Debt service (% of exports of goods, services and primary income)	27.2	16.3	12.9	8.4	11.7			
Internet users (per 100 people)		0.0	0.8	1.7	1.6	5.1	6.5	7.9
Mobile cellular subscriptions (per 100 people)		0.0	0.2	1.2	21.1	41.0	44.9	46.6
Telephone lines (per 100 people)	0.8	1.0	1.2	1.0	1.4	1.9	1.9	2.0
Other								
Fertility rate, total (births per woman)	4.8	4.7	4.5	4.3	4.0	3.8	3.8	
GNI per capita, Atlas method (current US\$)	870	1020	620	700	1180	2040	2240	
GNI, Atlas method (current US\$) (billions)	3.4	5.0	3.3	4.3	7.9	14.9	16.7	
Gross capital formation (% of GDP)	27.4	22.7	21.9					
Life expectancy at birth, total (years)	56.0	57.6	58.8	60.6	61.8	64.4	62.6	
Literacy rate, adult total (% of people ages 15 and above)			57.3					
Population, total (millions)	4.3	4.8	5.4	6.1	6.7	7.3	7.5	7.6
Trade (% of GDP)	94.4	107.8	115.4					

Source: World Bank, World Development Indicators database, 2016.

Appendix I. Risk Assessment Matrix

Potential Deviations from Baseline

	Risk	Relative Likelihood	Impact if Realized	Potential Impact	Staff Advice on Policy Response
External Risks	Structurally weak growth in key advanced and emerging economies	H/M	H	Potential for a further drop in commodity prices. Lower export demand would worsen the trade balance, weaken fiscal revenue/reserves.	Allow the kina to depreciate to boost non-resource exports; accelerate structural reforms to improve competitiveness; allow automatic stabilizers to work if financing constraints permit.
	Sharp rise in risk premium with flight to safety	M	L/M	Global financial volatility may affect the climate for raising external debt. However, the low external debt stock and financial integration would limit impacts on PNG.	Tighten the fiscal position further to reduce financing needs.
	Reduced financial services by global/regional banks ("de-risking")	H	M	Loss of correspondent banking services could curtail cross-border payments, trade finance, and remittances. However, the low level of remittances would moderate the impact on PNG.	Upgrade regulatory and supervisory frameworks to enhance compliance with international standards, especially in the areas of AML/CFT and tax transparency.
Domestic Risks	Further shortfalls in financing leading to monetization of the fiscal deficit and/or spending cuts in priority areas	M/H	M/H	Monetization of the deficit would add to excess liquidity and create inflation or depreciation pressures. Spending cuts to infrastructure/front line services would impact growth.	Avoid deficit financing by the central bank, and focus spending cuts on low impact areas. Improve cash management to ensure effective utilization of existing financial resources.
	Political instability and worsening security	M	M/H	Potential increase in rent-seeking behavior and non-productive expenditures. Confidence and investment could falter.	Resist monetary accommodation of a fiscal expansion, focusing any increased spending on improving security, but with greater fiscal transparency.
	Natural disasters	M	M/H	Given PNG's poor infrastructure and weak capacity, the economic impact could be significant.	Ensure fiscal buffers are adequate to support affected groups and spend more on preparation and prevention; encourage take-up of disaster insurance.
<p>1/ The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood of risks listed is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability of 30 percent or more). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.</p>					

Appendix II. Authorities' Responses to Fund Advice

Fund Recommendation	Policy Actions
Monetary, Financial and Exchange Rate Policies	
<ul style="list-style-type: none"> Remove excess liquidity to improve monetary policy effectiveness and reduce downside pressure on the kina exchange rate. Allow greater exchange rate flexibility to clear the FX market. Continue to implement AML/CFT legislation. 	<p>The increased issuance of government securities and the BPNG's intervention in FX market assisted in diffusing some of the excess liquidity. While the CRR has kept at 10 percent since September 2014, the BPNG considers options to tighten monetary policy if necessary.</p> <p>Although excess demand for foreign currency has persisted, the official interbank exchange rate has been almost unchanged since May 2016 because the BPNG thinks that a greater exchange rate depreciation would only be inflationary.</p> <p>The authorities have established the legal and regulatory framework to meet a high-level political commitment to address AML/CFT regulatory and operational deficiencies. In recognition of significant progress made in improving its AML/CFT regime, PNG is no longer subject to the FATF's monitoring since June 2016.</p>
Fiscal Policy	
<ul style="list-style-type: none"> Adopt a fiscal policy stance consistent with putting public debt in line with the government's targets and ensuring debt sustainability. Improve the quality of spending. Strengthen revenue collection through rationalizing tax exemptions and concessions and other measures recommended by the Tax Review Committee. Safeguard the integrity of the SWF for it to play a key role in managing PNG's resource revenues. 	<p>The authorities passed the 2017 budget to address the revenue shortfalls and cut expenditures in November 2016. This brings the public debt to GDP ratio below the fiscal anchor in the Fiscal Responsibility Act over the medium term.</p> <p>The budget seeks to identify expenditure-saving measures from overseas travel and recruitment activities etc., whereas it also seeks to improve outcomes by controlling capital expenditures through improved project approval, monitoring and evaluation activities. Only minor amendments have done in the tax system in 2016, and the authorities plan to begin implementing tax reforms based on National Tax Review in the 2017 budget. The tax reforms include extending the tax base via compliance, increasing the taxable component of employer provided housing benefit, imposing additional profits tax to new mining and petroleum projects, uplifting exemption from interest withholding tax for foreign lenders lending to resource companies, and raising some tax rates.</p> <p>The authorities are formalizing the establishment of the SWF's administrative secretariat at BPNG.</p>

Appendix II. Authorities' Responses to Fund Advice (concluded)

Fund Recommendation	Policy Actions
<p>Structural Reform</p> <ul style="list-style-type: none"> Continue investments in health and education and improve infrastructure and law and order for the better business environment. Strengthen the SME sector by financial inclusion. Strengthen PFM by implementing further reforms identified in the PEFA assessment and SOE reform to enhance transparency and governance. 	<p>The 2017 budget supports key policy priorities such as free education for children, free primary healthcare, transport infrastructure and SMEs. It safeguards expenditure impacting low-skilled jobs and development enablers such as health, education, key infrastructure, agriculture, tourism and law and order.</p> <p>The IFMIS was rolled out and an amended PFM act was passed in August 2016. The 2016 budget promoted more efficient SOEs through a dividend policy that requires them to operate in accordance with commercial principles.</p>
<p>Statistics</p> <ul style="list-style-type: none"> Improve macroeconomic statistics and move forward with the publication of new GDP estimates. 	<p>The NSO released new GDP estimates for 2006-13 in March 2016.</p>



PAPUA NEW GUINEA

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Prepared By

The Asia and Pacific Department
(In Consultation with Other Departments)

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FUND RELATIONS

(As of September 30, 2016)

Membership Status

Joined: October 9, 1975; Article VIII

General Resources Account

	<u>SDR Million</u>	<u>Percent Quota</u>
Quota	131.60	100.00
Fund holdings of currency	131.16	99.66
Reserve position in Fund	0.45	0.34

SDR Department

	<u>SDR Million</u>	<u>Percent Allocation</u>
Net cumulative allocation	125.49	100.00
Holdings	9.11	7.26

Outstanding Purchases and Loans

<u>SDR Million</u>	<u>Percent Quota</u>
0.00	0.00

Latest Financial Arrangements

<u>Type</u>	<u>Approval Date</u>	<u>Expiration Date</u>	<u>Amount Approved (SDR million)</u>	<u>Amount Drawn (SDR million)</u>
Stand-by	3/29/2000	9/28/2001	85.54	85.54
Stand-by	7/14/1995	12/15/1997	71.48	35.34
Stand-by	7/31/1991	9/30/1992	26.36	0.00

Projected Payments to Fund¹

(SDR million; based on existing use of resources and present holding of SDRs):

	<u>Forthcoming</u>				
	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Principal					
Charges/interest	0.01	0.06	0.06	0.06	0.06
Total	0.01	0.06	0.06	0.06	0.06

¹ When a member has overdue financial obligations outstanding for more than three months, the amount of such arrears will be shown in this section.

Safeguards Assessments

Under the Fund's Safeguards Assessments policy, the Bank of Papua New Guinea (BPNG) was subject to a transitional assessment based on its Stand-By Arrangement with the Fund, which was approved in March 2000 and expired in September 2001. The transitional assessment was completed on May 4, 2001 and recommendations were made to alleviate identified weaknesses. Currently, the BPNG is not subject to the Safeguards Assessments policy.

