

## **Papua New Guinea: 2010 Article IV Consultation—Staff Report and Public Information Notice**

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 2010 Article IV consultation with Papua New Guinea, the following documents have been released and are included in this package:

- The staff report for the 2010 Article IV consultation, prepared by a staff team of the IMF, following discussions that ended on February 22, 2010, 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 May 4, 2010. The views expressed in the staff report are those of the staff team and do not necessarily reflect the views of the Executive Board of the IMF.
- A Public Information Notice (PIN).

The document listed below has been or will be separately released.

### Selected Issues Paper and Statistical Appendix

The policy of publication of staff reports and other documents allows for the deletion of market-sensitive information.

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INTERNATIONAL MONETARY FUND

PAPUA NEW GUINEA

**Staff Report for the 2010 Article IV Consultation**

Prepared by the Staff Representatives for the 2010 Consultation with Papua New Guinea  
(In consultation with other departments)

Approved by Mahmood Pradhan and Christian Mumssen

May 4, 2010

- **Discussions:** Port Moresby, February 12–22, 2010, with Treasury Secretary Simon Tosali, Bank of Papua New Guinea Governor Loi Bakani, other senior officials, and representatives from the financial and business sectors.
- **Team:** Mr. Hunt (head), Mr. Ochirkhuu, Mr. Wang (all APD), Mr. Mellor and Mr. Liu (ADB), and Mr. Legg (OED) participated in the discussions.
- **Focus of mission:** Policies to maintain macroeconomic and financial stability and laying the groundwork for effectively managing the revenue from the liquefied natural gas (LNG) projects now underway.
- **Selected Issues papers analyze:** How Papua New Guinea weathered the global downturn relative to other pacific island countries; the inflation process; and managing windfall revenues from LNG projects.
- **Proposal to complete on a lapse-of-time basis:** In light of the stable economic and financial environment and taking into account the Board's heavy calendar, it is proposed that the 2010 Article IV consultation be completed on a lapse of time basis.
- **Past surveillance:** For policy issues discussed in the 2008 Article IV consultation, see: <http://www.imf.org/external/pubs/cat/longres.cfm?sk=22857.0>
- **Exchange rate:** Papua New Guinea is an Article VIII country and maintains an exchange system that is free of restrictions on the making of payments and transfers for current international transactions other than restrictions notified to the Fund in accordance with Decision No. 144-(52/51). The exchange rate arrangement is classified as floating.

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## EXECUTIVE SUMMARY

**Background:** The global downturn had only a mild impact as growth was supported by still strong terms of trade, a financial sector insulated from global capital markets, and an increase in public expenditure. Growth will rebound in 2010 as construction begins on two liquefied natural gas (LNG) projects. Although inflation declined in 2009, it is expected to accelerate in 2010 as imported inflation rises and domestic demand butts up against capacity constraints.

**Main issues:** The near-term challenge is to maintain macroeconomic stability in the face of a substantial demand shock from the construction of two major LNG projects. In the medium term, the priority is to ensure that windfall revenues from exhaustible resources are used effectively to raise living standards on a sustainable basis.

**Staff views:** Staff endorsed the withdrawal of fiscal stimulus in the 2010 Budget but raised concerns about the planned level of investment spending and slippages in the implementation of the Medium-Term Fiscal Strategy. Staff advised that the integration of a sovereign wealth fund into the macro framework could prove to be a more effective means to manage windfall resource revenue than the current practice of using trust accounts managed outside the budget process. Staff stressed that monetary policy needed to be focused on emerging inflation pressures and act preemptively to avoid high inflation becoming entrenched in expectations. Further, staff called for better coordination of monetary and fiscal policy.

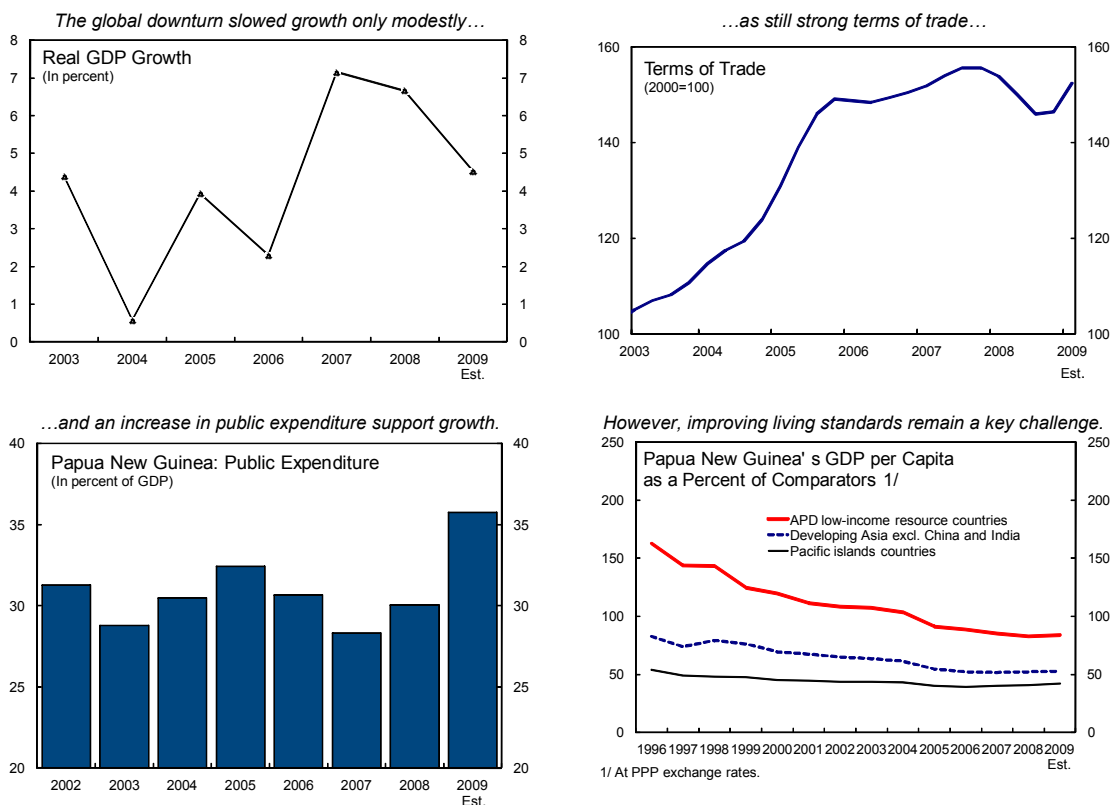
**Authorities' views:** The authorities agreed on the key issues and the broad policy advice but pointed to a numbers of challenges in implementation. On fiscal policy, they noted that the magnitude of the deviation from the framework in 2009 reflected the significant acceleration in spending following the easing of constraints on trust account spending and international endorsement of fiscal stimulus. The authorities also noted that the absence of an informed public debate undermined incentives for Ministers to adhere to the fiscal framework. More encouragingly, they indicated that there would be scope to delay some planned public investment expenditure and they established a working group to develop a proposal for the introduction of a sovereign wealth fund to manage resource revenue. On monetary policy, they appeared somewhat resigned to accept higher inflation. In part this reflected the central bank's concern about the impact on its capital of using both the policy rate and bank bills to contain liquidity and thus domestic demand.

## I. MACROECONOMIC BACKDROP

### A. Context

1. **The global financial crisis had only a mild impact on Papua New Guinea, but improving living standards remains a challenge.** Prior to the global downturn, moderate economic growth was generated by buoyant commodity export revenues and effective macroeconomic policy implementation. During the downturn, growth in Papua New Guinea was supported by an insulated financial sector, still strong terms of trade, and a sound fiscal position that allowed for an increase in public expenditure. However, GDP per capita remains low and improvements in living standards have lagged those in other regional low-income countries. The challenge is to improve the environment for nonmineral-sector investment which remains unattractive due to high crime and weak infrastructure and governance. LNG revenue will provide an opportunity to address long-term challenges and significantly raise living standards; however, unless managed properly it will also raise the economy's vulnerability to swings in commodity prices.

Figure 1. Papua New Guinea: Macro Performance



*...and increased public expenditure.*

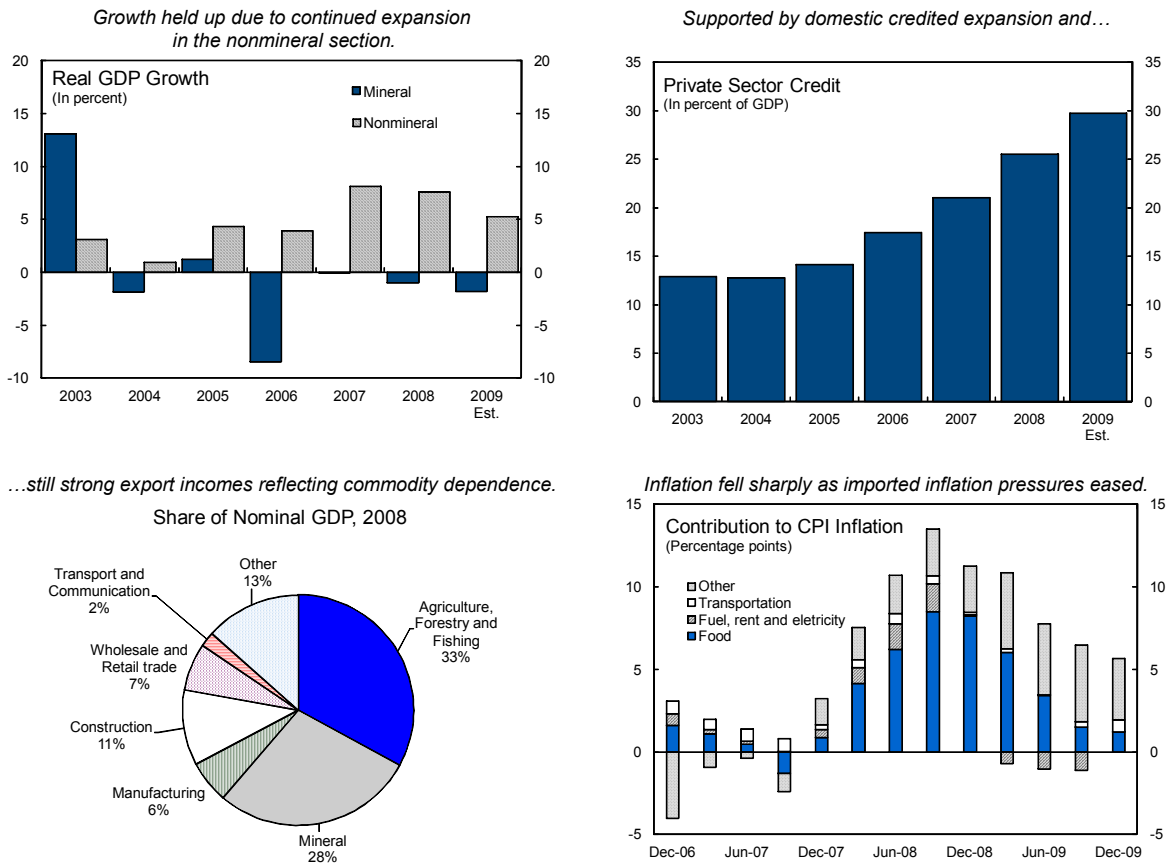
*However, development needs remain as GDP per Capita is still well below other economies in the region.*

Sources: Bank of Papua New Guinea; International Financial Statistics, World Economic Outlook; and IMF staff calculations.