Exchange Rate Arrangement

Papua New Guinea's de jure exchange rate arrangement is floating. From April 2014, the Kina has reduced its volatility and followed a trend within a 2 percent band against the U.S. dollar. Accordingly, the de facto exchange rate arrangement was reclassified to a crawl-like arrangement, effective April 11, 2014. Papua New Guinea maintains the following exchange restrictions subject to IMF approval under Article VIII, Section 2(a) of the IMF's Articles of Agreement arising from: (i) the requirement to obtain a tax clearance certificate evidencing the payment of all taxes prior to making payments or transfers for certain current international transactions; and (ii) the rationing of FX and its allocation by BPNG to certain priority items, which results in undue delays and arrears in current international payments. Papua New Guinea also maintains the following multiple currency practices (MCPs) subject to Fund approval under Article VIII, Section 3: (i) a MCP arising from the spread of more than 2 percent between the rates set by BPNG for its FX allocations to authorized FX dealers (AFEDs), and the rates used by AFEDs in transactions with their clients; and (ii) an MCP arising from the potential spread deviation of more than 2 percent between the rates set by BPNG for its FX transactions with the government and embassies, and the rates used by AFEDs in transactions with their clients.

Article IV Consultations

The 2015 Article IV consultation discussions were held during August 9-21, 2015. It was concluded by the Executive Board on October 30, 2015 (IMF Country Report No. 15/318). Papua New Guinea is on the standard 12-month consultation cycle.

TA from Headquarters

FAD: A joint FAD/PFTAC mission in March 2000 assisted the authorities in preparing a Report on the Observance of Standards and Codes Fiscal Transparency Module, published in October 2000. A mission in December 2000 provided advice on the reconciliation of large and volatile differences in fiscal reporting based on information provided by the Treasury Department and information reported by the Bank of Papua New Guinea. A mission in February 2002 assessed progress in improving fiscal transparency. A joint FAD/PFTAC mission visited PNG to provide advice on the sovereign wealth fund management in May 2011. A mission in March 2013 provided advice on reform of the extractive industries fiscal regime. A mission in October 2015 provided advice on Land and Property Tax and Non-Tax Revenue Reforms.

LEG: A mission in November 2005 provided advice on the drafting of a tax administration law. A mission in July 2006 provided a comprehensive program of assistance in the development of the

AML/CFT regime, including legislative drafting and capacity building. A mission in August-September 2007 assisted the authorities in finalizing the terms of the Revenue Administration Bill.

MFD/MCM: TA through peripatetic visits was delivered on bank regulation and supervision (2001, February–March 2007, July–August 2009, and February 2010), medium-term monetary policy formulation (October 2004 and September 2005), reserve management (June 2006, September 2007, March/July–August 2009, January–February 2010), internal audits (2004, August 2007), accounting (September–October 2006, February 2007, February–March/June–July/November 2009), liquidity management (January 2009), monetary and forex operations (July–August 2009, February 2010, March 2015), macroprudential oversight and financial stability (September 2012), and the sovereign wealth fund (July 2013).

STA: A multisector statistics mission occurred in September 2006 followed by a high-level STA visit in December 2007, in collaboration with the ABS. TA was provided on monetary and financial statistics (April 2005, May 2006, April 2008, November 2009, May 2010, and February 2013); balance of payments and the international investment position (June 2008, November 2009, May-June 2013, February 2014, and July 2015); government finance statistics (2012, May and October 2013, April-May and October 2014, April 2015, September 2015, March 2016); and GDDS metadata (January 2012). A joint mission with the ABS discussed statistical capacity building and in particular reform of the National Statistical Office in July-August 2014.

Resident Representative

The Regional Resident Representative Office for Pacific Island Countries based in Suva, Fiji was opened on September 13, 2010 and the office covers Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. Mr. Tubagus Feridhanusetyawan is the current resident representative.

RELATIONS WITH THE PACIFIC FINANCIAL TECHNICAL ASSISTANCE CENTRE

(As of July 2016)

The Pacific Financial Technical Assistance Centre (PFTAC) in Suva, Fiji, is a regional TA institution operated by the IMF with financial support of the Asian Development Bank, Australia, Korea, the European Union, and New Zealand. The Center's aim is to build skills and institutional capacity for effective economic and financial management that can be sustained at the national level. Member countries are: Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tokelau, Tonga, Tuvalu, and Vanuatu.

A. Public Financial Management

The PFTAC assisted in the preparation of a ROSC, which was published in October 2000. The PFTAC PFM Advisor has participated in occasional FAD technical assistance missions, and an attachment of one PNG official to PFTAC was completed in April 2007. PNG participated, with four officials, in the U.S. Treasury study visit in September 2008. In May 2011, the PFTAC macroeconomic advisor participated in an FAD mission on advising PNG on the SWF. In July 2013, a PFTAC PFM Advisor visited PNG at the request of the Treasury Minister to review the budget preparation process, and discuss with authorities plans for training in the PEFA methodology. In May-June 2014, PFTAC provided information, communication, and technology (ICT) assessment mission and recommended a comprehensive reform strategy to better support of operation of the Department of Finance.

In 2014, however, PFTAC PFM assistance expanded greatly. Starting early in 2014, and continuing through early 2015, PFTAC began training PNG staff to carry out a PEFA Self-Assessment. Subsequently, in March 2015, PFTAC and a team from FAD conducted an external PEFA assessment which corroborated most of the findings of the self-assessment. PFTAC and FAD then worked with Department of Finance officials to develop a PFM Reform Roadmap to address major deficiencies identified by the PEFA Assessment.

PFTAC's largest PFM project during the past two years has been assisting PNG in overcoming roadblocks to the implementation of its Integrated Financial Management System (IFMS) and recommending steps needed to speed up ministry/agency connection to the new system that PNG decided to purchase in 2005. By early 2014, only three ministries—Finance, Treasury, and Planning—were connected to the system.

In a series of missions beginning in May 2014, PFTAC's expert on the PNG project examined a number of aspects of the implementation effort including highly technical matters, levels of cooperation from other ministries, IFMS project organizational issues, staffing, and local opportunities for out-sourcing some aspects of the IFMS support operations. Most of the PFTAC Advisor's recommendations were

accepted and, later in 2014, PNG's Department of Finance started the process of reforming its ICT delivery operations in order to accelerate the deployment of the IFMS system.

As of the end of July 2016, the TA had enabled expansion of the system to 30 central government departments (compared to the 3 connected when assistance commenced last year), with the remaining 30 due to be implemented by the end of 2016, depending on resource availability. The IFMS team has begun to plan their first implementation in a provincial and district environment, targeting East New Britain province and its districts as its first pilot. IFMS is currently used on a regular basis by over 2,000 users across government. PNG's September 2015 PFM Reform Roadmap, prepared with assistance from PFTAC, placed a high priority on completing the IFMS roll-out recognizing that many accounting, financial management, and reporting weaknesses could be overcome with full implementation of the system. The Roadmap's tight prioritization of objectives under the leadership of Finance Secretary Dr. Ken Ngangan played a significant role in expanded commitments from DFAT and the EU to provide more TA support to PNG's Department of Finance to ensure a sustainable roll-out and business process reform.

In addition, during 2015 PFTAC supported short-term missions to review cash management, reconciliation, and reporting processes.

B. Tax Administration and Policy

PFTAC has not supported the Internal Revenue Commission (IRC) in revenue administration as they are strongly supported by two Australian Programs; (1) the Strongim Gavman Program (SGP) which is used to engage senior ATO advisors to the IRC; and (2) the Economic Public Sector Program (EPSP) which provides support for strategic, governance, integrity matters and IT support.

A new IT system continues to be rolled out which includes new applications for withholding taxes, Goods and Services Tax and Corporate Income Tax. Over 120,000 transactions on average per month are currently being processed through the new system, with the next phase of development targeted at the introduction of applications to support modern risk management and case management for both audit and collection of tax arrears. Additional plans are in place to introduce e-filing, e-payment, and a self-service portal that taxpayers can access to obtain information on the status of their tax accounts.

A tax review diagnostic conducted by an accounting firm has provided numerous recommendations that are currently under discussion. One recommendation—to modernize taxpayer registration by issuing a Taxpayer Identification number—is already being implemented.

Peripheral modules will follow over the next twelve months, with project completion by 2017.

C. Financial Sector Regulation and Supervision.

There is no current PFTAC involvement in this area. In September 2014, BPNG hosted the annual meeting of the Association of Financial Supervisors of Pacific Countries, for which PFTAC is the

secretariat. In March 2007, PFTAC funded an attachment for two supervisors from BPNG to assist the Cook Islands' supervisory authority to undertake an on-site examination of a domestic bank. In 2008, PFTAC funded an attachment of one supervisor to assist the Reserve Bank of Fiji to undertake an on-site examination of a local branch of a PNG-based bank. PFTAC has not received any subsequent request for assistance from the BPNG.

D. Economic and Financial Statistics

In February 2006, an advisor briefly assessed BOP compilation with a view to improving its quality, and to assessing progress with the implementation of recommendations made by previous missions. A multi-sector statistics mission in September 2006 assessed the statistical systems (BOP, national accounts, prices statistics, government finance statistics, and monetary statistics), with the PFTAC advisor assessing the national accounts and providing overall coordination. In 2008 and 2009, the advisor undertook BOP statistics missions to review statistical prerequisites, progress in improving compilation methods and source data, as well as to assist BPNG statistics staff in assessing the feasibility of electronic data collection.

Since 2013, PFTAC has conducted a series of six TA missions to assist the National Statistical Office (NSO), BPNG, and Department of Treasury with improving national accounts statistics. PFTAC has increasingly focused its TA on improving capacities at the NSO in the broader context of the NSO reform process initiated by the authorities in 2014. Support has been provided in close collaboration with the ABS, which has provided statistical leadership and management advice as well as TA on data collection issues including business and household surveys with the secondment of two ABS staff to the PNG NSO since July 2015 and until June 2016. PNG NSO staff have also benefited from attending three annual sub-regional statistics workshops since 2013, centered in particular around estimating GDP by expenditure, the use of household income and expenditure surveys, and their linkage to consumer price indices.

E. Macroeconomic Analysis

Following a request by the BPNG for assistance in building up financial programming capacity, the development of a PNG-specific financial programming framework started in 2011. Training in the use and updating of the framework was provided to staffs of both BPNG and the Department of Treasury. Staff from both institutions also participated in training on financial programming techniques provided jointly by PFTAC and the Singapore Regional Training Institute during a December 2012 regional workshop in Fiji. A separate work program with the Department of Treasury and BPNG developed in collaboration with the APD country team and the IMF's Research Department modeling tools for exploring the macroeconomic impact of the surge in natural resource revenues from the LNG project. Further development of the financial programming framework started in 2014 because the existing framework was too detailed and resource-intensive to update, given day-to-day monitoring and projection needs. More recently work has been undertaken to improve the BPNG's inflation forecasting methodology following major revisions to the consumer price index (CPI) by the NSO in June 2014.

JOINT MATRIX OF BANK-FUND COLLABORATION

Papua New Guinea: JMAP Implementation Table			
Title	Products	Provisional Timing of Missions	Delivery Date (tentative)
A. Mutual Information on Relevant Work Programs			
World Bank program	Support for analysis and dissemination of the 2009-2010 Papua New Guinea Household Income and Expenditure Survey	Completed	March 2015
	Support for the development and implementation of the PNG Sovereign Wealth Fund	Completed	October 2012, January 2013.
	Social protection technical assistance	Completed	June 2014
	Cost of crime and violence	Completed	July 2014
	Education public expenditure review	Completed	January 2015
	Health financing and PFM analysis: (1) review of expenditure by provincial administrations on front line rural health; (2) analysis of health financing; and (3) health facility efficiency survey	Ongoing	Dissemination of policy notes on expenditure; health facility efficiency survey expected to be completed by March 2016. Health flagship course held in October 2016.
	PNG BOOST analytical tool for the analysis of public expenditure data	Completed	Demonstration conducted in January 2014, delivery and training expected in November 2014.
	Report on Observance of Standards and Codes (ROSC) - Accounting & Audit	Completed	March 2015
	Capacity building for building a medium term debt management strategy	Completed	August 2016
	PNG #B020 Financial Services Development Strategy: developing a National Financial Services Strategy and Implementation Plan	Ongoing	Final delivery expected in November 2016
	Social Protection NLTA 2: to help the Government of PNG to design and implement a national social pension/disability scheme	Ongoing	Final delivery expected in November 2016
	Support to CSOs in Papua New Guinea: Extractive Industry Transparency Initiative (EITI)	Ongoing	Final delivery expected in February 2017
	Urban Safety in Port Moresby and Lae	Ongoing	Initial findings presented in August 2015. Final delivery expected in May 2018.
	Renewable Energy Resource mapping and geospatial planning	Ongoing	Currently in phase two, final delivery expected in 2017
	PG: Connectivity analysis	Completed	Final presentation shared with the PNG Government and stakeholders in September 2015.
PNG – Debt Management Strategy and Sustainability	Ongoing	Final delivery expected in October 2016	
PNG Health Programmatic AAA	Ongoing	Final delivery expected in June 2018	
IMF work program	2016 Article IV mission	September 2016	Board consideration expected in December 2016
B. Request for Work Program Inputs			
Fund request to Bank	Information sharing	Semi-annual or more frequent	Ongoing
Bank request to Fund	Information sharing	Semi-annual or more frequent	Ongoing

RELATIONS WITH THE ASIAN DEVELOPMENT BANK

(As of October 12, 2016)

PNG joined the Asian Development Bank (ADB) in 1971. In line with the government's development agenda and ADB's Strategy 2020 midterm review priorities, the 2016 – 2018 Country Partnership Strategy, focuses on supporting rural populations by enhancing transport infrastructure, delivering health services, and reengaging in water and other urban infrastructure and services. The strategy was developed in close consultation with the government and other stakeholders, and is aligned with the government's Development Strategic Plan, 2010–2030 and National Strategy for Responsible Sustainable Development, 2014–2030. This focus is consistent with the Midterm Review of Strategy 2020 of the ADB.

ADB will continue to seek opportunities for cofinancing and to produce knowledge products that inform and influence national policy debates and support country operations. ADB support for private sector development—through state-owned enterprise reform—will lower business transaction costs, thereby helping to expand small and medium-sized enterprises and create jobs in the formal economy. ADB operations will focus on supporting climate proofing infrastructure and increasing the climate resilience of vulnerable sectors. ADB will mainstream gender in all general intervention projects.

The country operations business plan, 2017–2019 is the second under the country partnership strategy (CPS) 2016–2020 for PNG. The indicative lending program for 2017–2019 amounts to \$1,363.0 million, comprising of \$129.0 million in Concessional Ordinary Capital Resources lending (COL) and \$1,234.0 million in Ordinary Capital Resources (OCR). The indicative nonlending program amounts to \$5.35 million, which includes project preparatory TA. Additionally, the program includes cofinancing of \$300 million.

ADB will increase its total financing for development projects (lending, nonlending, and cofinancing) by 125 percent, from \$743.7 million (2016–2018) to \$1,668.4 million (2017–2019). The current programming period includes new infrastructure development projects, particularly in the transport sector, that will help increase connectivity and the delivery of basic services to the poorest and most remote parts of the country. The proposed transport projects will help create opportunities for inclusive economic growth, improve the delivery of basic services, increase regional connectivity with the rest of Asia, and build resilience to climate change.

PNG was able to withstand the impact of the global financial crisis in 2008; however, the recent global commodities downturn has worsened its fiscal position. PNG saw a sharp fall in public revenue (by 21 percent in 2015), necessitating a large fiscal adjustment. The economy remains exposed to global economic volatility. ADB will provide TA to strengthen the government's initiative to achieve calibrated fiscal consolidation, undertake expenditure reform, and strengthen PFM. At the request of the government, ADB has included a standby policy-based lending option for 2017 to safeguard critical social outlays. ADB will work closely with Australia, the European Union, the International Money Fund, the World Bank, and other donor partners to develop a coordinated response to the macroeconomic crisis and increase the country's resilience to external shocks.

ADB will increase partnerships with subnational provincial governments to implement infrastructure projects. Provincial governments have emerged as important stakeholders. The Department of Planning and ADB hosted an event on May 18, 2016, in Madang, PNG, to share knowledge concerning infrastructure projects with provincial governors and administrators. The event built upon ADB's study of partnering with subnational governments, and the outcome of the event provided a way forward for deepening the partnership.

Overall project implementation performance remains satisfactory. In 2015, contract awards amounted to \$122 million and disbursements totaled \$136 million. Total disbursements in 2015 were 115 percent of projected disbursements. However, maintaining and improving portfolio performance requires continued capacity building of counterpart agencies responsible for project implementation.