### B. Current Economic Setting

2. **Growth eased modestly and inflation fell in 2009.** After expanding by almost 7 percent in 2008, GDP is estimated to have grown by just under 5 percent in 2009. While the mineral sector contracted slightly due to production delays and depletion of oil reserves, nonmineral sector growth remained buoyant. Continued expansion in domestic credit, still strong export incomes (as export demand held up relatively well), an increase in public expenditure, and the positive confidence effects of the LNG projects all helped support domestic demand. After peaking above 13 percent in the third quarter of 2008, CPI inflation fell steadily to under 6 percent at end-2009. The improved inflation performance primarily reflects moderation in food price inflation and a decline in energy prices. However, non-tradable inflation pressures appear to have intensified.

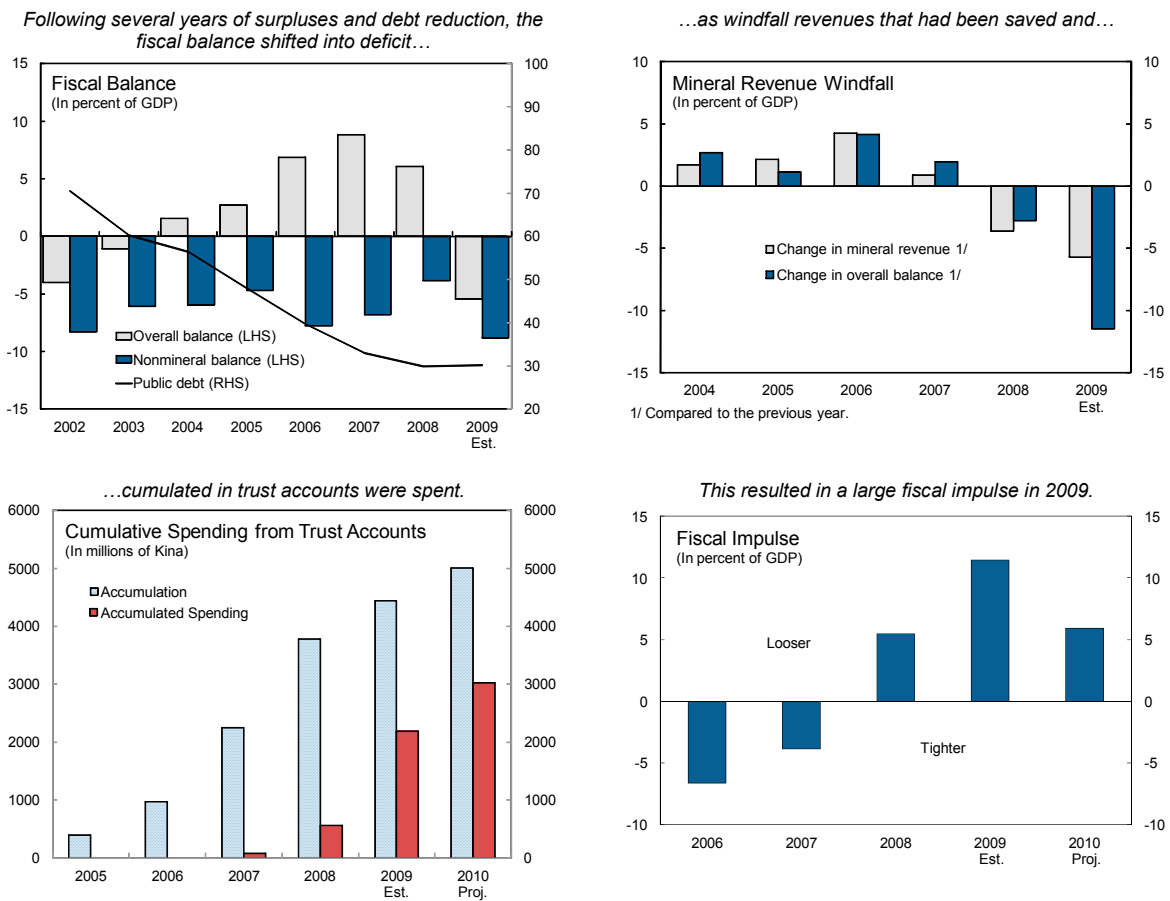
Figure 2. Papua New Guinea: Growth and Inflation



Sources: Bank of Papua New Guinea; International Financial Statistics, and IMF staff calculations.

3. **Following several years of surpluses, the fiscal balance shifted into a large deficit in 2009.** During the period of rising commodity prices, windfall revenues were largely saved and public debt reduced. In addition to funding debt reduction, windfall revenues were also accumulated in public trust accounts to address development needs. In 2008, the government relaxed constraints on trust account spending and spending from trusts exploded in 2009. Trust spending was the main factor shifting the fiscal balance from a surplus of 2.5 percent of GDP in 2008 to a deficit of almost 8 percent of GDP in 2009. The result was a fiscal impulse of almost 13 percent of GDP.

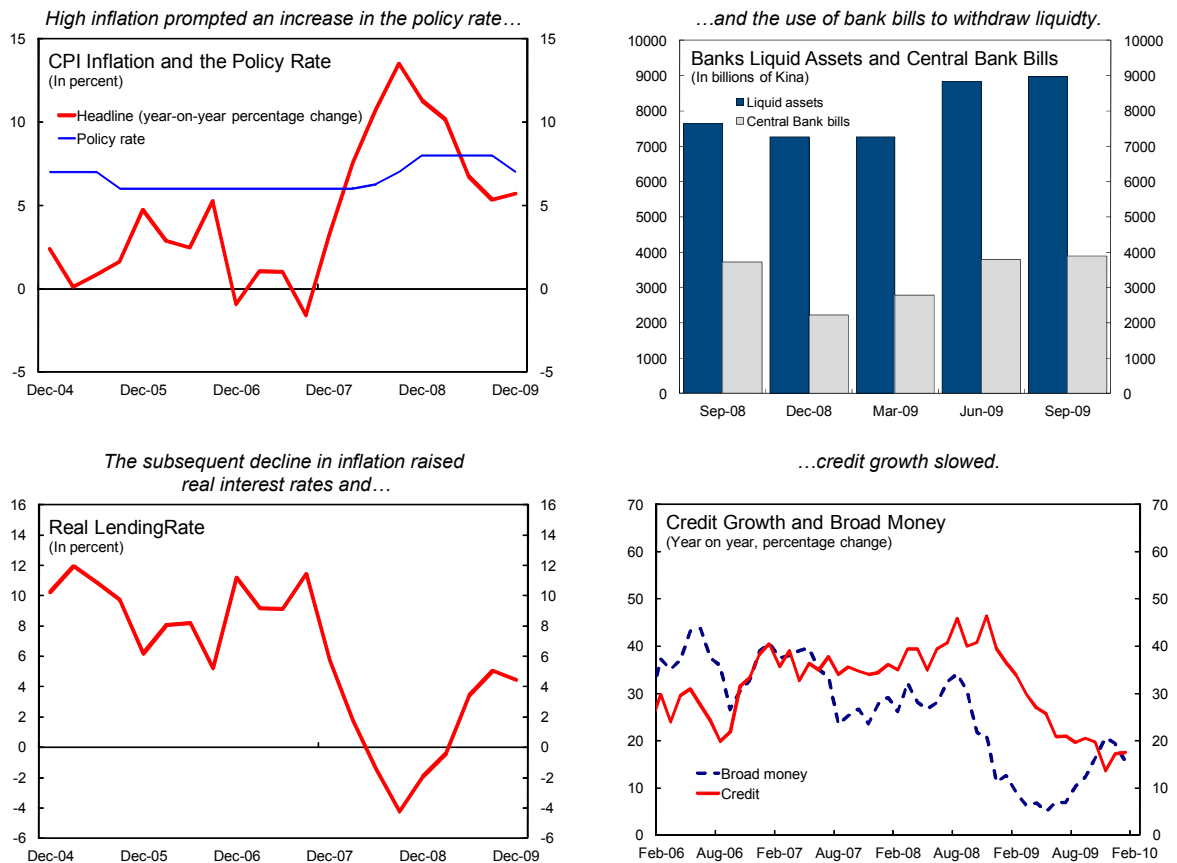
Figure 3. Papua New Guinea: Fiscal Performance



Sources: Papua New Guinea authorities; and Fund staff calculations.

4. **The tight monetary policy stance in place since mid-2008 was eased slightly at end-2009.** The run-up in inflation over the course of 2008 prompted an increase in the policy rate from 6 to 8 percent. In addition, the Bank of Papua New Guinea (BPNG) relied heavily on bank bills to contain banking system liquidity, which expanded partly because of government trust account. Both the BPNG's liquidity control measures and declining inflation contributed to a rise in real bank lending rates in late-2008 and 2009. Consequently, credit growth eased from the high rates posted in 2007 and 2008. The BPNG lowered the policy rate by 100 basis points in December 2009.