Table 1.	Papua New Guinea: Public Sector Loan Approvals and Disbursements, 2011–2016 (US\$ millions)					
	2011	2012	2013	2014	2015	2016
Loan approvals	195.8	41.5	196.8	0	0	0
Loan disbursements	20.5	89.3	182.5	117.0	129.2	75.03
Source: Asian Development Bank						

STATISTICAL ISSUES

PAPUA NEW GUINEA — STATISTICAL ISSUES APPENDIX As of September, 2016
I. Assessment of Data Adequacy for Surveillance
<p>General: Data provision has some shortcomings, but is broadly adequate for surveillance. Most affected areas are: national accounts, fiscal accounts, and balance of payments.</p>
<p>National Accounts: The accuracy and reliability of the statistics are affected by inadequate source data and lagged release dates. The most recent official national accounts statistics were published by the NSO in May 2016, at which time nominal GDP estimates for 2006–2013 were released. These estimates were compiled using <i>the System of National Accounts 2008</i> and were released after an eight-year hiatus. Major improvements in methodology as well as inclusion of new sectors were reflected in this new data. Real GDP estimates for 2006–2013 are still being verified and checked for accuracy and consistency. NSO also in the process of revising the 2013 preliminary estimates as well as producing 2014 national account statistics which are earmarked for release in December 2016. Reforming the NSO is underway with support from the ABS and PFTAC. Source data remain a challenge, with significant gaps in extractive and financial industries data. While CPI weights are from 2010 HIES, these data are not useable for expenditure estimates of GDP.</p>
<p>Price Statistics: The NSO currently compiles an unpublished quarterly wholesale price index (WPI) and a quarterly CPI. In May 2014, the NSO began to publish a new CPI series based on data from the 2009–2010 Household Income Expenditure Survey, ending a 35-year period during which the CPI used a consumption basket from the late 1970s.</p>
<p>Government Finance Statistics (GFS): GFS data were reported to STA in 2016 after a 14-year absence. Data suffers from insufficient coverage and timeliness. Central government tax revenue, nontax revenue, and public expenditure data are deficient. Development budget expenditures and the utilization of grants and project loans are recorded with long lags, and few records on the use of trust accounts are available. Tax revenues collected by authorities (extra-budgetary units) are generally not reflected in the central government’s financial information. While interest payment records are accurate, there are timing issues regarding the recording of interest on discounted securities. These weaknesses contribute to discrepancies in domestic financing between estimates from monetary and debt data and those derived from fiscal records. Papua New Guinea officials have benefitted from STA GFS technical assistance since June 2012 and as a result, volume 1 of the 2016 national budget was presented in the <i>Government Finance Statistics Manual 2014 (GFSM 2014)</i> format. The authorities also prepared an accompanying 5-year historical time series of GFS data. Further work is required to enhance both institutional and instrument coverage, as well as presenting the entire budget on a <i>GFSM 2014 basis</i>. For the migration, the authorities continue to participate in the Japan Administered Account (JSA)-funded three-year regional GFS capacity-building project since 2013.</p>

<p>Monetary and Financial Statistics: Monetary data are now being produced and reported to STA on a regular basis. Progress has been achieved by the BPNG in many areas of the collection, compilation, and dissemination of monetary and financial statistics (MFS), leading to the introduction of the standardized report form (SRF) for the central bank, other depository corporations (ODCs), and the other financial corporations (OFCs). A 2013 TA mission introduced general insurance companies into the institutional coverage of OFCs and an improved SRF for OFCs. Depository Corporations Survey and Survey of OFCs both have data coverage issues. Most of the monetary statistics published in <i>International Financial Statistics (IFS)</i> are currently aligned with the <i>Monetary and Financial Statistics Manual (MFSM)</i>.</p>	
<p>Financial sector surveillance: In the area of financial soundness indicators (FSIs), the BPNG has compiled selected FSIs for deposit takers to support the financial sector assessment. PNG is participating in a three-year (FY2014–FY2016) TA project on FSIs for selected AFR and APD countries funded by the Government of Japan and is expected to submit FSI data and metadata to STA for posting on the IMF's FSI website. Currently, data is still being compiled and has not been reported yet.</p>	
<p>External Sector Statistics: Annual balance of payments data are derived from the International Transactions Reporting System (ITRS), which is not tightly monitored despite the BPNG reporting requirements. There are marked differences between the official data on exports and imports of goods and those reported by trading partners. The financial accounts data are of poor quality because of major deficiencies in data collection, especially in the area of private external debt and foreign direct investment. Quarterly data are also published by the BPNG. PNG has been one of the beneficiaries of the JSA Project on the improvement of external sector statistics (ESS). Under this project, TA missions were provided to improve BOP and international investment position (IIP) statistics in May–June 2013, February 2014 and July 2015. These missions made recommendations to improve the ESS compilation framework. BPNG is largely under-equipped in terms of its capacity and collection framework vis-à-vis the volumes and nature of transactions and positions with nonresidents. Little progress has been made regarding the implementation of the missions' recommendations; and overall improvements in the quality of ESS have been very modest.</p>	
<p>II. Data Standards and Quality</p>	
<p>PNG began to participate in the General Data Dissemination System (GDSD) in 2012.</p>	
<p>III. Reporting to STA</p>	
<p>PNG last reported GFS for publication in <i>Government Finance Statistics Yearbook</i> and <i>IFS</i> for 2016, covering only the budgetary central government. Monetary data are reported to STA for publication in <i>IFS</i> on a regular monthly basis. BOP data for 2010 were reported to STA for publication in <i>Balance of Payments Yearbook</i> and <i>IFS</i>. National accounts data for 2006–13 were reported to STA for publication in <i>IFS</i>.</p>	

Papua New Guinea: Table of Common Indicators Required for Surveillance
(As of November 2, 2016)

	Date of Latest Observation	Date Received	Frequency of Data ¹	Frequency of Reporting ¹	Frequency of Publication ¹
Exchange Rates	10/31/2016	11/1/2016	D	D	D
International Reserve Assets and Reserve Liabilities of the Monetary Authorities ²	07/2016	09/18/2016	W	W	Q
Reserve/Base Money	07/2016	09/18/2016	M	M	Q
Broad Money	07/2016	09/18/2016	M	M	Q
Central Bank Balance Sheet	07/2016	09/18/2016	M	M	Q
Consolidated Balance Sheet of the Banking System	07/2016	09/18/2016	M	M	Q
Interest Rates ³	10/2016	11/1/2016	W	W	Q
Consumer Price Index	06/2016	09/29/2016	Q	Q	Q
Revenue, Expenditure, Balance and Composition of Financing ⁴ —General Government ^{5, 8}	N/A	N/A	N/A	N/A	N/A
Revenue, Expenditure, Balance and Composition of Financing ⁴ —Central Government	2015	08/24/2016	A	A	A
Stocks of Central Government and Central Government-Guaranteed Debt ⁶	12/2015	09/26/2016	Q	A	A
External Current Account Balance	06/2016	09/19/2016	Q	Q	Q
Exports and Imports of Goods and Services	06/2016	09/19/2016	Q	Q	Q
GDP/GNP	2013	03/23/2016	A	A	A
Gross External Debt	06/2016	09/20/2016	Q	A	A
International Investment Position ^{7, 8}	N/A	N/A	N/A	N/A	N/A

¹ Daily (D), Weekly (W), Monthly (M), Quarterly (Q), Annually (A), Irregular (I); and Not Available (N/A).

² Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.

³ Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes, and bonds.

⁴ Foreign, domestic bank, and domestic nonbank financing.

⁵ The general government consists of the central government (budgetary funds, extra-budgetary funds, and social security funds) and state and local governments.

⁶ Including currency and maturity composition.

⁷ Includes external gross financial asset and liability positions vis-à-vis nonresidents.

⁸ Lack of capacity prevented the authorities from providing the data.



PAPUA NEW GUINEA

STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS

November 11, 2016

Approved By
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Prepared by the staffs of the International Monetary Fund (IMF) and the International Development Association (IDA)¹

The Debt Sustainability Analysis (DSA) indicates that the risk of debt distress in Papua New Guinea (PNG) remains low, based on an assessment of public and publicly-guaranteed (PPG) external debt.² In line with the DSA for the 2015 Article IV consultation, factoring in public domestic and private external debt, the overall risk of debt distress remains heightened. A failure to consolidate the fiscal position – including through obtaining more cost-effective and longer-term financing – would worsen debt dynamics.

¹ This DSA was prepared jointly with the World Bank, in accordance with the Debt Sustainability Framework for low-income countries approved by the Executive Boards of the IMF and the IDA.