Figure 4. Papua New Guinea: The Monetary Stance

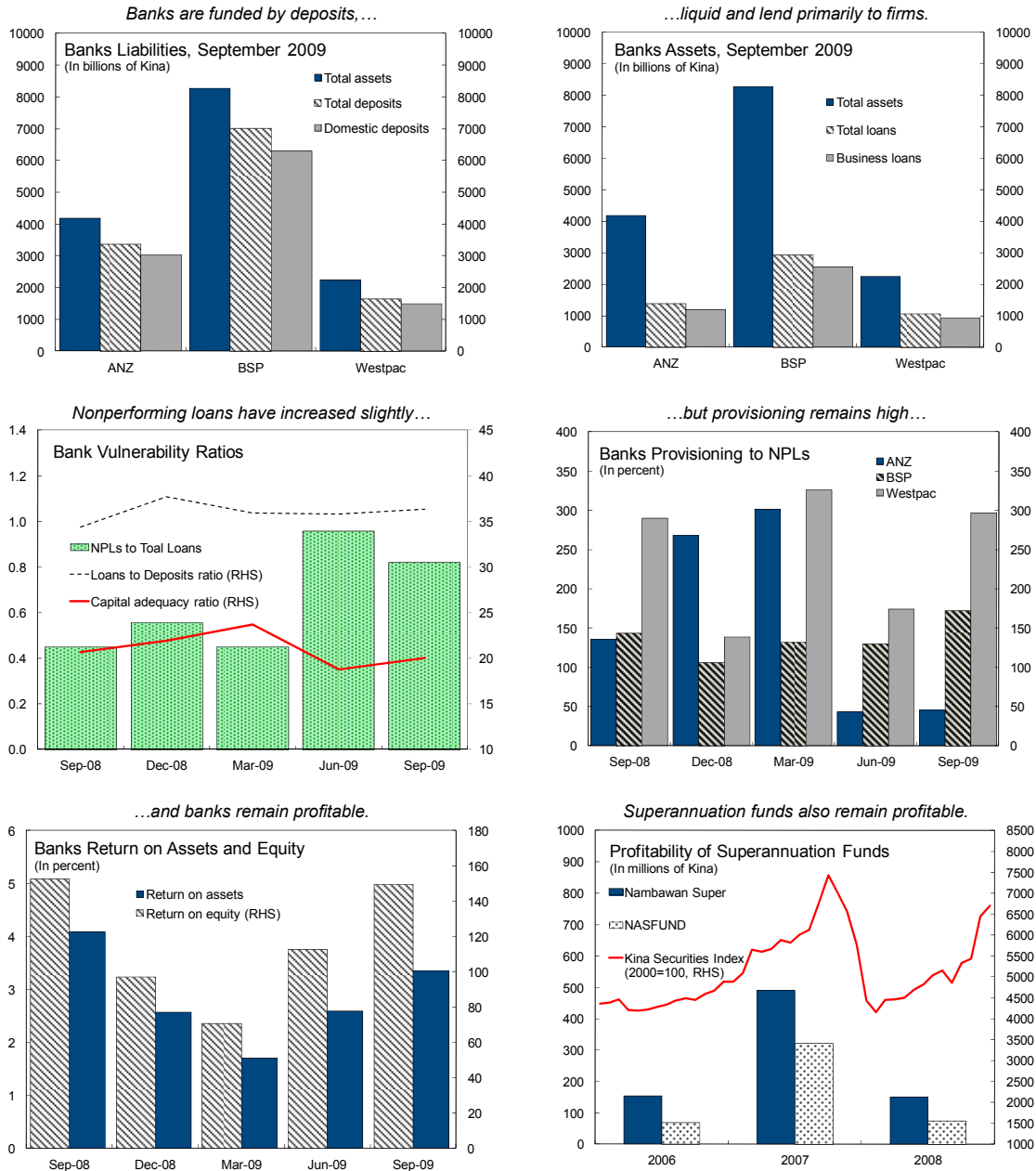


Sources: Bank of Papua New Guinea; International Financial Statistics, and IMF staff calculations.



5. **The financial sector has been a source of strength.** The three large banks are primarily deposit funded with no significant links to global capital markets. Balance sheets are liquid with most lending going to the business sector. Although non-performing loans rose to 0.8 percent of total assets from a trough of 0.4 percent, provisioning is high and banks remain profitable. The other major financial institutions, pension funds, are also performing well, although profitability has suffered given lower returns from some investments.

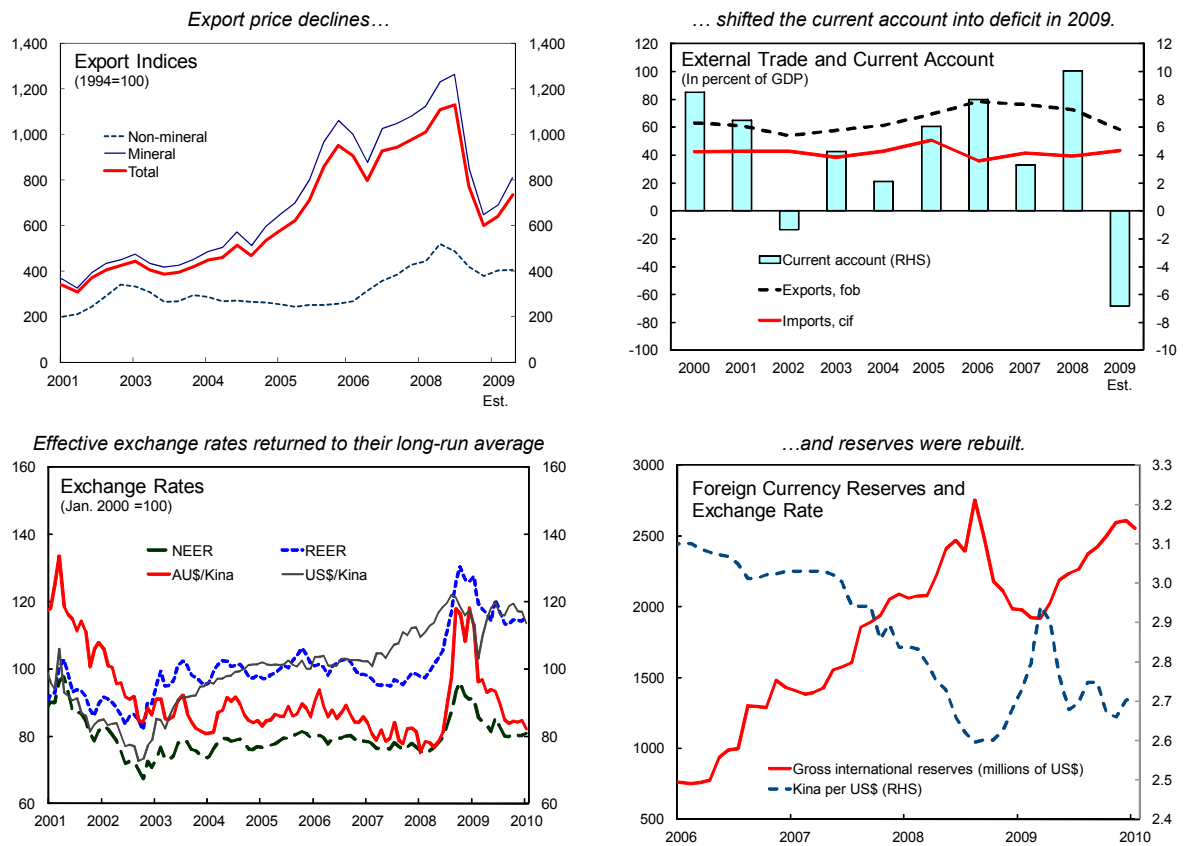
Figure 5. Papua New Guinea: The Banking Sector



Sources: Bank of Papua New Guinea; International Financial Statistics, and IMF staff calculations.

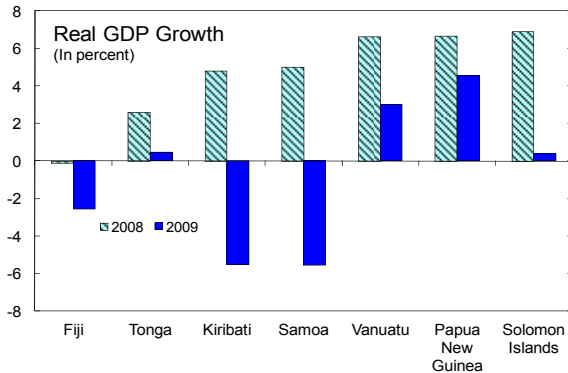
6. **Although volatile during the period of global market instability, effective exchange rates have returned close to averages over the previous 5 years.** Prior to the global crisis, exchange rate stability and rising commodity prices delivered a sequence of current account surpluses and declines in external debt. However, owing partly to lower commodity prices, the current account shifted into deficit in 2009. After appreciating in 2008, primarily against the Australian dollar, the currency depreciated by 12 percent in nominal effective terms in 2009. This depreciation was the main factor driving the small increase in external debt to 27 percent of GDP at end-2009. Reserves, which declined slightly over the last half of 2008, were rebuilt during 2009 and now cover almost 12 months of non-mining imports. Foreign direct investment inflows, associated with ongoing mineral sector projects, provided foreign currency to bolster reserve accumulation.

Figure 6. Papua New Guinea: The External Position



Sources: Bank of Papua New Guinea; Bloomberg; Information Notice System; and IMF staff calculations.