² Papua New Guinea is rated as a weak performer for its policies and institutions for the purposes of the IMF-World Bank low-income country DSA framework.

BACKGROUND

1. Although PNG's public and external debt burdens remain low relative to peer countries and the risk of debt distress is low, risks remain. The ratio of central government debt to GDP remains low, at 30 percent as of end-2015. However, liquidity risks remain high. In addition, central government debt has more than doubled between 2012 and 2015, and interest payments have also doubled over the same period (expected to triple in 2016) – such that debt servicing costs now exceed national spending on either education or health. At the same time, the expected refinancing of a large public sector loan has added to the liquidity risk associated with external debt, while central government domestic financing has become increasingly shorter-term.

UNDERLYING ASSUMPTIONS

2. Over the medium term, PNG's growth prospects and current account developments will be heavily influenced by its extractive sector and the LNG price outlook. Box 1 summarizes the medium-term macroeconomic framework underlying this DSA update. The longer term growth outlook has been revised up slightly by 0.4 percent, following the incorporation of revised historical data, which has shifted GDP composition. Despite this, the sectoral growth outlook has remained largely unchanged. The current account surplus, which was established in 2014 with the commencement of LNG exports, increased in 2015 due to LNG export growth and strong import compression. The current account surplus is projected to decline, as imports recover. The possibility of significant capacity expansion in the resource sector poses a key upside risk to the baseline outlook for the economy.

EXTERNAL DSA

3. Under the baseline scenario, all PPG external debt ratios stay well below the indicative thresholds. The baseline scenario is heavily affected by a reported new US\$500 million loan from a commercial bank, taken in 2016.³ However, it is only in the historical scenario that large breaches occur. As has been the case in past DSAs, the historical shock scenario shows large threshold breaches. However, in this case the historical scenario is not considered indicative of future risks, as the 10-year averages used for the underlying macroeconomic assumptions encompass the construction phase for PNG LNG and an extremely elevated current account deficit. High levels of private external debt could potentially create balance of payments pressures by competing with the public sector for foreign exchange. Nevertheless, such risks are mitigated by the fact that a large part of the loans are adequately backed by expected cash flows from the LNG project.

³ The loan, reportedly from Credit Suisse, is assumed to have a 5-year term at 7 percent. At present, we assume that the loan is continually refinanced through the projection period.

PUBLIC DSA

4. **Although public debt dynamics for PNG remain stable, there are risks to the outlook.**

Similar to last year's DSA, the public debt dynamics are stable and the public debt burden is expected to decline continuously over the projection period. However, liquidity risks are masked as the debt service-to-revenue ratio is calculated using medium-long term amortization projections. For example, Treasury bills (less than 1 year to maturity) increased as a share of total domestic financing, from 45 percent in 2012, to 48 percent in 2015. Using total PPG amortization, and including amortization of Treasury bills, would raise the debt service-to-revenue ratio to over 100 percent. In addition, the budget remains exposed to the unfunded superannuation liabilities estimated at 3½ percent of 2016 GDP.

AUTHORITIES' VIEWS

5. **The authorities agreed with the DSA findings, noting that the current risk of debt distress is low, but fiscal consolidation is crucial for debt sustainability.** The authorities acknowledged that further fiscal restraint is needed to keep the debt on a downward path. They also recognized the importance of more comprehensive data on debt and other liabilities, in particular, off-budget and public enterprise debt, in assessing PNG's overall debt burden.

CONCLUSION

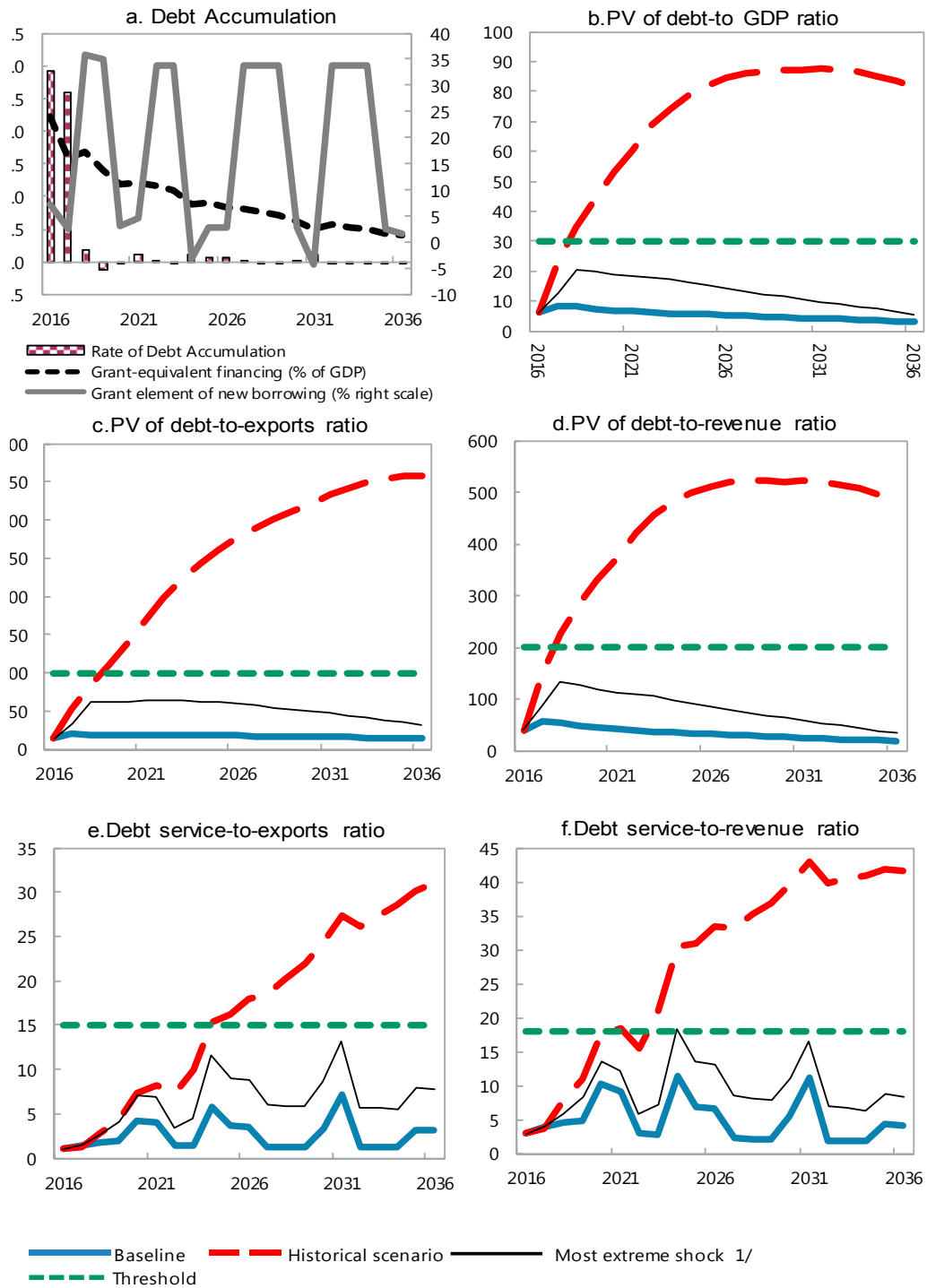
6. **PNG's risk of external debt distress remains low, but the overall risk of public debt distress is heightened.** As was the case in the 2015 DSA, the heightened risk of overall public debt distress reflects the increased stock of domestic debt with a higher share of short-term Treasury bills – even though the stock remains low relative to peers. External debt has also become shorter-term and less concessionary, due to a new US\$500 million commercial bank loan.

Box 1. Macroeconomic Assumptions Underlying the DSA Update

Compared to the 2015 DSA, the macroeconomic assumptions underpinning this DSA are largely unchanged in terms of the sectoral growth outlook – although a slight upward revision occurred in aggregate growth, due to the effects of revised historical data on GDP component shares. The current account is also projected to be in surplus for much longer, due to the downward revision in imports. A more conservative view is taken of the long-term fiscal balance.

- **Real GDP growth** is projected to average 3.4 percent in the medium/long run, a slight increase above the 3 percent long term average growth rate used for the 2015 DSA.
- **Inflation** is expected to peak at 7.5 percent in 2017, before falling back to 6 percent in the medium/long term. This is an increase of 1 percent above the previous medium/long term projection, and reflects the baseline projection of continued nominal depreciation.
- **The current account** (including grants) turned to surplus in 2014 due to the commencement of LNG exports and import compression. However, the current account is expected to decline in the near term, reflecting in part a weak outlook for commodity exports. In the medium/long term gradual erosion of the current account surplus is projected, as imports recover.
- **The grant element of new loans.** The proportion of PNG's debt on concessional terms has likely reduced, given reports of a new US\$500 million commercial bank loan that was reportedly contracted in 2016 to finance the budget. This has lowered the grant element of loans in the updated DSA in 2016, and will continue to do so in the projection due to assumed refinancing.
- **The primary fiscal balance** is estimated to be 2.0 percent of GDP in deficit in 2016. Thereafter the primary deficit is projected to gradually improve to a deficit of around 0.3 percent.

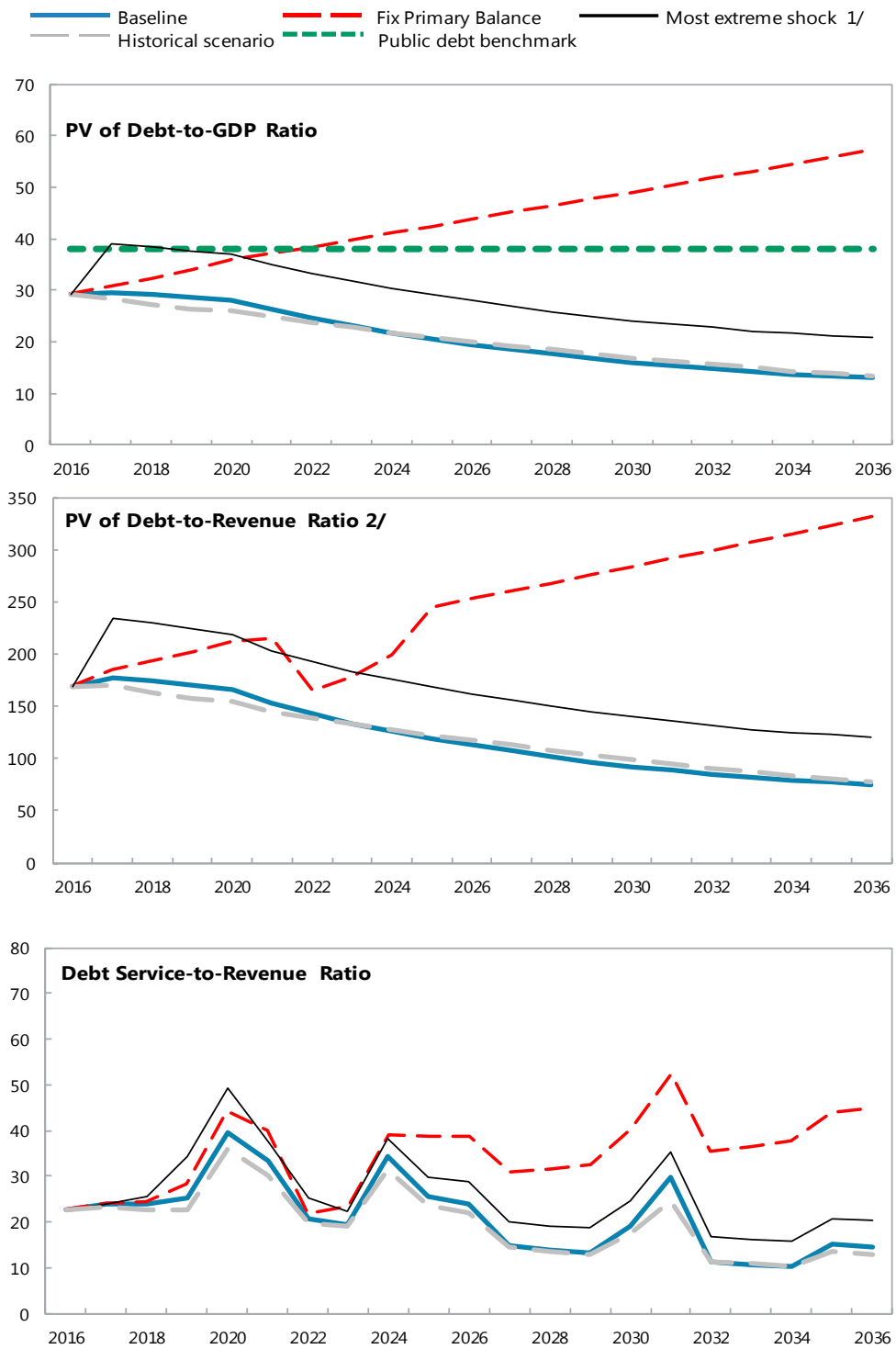
Figure 1. Papua New Guinea: Indicators of Public and Publicly Guaranteed External Debt Under Alternative Scenarios, 2016-2036



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio on or before 2025. In pannels b-f it corresponds to an exports shock.

Figure 2. Papua New Guinea: Indicators of Public Debt Under Alternative Scenarios, 2016-2036



Sources: Country authorities; and staff estimates and projections.
 1/ The most extreme stress test is the test that yields the highest ratio on or before 2026.
 2/ Revenues are defined inclusive of grants.