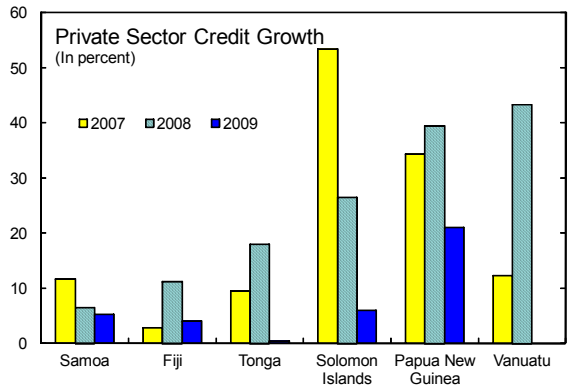
**BOX 1. THE IMPACT OF THE FINANCIAL CRISIS ON PNG RELATIVE TO OTHER PACIFIC ISLAND COUNTRIES<sup>1</sup>**



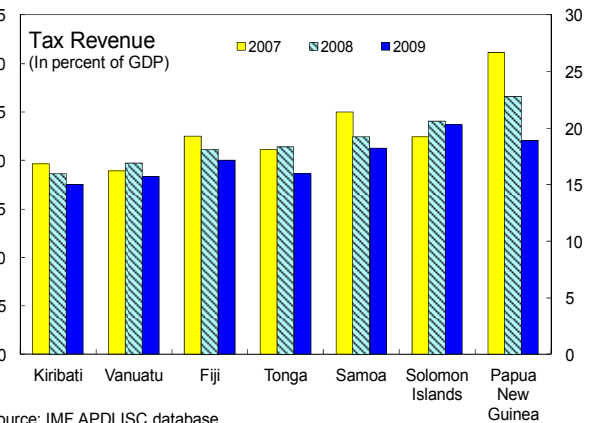
Source: IMF APDLISC database.

**In contrast to many other pacific island countries (PICs), growth in PNG held up relatively well during the global crisis.** This was partly due to the financial sector’s insulation from global capital markets, which allowed credit growth to continue. Also, demand for PNG’s exports remained quite strong as PNG relies less heavily on remittances and tourism income than other PICs, which were significantly impacted by the crisis.

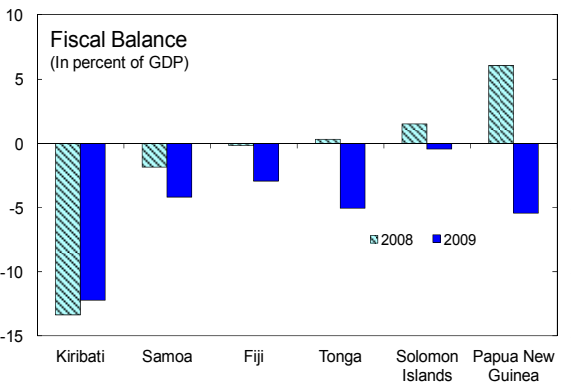
Furthermore, domestic demand was supported by the confidence effects from the proposed LNG projects and increased public expenditure enabled by the prudent fiscal policies of the preceding years. However, the associated decline in commodity prices took its toll on the external and fiscal positions of the resource rich economy.



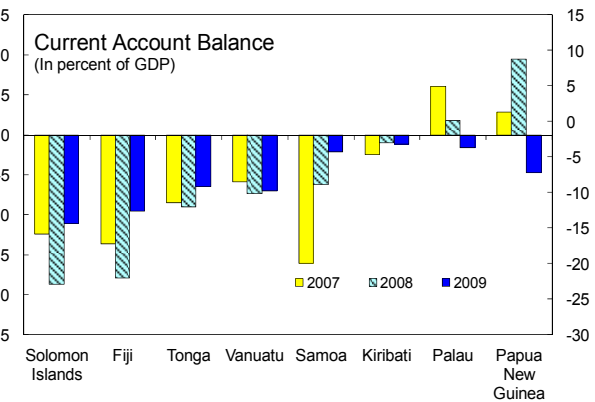
Source: APDLISC database.



Source: IMF APDLISC database.



Source: IMF APDLISC database.



Source: IMF APDLISC database.

<sup>1</sup> See accompanying Selected Issues Paper, Chapter II.

## II. POLICY DISCUSSIONS

7. **The near-term challenge will be to maintain macroeconomic stability during the construction phase of the LNG projects.** In the medium term, the priority is to ensure that windfall revenues from exhaustible resources are used effectively to raise living standards, while reducing the economy's vulnerability to commodity price drops. Accordingly, discussion focused on:

- guarding against a resurgence in high inflation;
- strengthening the implementation of the fiscal strategy; and
- incorporating a sovereign wealth fund into the macroeconomic framework.

### A. Outlook—Expansion with Upside Risks

8. **There was agreement that growth and inflation would accelerate.** Both staff and the authorities saw GDP growth rebounding to roughly 8 percent in 2010. Continued buoyant commodity export demand and the LNG construction phase are expected to stimulate growth and strain domestic capacity. Domestic demand pressures combined with the recovery in international commodity prices and the depreciation of the kina against the Australian dollar in 2009 were seen to fuel a pickup in inflation in 2010. Although, growth was expected to slow somewhat in 2011 this was largely due to resource depletion and domestic capacity in the nonmineral sector was expected to remain strained. Given this, staff saw a greater risk than the authorities that high inflation could become entrenched in expectations. Although the current account deficit was forecast to widen over the next few years with LNG related imports, it was expected to be financed with foreign direct investment.

9. **Staff and the authorities saw risks skewed to the upside.** Although a weaker than expected recovery in the world economy presented some downside risk, overall the risks were seen as tilted to the upside on both activity and inflation. It was recognized that the direct and indirect impacts from the LNG construction phase could be larger than expected and public spending, particularly from trust accounts held outside the budget, could add more demand and inflation pressures than forecast in 2010.

### B. Fiscal Policy—Strengthening Implementation

10. **Staff commended the authorities for the period of adherence to the Medium-Term Fiscal Strategy (MTFS), but raised concerns about the slippages in 2009.** During the commodity price boom, adherence to the MTFS (Box 2) resulted in fiscal surpluses, declining public debt, and the accumulation of public resources in trust accounts. However, in 2009, roughly 8 percent of GDP was spent from trust accounts, twice the amount allowed under the MTFS. Staff stressed that adherence to the MTFS was required to provide a credible fiscal anchor, maintain macroeconomic stability, and ensure that development

objectives were achieved. The authorities indicated that trust account spending in 2009 exceeded their expectation. While acknowledging that a relaxation of constraints on trust spending was a factor, they noted that the international endorsement of fiscal stimulus encouraged Ministers to accelerate trust spending. The authorities did point out that at least the spending was from accumulated savings and not debt financed.

#### **BOX 2. THE MEDIUM-TERM FISCAL STRATEGY**

**In July 2008, the Government approved a MTFs for the period 2008–12.** Under this strategy, the nonmineral fiscal deficit is constrained to fall within a range of 4 to 8 percent of GDP. This range has been chosen based on the following principles:

- Ongoing spending (including recurrent and development spending) should be kept in line with “normal revenues”. Normal revenues are defined as the sum of nonmineral revenues and *normal mineral revenues*—the mineral revenues that would be expected without a commodity-price boom, about 4 percent of GDP. Ongoing spending is limited to the sum of *normal mineral revenues* and nonmineral revenues.
- Mineral revenues above 4 percent of GDP should be used for “one-off” expenditures, debt reduction (30 percent) and additional public investment (70 percent). Amounts not used for debt reduction accumulate in trust accounts to be drawn down over time. In any year, no more than 4 percent of GDP can be spent from the trust accounts on additional public investment.

The estimate of *normal mineral revenues* is based on the average from the pre-boom years of 1999–2003 and the expected performance in 2010–12 based on planned production and IMF commodity price forecasts. Every two years, the government will reassess the appropriateness of the 4 percent of GDP estimate of *normal mineral revenues*.

11. **Staff endorsed the 2010 Budget target of balance, but raised a number of concerns.** Targeting a balanced budget and thereby withdrawing the large stimulus in place in 2009 was acknowledged as appropriate. However, staff noted that additional spending was likely from trust accounts held outside the budget. Staff’s projection, which forecasts some under spending from the development budget but assumes that half of the remaining trust fund balances are spent in 2010, contains a fiscal deficit of roughly 1 percent of GDP. Consequently, staff discussed the possibility of delaying some planned infrastructure spending. Staff reasoned that public infrastructure spending could butt up against capacity constraints, drive up prices, and yield poor value. Domestic capacity will be largely exhausted by the LNG projects and construction sector capacity is unlikely to be forthcoming from Australia because it is being absorbed by the demands from the resource sector and public infrastructure projects. The authorities stressed that achieving Ministers’ agreement on a balanced budget for 2010 had been an enormous challenge. However, they noted that a large portion of the spending increase was in the development budget where there was flexibility for delay and they would consider staff’s suggestion. Staff also noted that the 2010

Budget undermined fiscal credibility by directing all *above-normal mineral revenue* to public investment (according to the MTFS, 30 percent should have been for debt reduction) and failing to fully fund the government's pension obligations as legislated.

12. **Discussion of mechanism to strengthen the implementation of the MTFS yielded few tangible suggestions.** Staff suggested that the authorities consider mechanisms used in other countries, such as including MTFS rules in the Fiscal Responsibility Legislation or compelling the Treasurer to explain to Parliament why budgets deviated from the MTFS, to strengthen implementation. The authorities were not convinced that such mechanisms would be effective. There was general agreement that there needed to be an underlying political will to build a reputation for maintaining a credible fiscal framework. The authorities lamented the absence of an informed public debate which meant that reputation effects could provide little incentive for Ministers to adhere to the MTFS.

13. **There was agreement that public liability risks would increase during the LNG construction phase.** The government has taken on significant liabilities associated with the landowner agreements that have not yet been funded and landowner demands could increase.<sup>1</sup> Because the government has taken on a completion guarantee for one of the projects, it has an incentive to meet landowner demands. As a buffer against these liabilities, staff suggested that public savings should increase. Given uncertainty regarding commodity prices and production, staff recommended that when the MTFS *normal mineral revenue* assumption came up for review this year, that it be reduced to 3 percent of GDP from 4 percent. This would reduce the nonmineral deficit, related to ongoing-spending, to 3 percent of GDP, a level that staff sees as sustainable until LNG project revenues are realized. This would reduce the overall fiscal spending envelope, which would help ease demand pressures at a time when private spending is expected to be strong. The increased savings could then be used to address LNG related liabilities. The authorities indicated that the suggestion would be considered.