**Table 1a. Papua New Guinea: External Debt Sustainability Framework,
Baseline Scenario, 2016-2036**

	Actual			Historical Average	Standard Deviation	Projections						2016-2021 Average	2026	2036	2022-2036 Average
	2013	2014	2015			2016	2017	2018	2019	2020	2021				
External debt (nominal) 1/	106.4	98.5	92.0			91.1	82.1	73.1	63.6	54.9	47.1		20.8	5.2	
<i>of which: public and publicly guaranteed (PPG)</i>	6.4	6.5	6.9			10.3	12.5	12.2	11.4	10.7	10.1		8.2	5.1	
Change in external debt	2.7	-7.9	-6.4			-0.9	-9.0	-9.0	-9.5	-8.8	-7.8		-4.3	-0.3	
Identified net debt-creating flows	32.7	-8.1	-9.0			-11.4	-10.6	-9.8	-8.7	-7.6	-7.0		-4.7	-0.2	
Non-interest current account deficit	30.4	-4.1	-11.6	9.0	16.7	-8.4	-7.3	-6.6	-6.0	-5.1	-4.7		-3.4	0.3	-2.4
Deficit in balance of goods and services	26.4	-6.9	-15.8			-12.2	-11.9	-11.0	-9.8	-8.5	-7.9		-6.7	-2.9	
Exports	30.1	41.1	44.1			44.1	43.3	42.1	40.3	38.3	36.2		30.5	22.7	
Imports	56.6	34.2	28.3			31.9	31.4	31.2	30.5	29.7	28.2		23.9	19.8	
Net current transfers (negative = inflow)	-0.6	-0.5	-0.9	-1.3	0.7	-0.8	-0.8	-0.9	-1.1	-1.2	-1.3		-0.7	0.2	-0.4
<i>of which: official</i>	-1.9	-1.7	-1.7			-1.8	-1.9	-1.9	-1.8	-1.8	-1.7		-1.6	-1.4	
Other current account flows (negative = net inflow)	4.6	3.3	5.1			4.7	5.4	5.3	4.9	4.7	4.5		3.9	3.0	
Net FDI (negative = inflow)	0.5	-1.8	-1.1	-1.6	1.5	-1.2	-1.5	-1.3	-1.0	-1.1	-1.0		-0.8	-0.5	-0.7
Endogenous debt dynamics 2/	1.7	-2.2	3.7			-1.8	-1.9	-1.8	-1.7	-1.4	-1.2		-0.5	0.0	
Contribution from nominal interest rate	1.1	1.1	0.7			0.6	0.7	0.7	0.6	0.6	0.5		0.3	0.2	
Contribution from real GDP growth	-4.9	-7.6	-6.7			-2.4	-2.6	-2.5	-2.3	-2.0	-1.7		-0.8	-0.2	
Contribution from price and exchange rate changes	5.5	4.3	9.7			...	...	...	...	...	...		...	...
Residual (3-4) 3/	-30.0	0.1	2.6			10.5	1.6	0.7	-0.8	-1.2	-0.8		0.4	-0.1	
<i>of which: exceptional financing</i>	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
PV of external debt 4/	...	...	88.1			86.9	78.1	69.0	59.7	51.1	43.5		17.9	3.2	
In percent of exports	...	...	199.6			197.2	180.2	163.9	147.9	133.5	120.3		58.5	14.0	
PV of PPG external debt	...	...	2.9			6.2	8.4	8.1	7.4	6.9	6.5		5.3	3.1	
In percent of exports	...	...	6.6			14.0	19.3	19.2	18.4	18.1	18.0		17.3	13.8	
In percent of government revenues	...	...	17.3			39.9	55.3	52.6	47.6	43.5	40.4		32.0	18.6	
Debt service-to-exports ratio (in percent)	9.4	27.4	23.8			23.8	19.2	15.7	15.3	17.3	16.1		14.0	3.3	
PPG debt service-to-exports ratio (in percent)	1.3	1.0	0.6			1.0	1.4	1.7	1.9	4.2	4.0		3.5	3.1	
PPG debt service-to-revenue ratio (in percent)	2.1	2.1	1.7			2.9	4.0	4.6	4.9	10.2	9.0		6.6	4.1	
Total gross financing need (Billions of U.S. dollars)	7.2	1.2	-0.5			0.2	-0.1	-0.3	-0.2	0.1	0.0		0.0	0.4	
Non-interest current account deficit that stabilizes debt ratio	27.8	3.9	-5.1			-7.4	1.7	2.4	3.5	3.7	3.0		0.9	0.6	
Key macroeconomic assumptions															
Real GDP growth (in percent)	4.7	7.4	6.6	5.8	2.9	2.5	3.0	3.2	3.4	3.4	3.4	3.1	3.4	3.4	3.4
GDP deflator in US dollar terms (change in percent)	-5.1	-3.9	-9.0	5.7	10.5	-8.1	1.9	1.6	2.9	3.4	3.9	0.9	1.8	1.8	1.9
Effective interest rate (percent) 5/	1.0	1.0	0.7	2.6	1.7	0.7	0.8	0.9	0.9	0.9	1.0	0.9	1.1	3.2	2.1
Growth of exports of G&S (US dollar terms, in percent)	-6.5	40.8	4.3	11.8	20.5	-5.9	3.1	2.0	1.8	1.4	1.6	0.7	2.0	2.2	2.1
Growth of imports of G&S (US dollar terms, in percent)	-10.2	-37.5	-19.7	11.4	29.1	6.0	3.5	4.0	4.1	4.2	2.1	4.0	2.1	4.4	2.9
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	7.1	2.6	35.9	35.0	3.2	4.6	14.7	2.8	1.6	18.4
Government revenues (excluding grants, in percent of GDP)	19.0	20.1	16.9			15.4	15.1	15.3	15.6	15.9	16.1		16.5	16.9	16.6
Aid flows (in Billions of US dollars) 7/	0.6	0.5	0.3			0.6	0.4	0.4	0.3	0.3	0.3		0.3	0.3	
<i>of which: Grants</i>	0.4	0.3	0.3			0.4	0.3	0.3	0.3	0.3	0.3		0.3	0.2	
<i>of which: Concessional loans</i>	0.2	0.2	0.0			0.2	0.1	0.1	0.1	0.0	0.0		0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			2.2	1.6	1.7	1.4	1.2	1.2		0.8	0.4	0.7
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			40.3	36.4	77.2	84.3	49.0	49.3		48.4	44.1	65.2
Memorandum items:															
Nominal GDP (Billions of US dollars)	21.1	21.8	21.2			20.0	20.9	22.0	23.4	25.0	26.8		35.1	58.4	
Nominal dollar GDP growth	-0.6	3.2	-2.9			-5.8	4.9	4.9	6.3	6.9	7.5	4.1	5.2	5.2	5.3
PV of PPG external debt (in Billions of US dollars)	...	...	0.6			1.2	1.7	1.7	1.7	1.7	1.7		1.8	1.8	
(Pvt-Pvt-1)/GDPt-1 (in percent)	...	...	...			2.9	2.6	0.2	-0.1	0.0	0.1	0.9	0.1	0.0	0.0
Gross workers' remittances (Billions of US dollars)	-0.3	-0.3	-0.2			-0.2	-0.2	-0.2	-0.2	-0.1	-0.1		-0.3	-1.0	
PV of PPG external debt (in percent of GDP + remittances)	...	...	2.9			6.2	8.5	8.1	7.5	7.0	6.5		5.3	3.2	
PV of PPG external debt (in percent of exports + remittances)	...	...	6.7			14.3	19.8	19.6	18.7	18.3	18.2		17.8	14.9	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	0.7			1.1	1.4	1.7	1.9	4.3	4.1		3.7	3.3	

Sources: Country authorities; and staff estimates and projections.

1/ Includes both public and private sector external debt.

2/ Derived as $[r - g - \rho(1+g)] / (1+g+\rho+g)$ times previous period debt ratio, with r = nominal interest rate; g = real GDP growth rate, and ρ = growth rate of GDP deflator in U.S. dollar terms.

3/ Includes exceptional financing (i.e., changes in arrears and debt relief); changes in gross foreign assets; and valuation adjustments. For projections also includes contribution from price and exchange rate changes.

4/ Assumes that PV of private sector debt is equivalent to its face value.

5/ Current-year interest payments divided by previous period debt stock.

6/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.

7/ Defined as grants, concessional loans, and debt relief.

8/ Grant-equivalent financing includes grants provided directly to the government and through new borrowing (difference between the face value and the PV of new debt).

Table 1b. Papua New Guinea: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016-2036
(In percent)

	Projections											
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2036
PV of debt-to GDP ratio												
Baseline	6	8	8	7	7	7	6	6	6	5	5	3
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2016-2036 1/	6	23	35	44	53	60	68	74	79	82	84	81
A2. New public sector loans on less favorable terms in 2016-2036 2	6	9	9	8	8	8	7	7	7	7	7	5
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	6	8	8	7	7	7	6	6	6	5	5	3
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	6	13	21	20	19	18	18	17	16	15	14	6
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	6	9	9	8	8	7	7	7	6	6	6	3
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	6	10	11	10	10	9	9	8	8	8	7	4
B5. Combination of B1-B4 using one-half standard deviation shocks	6	9	10	10	9	9	8	8	7	7	7	4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	6	12	11	10	10	9	9	8	8	8	7	4
PV of debt-to-exports ratio												
Baseline	14	19	19	18	18	18	18	18	18	17	17	14
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2016-2036 1/	14	53	82	110	138	167	198	221	242	260	276	358
A2. New public sector loans on less favorable terms in 2016-2036 2	14	20	21	20	20	21	21	21	21	21	21	21
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	14	19	19	18	18	18	18	17	17	17	17	13
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	14	33	62	62	63	64	64	64	63	61	59	31
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	14	19	19	18	18	18	18	17	17	17	17	13
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	14	22	26	25	25	25	25	25	25	24	24	16
B5. Combination of B1-B4 using one-half standard deviation shocks	14	22	25	24	24	24	24	23	23	23	22	16
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	14	19	19	18	18	18	18	17	17	17	17	13
PV of debt-to-revenue ratio												
Baseline	40	55	53	48	43	40	38	36	35	33	32	19
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2016-2036 1/	40	151	226	284	333	374	421	455	481	499	512	482
A2. New public sector loans on less favorable terms in 2016-2036 2	40	58	57	53	49	47	44	42	41	40	39	28
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	40	54	52	47	43	40	38	35	34	33	31	18
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	40	84	134	127	119	113	109	105	98	92	86	33
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	40	58	59	54	49	46	43	40	39	37	36	21
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	40	64	71	65	61	57	54	51	49	46	44	21
B5. Combination of B1-B4 using one-half standard deviation shocks	40	61	66	61	57	53	50	47	45	43	41	21
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	40	76	73	67	61	57	53	50	48	46	44	26

Table 1b. Papua New Guinea: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2016-2036 (concluded)

(In percent)

Debt service-to-exports ratio												
Baseline	1	1	2	2	4	4	1	1	6	4	4	3
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2016-2036 1/	1	1	3	4	7	8	7	10	15	16	18	31
A2. New public sector loans on less favorable terms in 2016-2036 2	1	1	1	2	1	1	1	2	2	2	2	1
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	1	1	2	2	4	4	1	1	6	4	4	3
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	1	2	3	4	7	7	3	4	12	9	9	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	1	1	2	2	4	4	1	1	6	4	4	3
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	1	1	2	2	5	4	2	2	6	4	4	4
B5. Combination of B1-B4 using one-half standard deviation shocks	1	1	2	2	5	4	2	2	6	4	4	4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	1	1	2	2	4	4	1	1	6	4	4	3
Debt service-to-revenue ratio												
Baseline	3	4	5	5	10	9	3	3	11	7	7	4
A. Alternative Scenarios												
A1. Key variables at their historical averages in 2016-2036 1/	3	4	8	11	18	18	16	21	30	31	33	42
A2. New public sector loans on less favorable terms in 2016-2036 2	3	4	4	4	3	3	2	4	4	4	4	2
B. Bound Tests												
B1. Real GDP growth at historical average minus one standard deviation in 2017-2018	3	4	5	5	10	9	3	3	11	7	7	4
B2. Export value growth at historical average minus one standard deviation in 2017-2018 3/	3	4	6	8	13	12	6	7	18	14	13	8
B3. US dollar GDP deflator at historical average minus one standard deviation in 2017-2018	3	4	5	6	12	10	3	3	13	8	8	5
B4. Net non-debt creating flows at historical average minus one standard deviation in 2017-2018 4/	3	4	5	6	11	10	4	4	13	8	8	5
B5. Combination of B1-B4 using one-half standard deviation shocks	3	4	5	5	11	10	3	4	13	8	8	5
B6. One-time 30 percent nominal depreciation relative to the baseline in 2017 5/	3	6	7	7	14	13	4	4	16	10	9	6
Memorandum item:												
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	8	8	8	8	8	8	8	8	8	8	8	8

Sources: Country authorities; and staff estimates and projections.