14. **There was considerable discussion of a Sovereign Wealth Fund (SWF) to augment the macro framework to help manage resource revenue.** With the LNG projects expected to eventually deliver a large increase in public revenue, the authorities were interested in the advantages of establishing an SWF. Staff provided an assessment of what type of SWF would best address their needs (Box 3). Staff agreed to work closely with a joint Treasury/BPNG working group tasked with preparing an SWF proposal for the National Executive Council by end-June 2010. Staff noted that an SWF properly incorporated into their framework would provide a more effective vehicle for saving windfall resource revenue than the current practice of using trust accounts and that they need not wait for LNG revenue to establish one.

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<sup>1</sup> Currently the unfunded liabilities associated with the landowner agreements represent about 8 percent of GDP.

### **BOX 3. LESSONS FROM INTERNATIONAL EXPERIENCE WITH SWFs<sup>1</sup>**

**Natural resource revenues pose macroeconomic management challenges.** In particular, the new LNG projects will bring substantial windfall revenues, which are volatile, uncertain, exhaustible, and could lead to Dutch disease. Consequently, smoothing government expenditure and decoupling it from the short-term volatility of natural resource revenues is a challenge. Against this background, PNG may find it helpful to incorporate an SWF within a sound fiscal policy framework.

**A financing fund, featuring both stabilization and saving objectives, would serve best.** A financing fund would be directly linked to the budget's non-mineral deficit and integrated within the budget process, providing an explicit and transparent link between fiscal policy and asset accumulation. Extrabudgetary spending, revenue earmarking, and rigid SWF's operational rules should be avoided. Importantly, an SWF must be well integrated in the overall macroeconomic framework, which will likely need to be redesigned in light of the magnitude of expected LNG revenues.

**Accumulated resources should be invested abroad with stringent transparency and accountability provisions.** Investing abroad could avoid imparting volatility to the domestic economy and help minimize Dutch disease. Transparent rules, disclosure of information about fund financial assets, and clearly specified roles in the authority for managing financial assets are also important aspects and should be in line with international best practice, summarized in IMF and OECD guidelines.

<sup>1</sup> See accompanying Selected Issues Paper, Chapter I.

### **C. Monetary Policy—The Appropriate Degree of Tightness**

15. **The authorities agreed with staff assessment of the inflation outlook, but were more sanguine than staff about the need to contain pressures.** Staff noted that although real interest rates had risen with the decline in inflation and credit growth had slowed, inflation was still forecasted to rise notably. Staff pointed out that unlike the recent episode of high inflation that was driven by food and energy prices, the projected increase in inflation had a large domestic demand component, increasing the risk of high inflation becoming entrenched in expectations. Staff reasoned that containing this type of inflation early would reduce the net output cost relative to reducing it once entrenched. While agreeing with staff about the likely pickup in inflation, the authorities noted that their ability to act preemptively was impaired. They expressed concern that using both the policy rate and central bank bills to contain credit growth and domestic demand risked undermining their capital base and thus their credibility. In part this reflected the BPNG's recent experience using bank bills to remove excess market liquidity partially generated by government trust deposits.

16. **Given the experience with government trust accounts, there was agreement that monetary and fiscal policy needed to be better coordinated.** In 2009, bank bills yielding between 6 and 7 percent were used to mop up liquidity in the system from trust deposits yielding returns to the government between ½ to 1 percent. This resulted in a large net loss for the public sector. Previously staff had advised that government trust accounts be held at the central bank and although some attempts over the course of 2009 were made to execute this, no progress was made. The authorities agreed that it would be preferable to transfer remaining trust accounts to the BPNG and hold future *above-normal mineral revenue* at the central bank. Further, the authorities saw merit in staff's suggestion that the Treasury and the BPNG work together to determine how much *above-normal mineral revenue* could be spent each year based on the capacity constraints in the economy.

#### **D. Financial Sector—Maintaining Stability**

17. **There was agreement that the financial sector remained sound.** The only sign of stress from the global turmoil was a doubling of non-performing loans. However, because this was from a low base and loan-loss provisions were substantial, capital buffers remain large. Further, it was noted that a significant portion of the increase was from a single loan at one of the banks and expectations were that the net loss was likely to be quite small.

18. **Maintaining asset quality was seen by staff and the authorities as the key challenge.** It was noted that during the financial crisis, banks had tightened lending standards, shortening loan maturity. With local companies' credit demand likely to increase to take advantage of opportunities afforded by the LNG projects, there was agreement that lending standards could ease. There was an expectation of a property-price boom in the capital region from the increase in LNG associated demand given relatively inelastic supply owing to land-availability constraints. In fact, anecdotal evidence suggested that it was under way. Because of limited domestic investment opportunities, there was agreement that overexposure to an inflated property market was a risk for financial institutions. The authorities indicated that prudential guidelines constrained financial institutions' property market exposures and they recognized the need to monitor and enforce these closely.<sup>2</sup>

19. **The authorities indicated that the Bank of South Pacific (BSP) would operate recently-purchased Colonial Bank of Fiji (CBF) as a branch.** The BPNG had reached an agreement with the Fijian authorities to receive adequate information to effectively supervise the branch. It was noted that CBF was profitable, but with a lower rate of return than BSP was earning.

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<sup>2</sup> Papua New Guinea will have its first Financial Sector Assessment Program during May 2010. Staff will await the outcome to make detailed recommendations on regulatory and supervisory issues.



### E. The Equilibrium Exchange Rate and External Stability

20. **Staff estimates suggest that the exchange rate is broadly in line with fundamentals.** Since last year's assessment of mild overvaluation, depreciation in the Kina and a projected improvement in the terms of trade have brought the currency back in line with fundamentals (Box 4)
21. **A large projected widening in the current account deficit is not expected to undermine external stability, but stress tests indicate a moderate risk of debt distress.** Because they are associated with the LNG projects, the large projected current account deficits are expected to be FDI financed. Consequently, public external debt is anticipated to increase only mildly and reflect concessional borrowing from international institutions. However, under the most extreme stress tests, the debt sustainability analysis (Appendix 1) indicates a moderate risk of debt distress with threshold levels being violated for the present value of debt relative to GDP. Further, with the government's LNG completion guarantee and commitments to landowners, the risk of unfavorable medium-term debt dynamics has increased. Staff stressed that fiscal discipline needs to be enhanced to maintain external debt sustainability during the LNG construction period.

### F. Fostering Sustainable Broad-Based Growth

22. **Structural reform implementation has slowed.** The new Development Strategic Plan (DSP) 2010-2030 correctly recognizes the need to shift the sources of growth to the private nonmineral sector. The strategy stresses that to increase the exports of nonminerals and manufactures, improvements are required in transportation, private micro-credit facilities, basic utilities, human capital, and law and order. However, decisive actions have been lacking with the exception of the communications sector, international air travel, and power.
23. **Reinvigoration of structural reforms that increase the efficiency of state-owned enterprises (SOEs) would contribute to a more vibrant private sector.** Inefficient SOEs are driving up the cost of doing business and constraining growth in the nonmineral sector. Staff welcomed the Government's commitment to developing a community service obligation (CSO) framework, an important step towards the commercialization of SOEs. Staff expressed encouragement in the progress towards implementing a national public-private partnership (PPP) policy that potentially facilitates much needed private infrastructure investment (Box 5). Successful SOE reform will contribute towards a more enabling business environment, which is essential for the attainment of more broad-based economic growth.

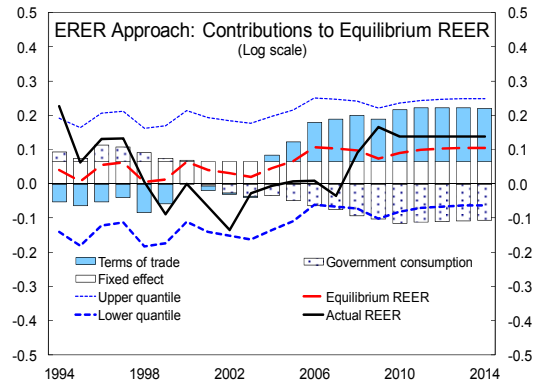
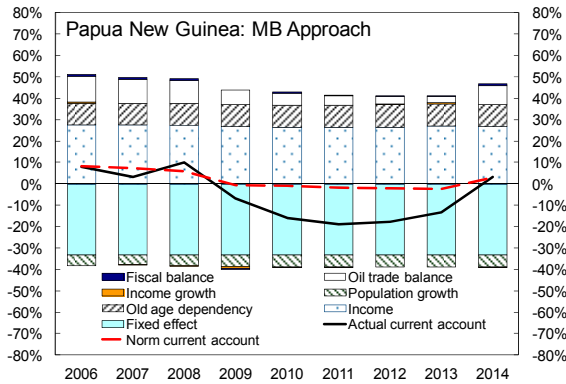
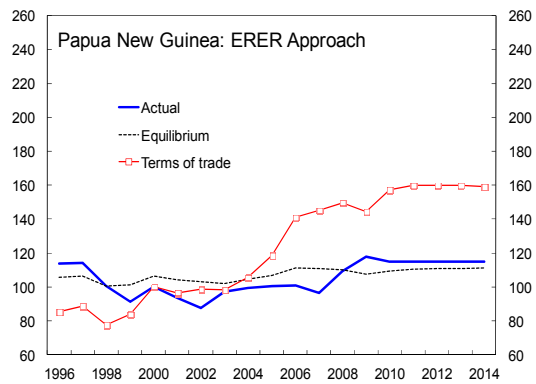
### BOX 4. EQUILIBRIUM REAL EXCHANGE RATE<sup>1</sup>

**Staff estimates show the exchange rate is broadly in line with fundamentals.** The macro balance (MB) approach indicates the kina is not significantly different from its estimated equilibrium level and the equilibrium real exchange rate (ERER) approach points to a mild overvaluation of 3.4 percent. The decomposition of the fitted values into time-varying contributions of the explanatory variables suggests that demographic factors and the oil trade balance are the main factors in determination of the equilibrium current account balance under the MB approach. In the ERER approach, the terms of trade and government consumption are the key factors.

Exchange Rate Assessment: Baseline Results 1/

	CA/GDP		REER
	Norm	Proj. 2/	Overvaluation
MB approach 3/	3.0	3.4	-0.9
ERER approach 4/	...	...	3.4

- 1/ All results are expressed in percent.
- 2/ Staff projection of the underlying CA/GDP in 2014.
- 3/ Based on a semi-elasticity of the CA/GDP with respect to the REER of -0.42.
- 4/ Overvaluation is assessed relative to January 2010.



Sources: Bank of Papua New Guinea; Bloomberg; World Economic Outlook; and IMF staff calculations.

<sup>1</sup> See Selected Issues Paper “Determinants of Current Account and Exchange Rate Assessment for Papua New Guinea.” IMF Country Report No. 09/113.

### **BOX 5. STATE-OWNED ENTERPRISE REFORM<sup>1</sup>**

**State-owned enterprises (SOEs) continue to impede growth PNG.** Some reforms and performance improvements have been achieved, such as the commercialization of the Papua New Guinea Banking Corporation, through a merger with Bank of South Pacific. However, most SOEs continue to operate without budget constraints or profit objectives. Political interference yields conflicting mandates, where SOEs must deliver community service obligations (CSOs) without adequate compensation. While disclosure is improving, audited SOE financial reports are still not public so ascertaining profitability is difficult. Where they do not cover their costs of capital, and many likely do not, they represent an inefficient use of public funds.

**Successful reform will require making SOEs independent from political directives, subject to binding budget constraints, exposed to competition, fully compensated for CSOs and fully accountable.<sup>2</sup>** Although competition is gradually being introduced in select infrastructure sectors, it is being approached cautiously, placing substantial emphasis on protecting incumbent SOEs. The introduction of competition enabled private sector investment in the telecommunications, aviation and power sectors. More however needs to be done particularly with those SOEs that will see considerable increases in demand from the LNG projects. The Government is currently committed to the development of a CSO framework which is an important step in SOE commercialization.

**Increased private infrastructure investment is necessary to enable the business environment.** Cabinet's endorsement of a National Public Private Partnership (PPP) policy in 2008 and ongoing preparation of a legal and institutional framework for implementation will potentially facilitate needed private infrastructure investment. It is anticipated that the greatest potential for PPP investments will be in the utility and transport sectors. Successful implementation of the PPP policy will improve basic service delivery, reduce the costs of doing business and create opportunities for private sector investment and growth, essential ingredients for longer term prosperity in PNG.

<sup>1</sup> "Making SOEs Work in PNG: Approach for Sustainable Reform", ADB (2009).

<sup>2</sup> Although there are likely to be significant interim fiscal costs associated with restructuring SOEs, these costs have not been quantified, but they would be incurred gradually so as to make reform politically acceptable.

### III. STAFF APPRAISAL

24. **We commend the authorities for maintaining a medium-term fiscal framework.** However, recent slippages in the implementation of the framework have undermined its stabilization objective. Spending from accumulated mineral revenue above the framework's limit imparted a fiscal stimulus in 2009 larger than warranted. Although the 2010 budget reduces the stimulus, the planned level of spending is likely to be too expansionary given the expected strength in private activity. Further, spending from trust accounts outside the budget will add to demand pressures. Delaying some infrastructure spending would ease overall demand pressures and help ensure that good value is achieved from this spending.

25. **The construction phase of the LNG projects will increase the difficulty of maintaining macroeconomic stability and enhancements to the MTFs could be helpful.** First, it would be prudent to lower the assumption of *normal mineral revenue* to 3 percent of GDP between now and 2014, when LNG production should commence. This would reduce pressures from public spending during a period of strong private spending and the increased public savings could be used to finance currently unfunded government liabilities. Second, annual consultation between the monetary and fiscal authorities should determine how much of the 4 percent of GDP limit from *above-normal mineral revenue* can be spent.

26. **The implementation of the MTFs needs to be strengthened.** The fiscal credibility built during years of adherence to the framework can be easily lost, reducing long-term growth prospects. Strict adherence to the framework will also help deliver the fiscal prudence required to guard against unfavorable public debt dynamics from vulnerabilities such as those arising from potential LNG project delays, lower commodity prices, and weaker external demand.

27. **With LNG projects underway, now is the time to develop an SWF to manage resource revenue.** The best way forward is a financing fund that directs all public spending through the budget, thereby enhancing macroeconomic stabilization and helping to ensure high quality spending aligned with development objectives. To maximize the long-run development impact of LNG income, domestic absorption capacity will need to guide the rate of drawdown. Further, to minimize the potential for currency appreciation that would undermine the welfare of rural populations that depends on agriculture exports, the fund's resources should be invested offshore. To effectively achieve its objectives, the SWF needs to be integrated into the macro framework and thereby supported by other fiscal institutions, such as the MTFs and the Fiscal Responsibility Act.

28. **Although inflation declined over 2009, monetary policy needs to be focused on emerging inflation pressures.** Compared to the recent episode of high inflation, domestic demand will play a more important role in driving inflation up, which implies a greater risk that high inflation could become entrenched in expectations. The central bank should be tightening monetary policy now with a view to achieving real lending rates of around

6 percent. Further, to contain inflation and manage inflation expectations, they should be prepared to maintain real lending rates around this level, or higher if significant overheating occurs.

29. **Closer coordination of monetary and fiscal policy is desirable.** Public trust accounts should be moved to the BPNG and procedures to automatically deposit *above-normal mineral revenue* with the central bank should be introduced. This will give the BPNG better control over domestic liquidity and market interest rates, strengthening the effectiveness of monetary policy. Also, the net cost to the public sector would be reduced by limiting the need to use high-cost central bank bills to remove excess liquidity.

30. **Indicators suggest that the financial sector remains sound.** However, to safeguard financial health, banks should be encouraged to maintain strict lending standards as credit demand increases in line with opportunities associated with the LNG projects. Furthermore, all financial institutions need to guard against overexposure to the property sector that could become significantly overvalued during the LNG construction phase.

31. **The projected widening in the current account deficit is not expected to threaten external stability.** The exchange rate is estimated to be broadly in line with fundamentals and reserves remain adequate to address potential balance of payments needs.

32. **To achieve the Development Strategic Plan it will be essential to better align development spending with priorities and reinvigorate the reform process.** There has been some progress on reform, with increased competition in telecommunications, aviation, and power. However, more needs to be done, particularly with those state-owned enterprises that will see considerable increases in demand for their services from the LNG projects. The government's commitment to implement a public-private-partnership policy is encouraging and could potentially facilitate significant private investment in infrastructure. Improvements to security and the business environment would also yield significant benefits.

33. Staff recommends the next Article IV consultation be held on the standard 12-month cycle.

Table 1. Papua New Guinea: Selected Economic and Financial Indicators, 2006–10

Nominal GDP (2008): US\$7.8 billion 1/ Population (2008): 6.2 million GDP per capita (2008): US\$1,267 Quota: SDR 131.6 million					
	2006	2007	2008	2009	2010
				Est.	Proj.
(Percent change)					
<b>Real sector</b>					
Real GDP growth	2.3	7.2	6.7	4.5	8.0
Mineral	-8.5	-0.1	-1.0	-1.8	5.5
Nonmineral	3.9	8.1	7.6	5.3	8.2
CPI (annual average)	2.4	0.9	10.7	6.9	7.1
CPI (end-period)	-0.9	3.2	11.2	5.7	8.5
(In percent of GDP)					
<b>Central government operations</b>					
Revenue and grants	37.2	37.3	32.6	28.3	27.9
Expenditure and net lending	30.7	28.4	30.0	35.7	29.5
Overall balance (including grants)	6.5	8.9	2.5	-7.4	-1.6
Nonmineral balance 2/	-7.8	-7.5	-7.4	-11.2	-6.9
(Percent change)					
<b>Money and credit (percentage change)</b>					
Domestic credit	19.4	5.5	31.3	30.2	25.2
Net credit to government	-13.3	-82.3	-147.7	-843.5	84.7
Credit to the private sector	38.2	34.4	39.4	17.3	20.0
Broad money	38.9	27.8	11.2	19.3	18.7
Interest rate (182-day T-bills; period average)	3.7	4.4	5.9	7.2	...
(In millions of U.S. dollars)					
<b>Balance of payments</b>					
Exports, f.o.b.	4,324	4,822	5,823	4,617	5,742
<i>Of which:</i> Mineral	3,506	3,673	4,262	3,516	4,584
Imports, c.i.f.	-1,991	-2,629	-3,148	-3,430	-5,424
Current account (including grants)	442	208	805	-541	-1422
(In percent of GDP)	8.0	3.3	10.0	-6.8	-16.1
Exceptional financing (net)	0.0	0.0	0.0	0.0	0.0
Gross official international reserves	1449	2087	1988	2571	2432
(In months of nonmining imports, c.i.f.)	12	14	11	12	7
(In months of goods and services imports)	4	4	4	6	4
<b>Public external debt</b>					
Public external debt-service-ratio (percent of exports) 3/	4	4	2	2	2
Public external debt-to-GDP ratio (in percent) 3/	21	17	13	13	12
<b>Exchange rates</b>					
US\$/kina (period-average)	0.327	0.337	0.370	0.363	...
US\$/kina (end-period)	0.330	0.353	0.373	0.370	...
NEER (2000=100, end-period)	79.3	77.1	82.3	83.8	...
REER (2000=100, end-period)	100.9	96.5	109.4	117.9	...
<b>Nominal GDP (millions of kina)</b>	16,897	18,798	21,626	21,784	24,620

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

1/ Based on period average exchange rate.

2/ Measured from below the line in the fiscal accounts.

3/ Includes central government, central bank external debt, and statutory authorities.