1/ Variables include real GDP growth, growth of GDP deflator (in U.S. dollar terms), non-interest current account in percent of GDP, and non-debt creating flows.

2/ Assumes that the interest rate on new borrowing is by 2 percentage points higher than in the baseline, while grace and maturity periods are the same as in the baseline.

3/ Exports values are assumed to remain permanently at the lower level, but the current account as a share of GDP is assumed to return to its baseline level after the shock (implicitly assuming an offsetting adjustment in import levels).

4/ Includes official and private transfers and FDI.

5/ Depreciation is defined as percentage decline in dollar/local currency rate, such that it never exceeds 100 percent.

6/ Applies to all stress scenarios except for A2 (less favorable financing) in which the terms on all new financing are as specified in footnote 2.

**Table 2. Papua New Guinea: Public Sector Debt Sustainability Framework,
Baseline Scenario, 2016-2036**
(In percent of GDP unless otherwise indicated)

	Actual			Average	s/	Standard	s/	Estimate		Projections						
	2013	2014	2015					2016	2017	2018	2019	2020	2021	2016-21		2026	2036	2022-36
											Average		Average			
Public sector debt 1/	33.9	38.4	30.4					33.5	33.7	33.2	32.6	31.9	29.9		22.4	15.0
<i>of which: foreign-currency denominated</i>	6.4	6.5	6.9					10.3	12.5	12.2	11.4	10.7	10.1		8.2	5.1
Change in public sector debt	8.5	4.5	-7.9					3.1	0.1	-0.4	-0.7	-0.6	-2.1		-1.2	-0.4
Identified debt-creating flows	18.2	11.6	11.9					7.5	3.6	3.3	2.6	1.8	0.9		0.7	0.3
Primary deficit	5.7	4.8	3.2	-0.2	4.7			1.8	0.4	-0.2	-0.6	-1.0	-1.5	-0.2	-0.9	-0.3
Revenue and grants	20.9	21.7	18.3					17.4	16.7	16.7	16.9	17.1	17.3		17.3	17.3
<i>of which: grants</i>	1.8	1.6	1.4					2.0	1.5	1.4	1.3	1.2	1.2		0.8	0.4
Primary (noninterest) expenditure	26.6	26.5	21.5					19.2	17.1	16.6	16.3	16.0	15.8		16.4	17.0
Automatic debt dynamics	0.3	-2.3	0.0					1.6	-0.5	0.1	0.0	0.0	-0.2		0.0	0.1
Contribution from interest rate/growth differential	-0.5	-2.4	-1.0					1.2	-0.5	0.2	0.2	0.2	0.0		0.0	0.0
<i>of which: contribution from average real interest rate</i>	0.7	0.0	1.4					2.0	0.5	1.2	1.3	1.3	1.1		0.8	0.6
<i>of which: contribution from real GDP growth</i>	-1.1	-2.3	-2.4					-0.7	-1.0	-1.1	-1.1	-1.1	-1.0		-0.8	-0.5
Contribution from real exchange rate depreciation	0.7	0.1	1.0					0.4	0.0	-0.1	-0.2	-0.2	-0.3		...	...
Other identified debt-creating flows	12.2	9.1	8.6					4.0	3.6	3.3	3.1	2.8	2.6		1.5	0.6
Privatization receipts (negative)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Recognition of implicit or contingent liabilities	12.2	9.1	8.6					4.0	3.6	3.3	3.1	2.8	2.6		1.5	0.6
Debt relief (HIPC and other)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Residual, including asset changes	-9.7	-7.1	-19.8					-4.4	-3.5	-3.7	-3.2	-2.5	-2.9		-1.9	-0.7
Other Sustainability Indicators																
PV of public sector debt	...	...	26.5					29.4	29.6	29.1	28.6	28.2	26.3		19.5	13.0
<i>of which: foreign-currency denominated</i>	...	...	2.9					6.2	8.4	8.1	7.4	6.9	6.5		5.3	3.1
<i>of which: external</i>	...	...	2.9					6.2	8.4	8.1	7.4	6.9	6.5		5.3	3.1
PV of contingent liabilities (not included in public sector debt)	...	...	...					...	...	...	...	...	...		...	...
Gross financing need 2/	13.7	15.6	15.9					16.6	14.5	13.2	13.1	15.2	13.8		10.1	6.8
PV of public sector debt-to-revenue and grants ratio (in percent)	...	...	145.1					168.7	177.6	173.9	169.5	165.2	152.2		112.9	75.1
PV of public sector debt-to-revenue ratio (in percent)	...	...	157.0					190.3	195.4	189.8	183.2	177.2	163.1		118.4	76.9
<i>of which: external 3/</i>	...	...	17.3					39.9	55.3	52.6	47.6	43.5	40.4		32.0	18.6
Debt service-to-revenue and grants ratio (in percent) 4/	10.4	14.4	17.4					22.7	24.0	24.1	25.3	39.6	33.3		24.0	14.5
Debt service-to-revenue ratio (in percent) 4/	11.4	15.5	18.8					25.6	26.4	26.3	27.3	42.5	35.7		25.2	14.8
Primary deficit that stabilizes the debt-to-GDP ratio	-2.8	0.2	11.2					-1.3	0.3	0.3	0.1	-0.4	0.6		0.3	0.1
Key macroeconomic and fiscal assumptions																
Real GDP growth (in percent)	4.7	7.4	6.6	5.8	2.9			2.5	3.0	3.2	3.4	3.4	3.4	3.1	3.4	3.4
Average nominal interest rate on forex debt (in percent)	2.9	4.5	3.2	2.8	0.9			6.5	7.7	6.9	6.7	6.6	6.7	6.8	6.8	7.0
Average nominal interest rate on domestic debt (in percent)	5.4	6.4	5.7	7.4	1.6			9.6	7.6	9.3	9.3	9.3	8.7	9.0	8.8	9.2
Average real interest rate (in percent)	2.7	-0.1	3.9	2.4	3.1			6.6	1.5	3.8	4.0	4.0	3.6	3.9	3.4	3.7
Average real interest rate on foreign-currency debt (in percent)	-1.4	-1.6	-1.7	-1.7	0.6			-1.8	-1.9	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8
Average real interest rate on domestic debt (in percent)	3.1	-0.8	4.4	3.3	4.9			7.2	-0.3	3.1	3.7	3.6	3.0	3.4	2.6	3.0
Real exchange rate depreciation (in percent, + indicates depreciation)	14.3	1.5	16.5	-1.8	11.7			5.8	...	...	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	2.3	7.3	1.3	4.1	4.2			2.3	7.9	6.0	5.5	5.5	5.5	5.4	6.0	6.0
Growth of real primary spending (deflated by GDP deflator, in percent)	30.5	6.9	-13.5	2.4	11.1			-8.2	-8.5	0.1	1.6	1.7	1.9	-1.9	4.0	3.6
Grant element of new external borrowing (in percent)	...	...	...	...	...			7.1	2.6	35.9	35.0	3.2	4.6	14.7	2.8	1.6

Sources: Country authorities; and staff estimates and projections.

1/ Public debt includes domestic central government debt, external public debt, and the guarantee for the UBS loan.

2/ Gross financing need is defined as the primary deficit plus debt service plus the stock of short-term debt at the end of the last period.

3/ Revenues excluding grants.

4/ Debt service is defined as the sum of interest and amortization of medium and long-term debt.

5/ Historical averages and standard deviations are generally derived over the past 10 years, subject to data availability.