Table 2. Papua New Guinea: Summary of Central Government Operations, 2007–15

	(In percent of GDP)										
	2007	2008	2009		2010		2011	2012	2013	2014	2015
			Est.	Budget	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	
Revenue and grants	37.3	32.6	28.3	29.8	27.9	29.8	30.1	29.4	28.2	27.2	
Revenue	33.4	27.9	23.7	24.7	25.9	27.3	27.8	27.2	26.4	25.3	
Tax revenue	31.1	26.6	22.6	23.0	24.6	26.1	26.7	26.2	25.1	24.0	
Mineral taxes	12.7	9.1	3.3	4.4	4.5	3.9	3.2	2.8	5.4	5.1	
Nonmineral taxes	18.4	17.5	19.4	18.7	20.1	22.2	23.5	23.4	19.7	18.9	
Nontax revenue	2.3	1.3	1.1	1.6	1.3	1.2	1.1	1.0	1.3	1.3	
Grants	3.8	4.6	4.6	5.2	2.0	2.5	2.4	2.2	1.8	1.9	
Total expenditure and net lending	28.4	30.0	35.7	29.8	29.5	28.8	29.0	29.0	25.2	25.0	
Recurrent expenditure	18.6	17.4	18.8	16.5	18.4	18.9	19.5	19.9	17.8	17.6	
National departments	11.2	10.5	11.4	9.6	11.3	11.6	11.9	12.1	11.3	11.3	
Salaries and wages	4.4	4.3	4.6	4.4	4.4	4.5	4.8	5.0	4.3	4.3	
Arrears payments	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.3	
Goods and services	5.6	5.2	5.7	4.3	5.9	6.0	6.0	6.0	6.0	6.0	
Other	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.6	0.7	
Provinces	4.2	4.0	4.4	4.0	4.2	4.3	4.5	4.7	4.0	3.9	
Salaries and wages	3.3	3.1	3.3	2.9	3.2	3.2	3.4	3.4	3.0	3.0	
Goods and services	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	
Conditional grants/Bougainville 1/	0.6	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.7	0.5	
Statutory authorities	1.3	1.2	1.2	1.1	1.2	1.2	1.3	1.3	1.1	1.1	
Interest	2.0	1.8	1.9	1.9	1.7	1.8	1.9	1.8	1.4	1.3	
Domestic	1.3	1.4	1.3	1.6	1.2	1.3	1.4	1.4	1.1	0.9	
Foreign	0.6	0.4	0.6	0.3	0.5	0.5	0.4	0.4	0.3	0.3	
Development expenditures and net lending	9.7	12.6	16.9	13.4	11.1	9.9	9.5	9.1	7.4	7.4	
Development expenditure	9.7	12.6	16.9	13.4	11.1	9.9	9.5	9.1	7.4	7.4	
Foreign financed	4.4	5.0	5.6	6.3	2.4	3.2	3.5	3.7	3.3	4.0	
Project grants	3.8	4.6	4.6	5.2	2.0	2.5	2.4	2.2	1.8	1.9	
Project concessional loans	0.5	0.4	1.0	1.1	0.4	0.7	1.1	1.5	1.5	2.1	
Nonconcessional loans	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Domestically funded	5.3	7.6	11.3	7.1	8.7	6.8	6.0	5.4	4.1	3.4	
Net lending	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Overall balance (from above the line)	8.9	2.5	-7.4	0.0	-1.6	0.9	1.2	0.4	3.0	2.2	
Residual deficit	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Overall balance (from below the line)	6.5	2.5	-7.4	0.0	-1.6	0.9	1.2	0.4	3.0	2.2	
Financing	-6.5	-2.5	7.4	0.0	1.6	-0.9	-1.2	-0.4	-3.0	-2.2	
External financing (net)	-2.1	-1.7	-1.0	0.3	-0.4	-0.1	0.2	0.6	0.7	1.4	
Disbursements	0.6	0.4	1.0	1.1	0.4	0.7	1.1	1.5	1.5	2.1	
Amortization	-2.7	-2.1	-2.0	-0.7	-0.8	-0.9	-0.9	-0.9	-0.8	-0.7	
Domestic financing (net)	-4.4	-0.8	8.5	-0.3	2.1	-0.8	-1.4	-1.0	-3.7	-3.6	
Memoranda items:											
Nonmineral overall balance (below the line)	-7.5	-7.4	-11.2	-5.3	-6.9	-3.6	-2.6	-2.9	-3.2	-3.7	
Nominal GDP (in millions of kina)	18,798	21,626	21,784	24,890	24,620	26,564	27,401	28,318	35,132	37,059	

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

1/ Since 2005, this includes transfers to Bougainville.

Table 3. Papua New Guinea: Balance of Payments, 2008–15  
(In millions of U.S. dollars)

	2008	2009	2010	2011	2012	2013	2014	2015
		Est.				Proj.		
Current account balance	805	-541	-1,422	-1,653	-1,436	-1,014	355	607
Mineral	1,724	1,297	2,338	2,894	2,546	2,083	2,342	2,632
Nonmineral	-919	-1,838	-3,760	-4,547	-3,982	-3,097	-1,987	-2,026
Trade balance	2,675	1,186	318	79	328	823	2,961	2,981
Exports (f.o.b.)	5,823	4,617	5,742	6,391	6,211	5,883	6,873	7,030
Mineral	4,262	3,516	4,584	5,203	4,971	4,598	5,573	5,684
Nonmineral	1,561	1,101	1,158	1,187	1,241	1,285	1,300	1,347
Imports (c.i.f.)	-3,148	-3,430	-5,424	-6,312	-5,884	-5,060	-3,913	-4,050
Mineral	-936	-860	-1,015	-1,111	-1,141	-1,072	-1,099	-1,137
Nonmineral	-2,212	-2,570	-4,409	-5,200	-4,743	-3,988	-2,814	-2,912
Services	-1,390	-1,315	-1,308	-1,310	-1,364	-1,449	-1,528	-1,278
Income	-644	-504	-573	-538	-494	-478	-1,156	-1,171
Current Transfers	163	92	140	116	94	91	78	75
Capital and financial account balance	-923	1,124	1,283	1,520	1,286	872	544	424
Direct investment	-31	764	1,137	1,322	1,148	810	405	374
Other investment	-892	359	146	199	138	62	139	49
Medium- and long-term loan	-126	92	100	120	155	101	204	196
Commercial banks	-110	98	68	42	-10	-55	-85	-100
Other	-657	169	-22	36	-7	16	20	-46
Net errors and omissions	20	0	0	0	0	0	0	0
Overall balance	-99	583	-140	-133	-150	-142	899	1,030
Financing	96	-387	140	133	150	142	-899	-1,030
Reserve assets	99	-583	140	133	150	142	-899	-1,030
Use of IMF credit	0	0	0	0	0	0	0	0
Other foreign liabilities	-2	196	0	0	0	0	0	0
Memorandum items:								
Current account (in percent of GDP)	10.0	-6.8	-16.1	-18.5	-16.4	-11.6	3.4	5.4
Mineral	21.5	16.4	26.5	32.4	29.1	23.9	22.3	23.4
Nonmineral	-11.5	-23.2	-42.7	-51.0	-45.5	-35.5	-18.9	-18.0
Net international reserves (end-year)								
In millions of U.S. dollars	1,986	2,374	2,234	2,101	1,951	1,810	2,709	3,739
Gross official reserves (end-year)								
In millions of U.S. dollars	1,988	2,571	2,432	2,299	2,149	2,007	2,906	3,936
In months of imports of goods and nonfactor services	4.4	5.6	3.8	3.2	3.2	3.3	5.5	7.9
Public external debt-service-exports ratio (in percent) 1/	2.5	2.1	2.1	2.0	1.9	1.9	1.6	1.5
Public external debt-GDP ratio (in percent) 1/	13.2	12.8	11.9	11.8	12.6	13.5	12.8	13.2

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

1/ Public external debt includes central government, central bank external debt, and statutory authorities.



Table 4. Papua New Guinea: Summary Accounts of the Depository Corporations, 2007–10

	2007	2008	2009	2010 Proj.
<b>Bank of Papua New Guinea</b>				
	(In millions of kina; end of period)			
Net foreign assets	5,867	5,278	6,513	6,869
Foreign assets	5,919	5,320	7,046	7,440
Foreign liabilities	53	43	533	571
Net domestic assets	-4,025	-3,657	-4,700	-4,780
Domestic credit	-1,103	-1,711	-244	626
Net credit to government	-1,134	-1,742	-283	587
Claims	203	196	333	349
Central government deposits	-1,337	-1,937	-616	-238
Credit to other sectors	32	31	39	39
Other items, net	-2,922	-1,947	-4,456	-5,406
Reserve money	1,842	1,621	1,814	2,089
Currency in circulation	823	851	1,002	1,133
Deposits of other depository corporations	1,016	767	808	954
Other deposits	3	3	3	3
<b>Depository Corporations Survey</b>				
	(In millions of kina; end of period)			
Net foreign assets	7,032	6,164	7,630	8,132
Net domestic assets	1,963	3,837	4,301	6,031
Domestic credit	4,194	5,508	7,169	8,976
Net credit to central government	171	-82	607	1,121
Claims on other sectors	4,023	5,590	6,562	7,855
Claims on the private sector	3,961	5,523	6,478	7,771
Other items, net	-2,231	-1,671	-2,868	-2,945
Broad money	8,995	10,001	11,932	14,163
Narrow money	4,923	5,511	5,944	7,457
Currency outside other depository corporations	608	600	741	830
Demand deposits	4,316	4,911	5,203	6,627
Quasi money	4,072	4,490	5,988	6,706
	(Annual percentage change)			
Net foreign assets	52.7	-12.3	23.8	6.6
Net domestic assets	-19.4	95.4	12.1	40.2
Net domestic credit	5.5	31.3	30.2	25.2
Of which: Private sector	34.4	39.4	17.3	20.0
Broad money	27.8	11.2	19.3	18.7
<b>Memorandum items:</b>				
Reserve money (percentage change)	61.8	-12.0	11.9	15.2
Gross international reserves (in millions of US dollars)	2,087	1,987	2,607	2,571
Nominal nonmineral GDP/Broad money	1.5	1.6	1.5	1.4

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

Table 5. Papua New Guinea: Medium-Term Scenario, 2007–15

	2007	2008	2009 Est.	2010	2011	2012	2013	2014	2015
	Projections								
<b>Growth and prices (change in percent)</b>									
Real GDP	7.2	6.7	4.5	8.0	5.5	3.0	2.0	8.0	5.0
Mineral	-0.1	-1.0	-1.8	5.5	3.8	-0.8	-9.1	68.8	17.2
Nonmineral	8.1	7.6	5.3	8.2	5.7	3.4	3.0	2.9	3.3
CPI (period average)	0.9	10.7	6.9	7.1	8.0	6.7	5.5	5.0	5.0
CPI (end-period)	3.2	11.2	5.7	8.5	7.5	6.0	5.0	5.0	5.0
<b>Central government operations (in percent of GDP)</b>									
Total revenue and grants	37.3	32.6	28.3	27.9	29.8	30.1	29.4	28.2	27.2
Total revenue	33.4	27.9	23.7	25.9	27.3	27.8	27.2	26.4	25.3
<i>Of which:</i> Mineral tax revenue	12.7	9.1	3.3	4.5	3.9	3.2	2.8	5.4	5.1
Grants	3.8	4.6	4.6	2.0	2.5	2.4	2.2	1.8	1.9
Total expenditure	28.4	30.0	35.7	29.5	28.8	29.0	29.0	25.2	25.0
Primary balance 1/	8.4	4.3	-5.6	0.1	2.7	3.0	2.2	4.4	3.5
Nonmineral balance 1/	-7.5	-7.4	-11.2	-6.9	-3.6	-2.6	-2.9	-3.2	-3.7
Overall balance 1/	6.5	2.5	-7.4	-1.6	0.9	1.2	0.4	3.0	2.2
Domestic financing (net) 2/	-4.4	-0.8	8.5	2.1	-0.8	-1.4	-1.0	-3.7	-3.6
Foreign financing (net)	-2.1	-1.7	-1.0	-0.4	-0.1	0.2	0.6	0.7	1.4
<b>Gross public debt (in percent of GDP) 3/</b>									
Domestic	18.4	18.9	19.6	17.2	14.5	13.4	11.9	8.0	7.5
External	16.6	13.2	12.8	11.9	11.8	12.6	13.5	12.8	13.2
<b>Money and credit (annual percent change, end-period)</b>									
Net foreign assets	52.7	-12.3	23.8	6.6	1.0	-1.1	-3.0	0.8	43.0
Net domestic assets	-19.4	95.4	12.1	40.2	17.2	8.1	10.1	45.9	0.2
<i>Of which:</i> Credit to private sector	34.4	39.4	17.3	20.0	18.0	16.0	13.0	17.5	17.5
Broad money	27.8	11.2	19.3	18.7	7.9	3.1	3.3	24.1	17.0
<b>Balance of payments (in millions of U.S. dollars)</b>									
Exports, f.o.b.	4,822	5,823	4,617	5,742	6,391	6,211	5,883	6,873	7,030
<i>Of which:</i> Mineral	3,673	4,262	3,516	4,584	5,203	4,971	4,598	5,573	5,684
Imports, c.i.f.	-2,629	-3,148	-3,430	-5,424	-6,312	-5,884	-5,060	-3,913	-4,050
Current account	208	805	-541	-1,422	-1,653	-1,436	-1,014	355	607
(In percent of GDP)	3.3	10.0	-6.8	-16.1	-18.5	-16.4	-11.6	3.4	5.6
Overall balance (including exceptional financing)	636	-99	583	-140	-133	-150	-142	899	1,030
<b>Net official reserves (in millions of U.S. dollars)</b>									
(In months of goods and services imports, c.i.f.)	4.2	4.4	5.1	3.5	3.0	2.9	2.9	5.1	7.5
(In months of nonmining imports, c.i.f.)	13.5	10.8	11.1	6.1	4.8	4.9	5.4	3.8	3.1
<b>Public external debt service-export ratio (in percent) 3/</b>									
	4.1	2.5	2.1	2.1	2.0	1.9	1.9	1.6	1.5
<b>Memorandum items:</b>									
Nominal GDP (in millions of U.S. dollars)	6,339	8,009	7,907	8,809	8,922	8,756	8,731	10,513	10,771
Assumed commodity prices: 4/									
Gold (U.S. dollars per ounce)	697	872	973	1,136	1,150	1,180	1,210	1,225	1,225
Copper (U.S. dollars per ton)	7,132	6,963	5,100	6,500	7,000	6,500	6,000	5,500	5,000
Oil (U.S. dollars per barrel)	71	97	62	78	83	84	86	87	89

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

1/ Measured from below-the-line in the fiscal accounts.

2/ Includes changes in check float.

3/ Includes central government, central bank external debt, and statutory authorities.

4/ March 2010 WEO projection.

Table 6. Papua New Guinea: Indicators of External Vulnerability, 2006–10

(In percent of GDP, unless otherwise indicated)

	2006	2007	2008	2009		2010
				Est.	Projection	Projection
<b>Financial indicators</b>						
Gross public debt 1/ 2/	40.6	35.0	32.1	32.4		29.0
Broad money (percent change, 12-month basis)	38.9	27.8	11.2	19.3		18.7
Private sector credit (percent change, 12 month basis)	38.2	34.4	39.4	17.3		20.0
Interest rate (182-day T-bills; period average)	3.7	4.4	5.9	7.2		...
<b>External indicators</b>						
Exports (percent change, 12-month basis in U.S. dollars)	28.1	11.5	20.8	-20.7		24.4
Imports (percent change, 12-month basis in U.S. dollars)	-19.2	32.1	19.7	9.0		58.1
Current account balance	8.0	3.3	10.0	-6.8		-16.1
Capital and financial account balance (millions of U.S. dollars)	210.9	292.3	-923.3	1123.8		1282.6
<i>Of which:</i> Inward foreign direct investment	193.1	462.1	-30.8	764.4		1136.8
Gross official reserves (millions of U.S. dollars)	1448.9	2086.6	1988.0	2571.0		2431.5
Central Bank short-term foreign liabilities (millions of U.S. dollars)	2.1	3.9	1.6	0.4		197.2
Commerical bank foreign assets (millions of U.S. dollars)	141.8	458.5	374.5	484.2		511.1
Commerical bank foreign liabilities (millions of U.S. dollars)	33.2	47.8	43.3	70.9		74.9
Gross official reserves (months of nonmineral imports, c.i.f.)	11.8	13.6	10.8	12.0		6.6
Broad money to gross reserves (ratio)	1.6	1.5	1.9	1.7		1.9
Total short-term external debt to reserves (percent) 3/	2.3	2.3	2.2	2.8		3.1
Public external debt to GDP ratio (in percent)	21.4	16.6	13.2	12.8		11.9
Exchange rate (per U.S. dollar; period average)	3.1	3.0	2.7	2.8	...	
<b>Financial market indicators</b>						
Foreign currency long-term government debt rating 1/						
Moody's 4/	Ba2	Ba2	Ba2	Ba2	...	
Standard & Poors 5/	B	B+	B+	B+	...	

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

1/ End of period.

2/ Includes central government, central bank external debt, and statutory authorities.

3/ Covers only banking system short-term external debt.

4/ Initial rating of B1 (stable) in January 1999.

5/ Initial rating of B+ (stable) in January 1999. The rating was upgraded to B+ in September 2007.

Table 7. Papua New Guinea: Millennium Development Goals Progress, 1990-2008

	1990	1995	2000	2005	2008
<b>Goal 1: Eradicate extreme poverty and hunger</b>					
Target 1.A: Halve, between 1990 and 2015, the proportion of people whose income is less than \$ 1 a day					
Poverty gap at \$1.25 a day (PPP) (%)	..	12 ..	..	..	..
Poverty headcount ratio at \$1.25 a day (PPP) (% of population)	..	36 ..	..	..	..
Income share held by lowest 20%	..	4.5 ..	..	..	..
Target 1.B: Achieve full and productive employment and decent work for all, including women and young people					
GDP per person employed (annual % growth)	12	-7	-6	1	4
Employment to population ratio, 15+, total (%)	70	70	71	70	70
Employment to population ratio, ages 15-24, total (%)	58	54	56	55	55
<b>Goal 2: Achieve universal primary education</b>					
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	65	65
Literacy rate, youth male (% of males ages 15-24)	..	..	69	63	63
Primary completion rate, total (% of relevant age group)	48	52 ..	..	..	..
<b>Goal 3: Promote gender equality and empower women</b>					
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 parliaments (%)	0	0	2	1	1
Ratio of female to male enrollments in tertiary education	..	..	55 ..	..	..
Ratio of female to male primary enrollment	84	87	86	84	84
Ratio of female to male secondary enrollment	62 ..	..	..	..	..
Share of women employed in the nonagricultural sector (% of total nonagricultural employe	27.9 ..	..	32.1 ..	..	..
<b>Goal 4: Reduce child mortality</b>					
Target 4.A: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate					
Immunization, measles (% of children ages 12-23 months)	67	42	62	60	58
Mortality rate, infant (per 1,000 live births)	69	62	57	52	50
Mortality rate, under-5 (per 1,000)	94	84	76	68	65
<b>Goal 5: Improve maternal health</b>					
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)	..	..	..	470 ..	..
Births attended by skilled health staff (% of total)	..	..	53	41	42 ..
Target 5.B: Achieve, by 2015, universal access to reproductive health					
Contraceptive prevalence (% of women ages 15-49)	..	26 ..	..	..	..
Adolescent fertility rate (births per 1,000 women ages 15-19)	..	90	78	61	55
Pregnant women receiving prenatal care (%)	..	78 ..	..	..	..
<b>Goal 6: Combat HIV/AIDS, malaria, and other diseases</b>					
Target 6.A: Have halted by 2015 and begun to reverse the spread of HIV/AIDS					
Prevalence of HIV, female (% ages 15-24)	..	..	..	0.7	0.7
Prevalence of HIV, male (% ages 15-24)	..	..	..	1	1
Prevalence of HIV, total (% of population ages 15-49)	..	..	0.1	0.3	1.5
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)	250	250	250	250	250
Tuberculosis cases detected under DOTS (%)	..	1	7	20	15
<b>Goal 7: Ensure environmental sustainability</b>					
Target 7.A: Integrate the principles of sustainable development into country policies and programmes 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)	70	68	67	65 ..	..
CO2 emissions (kg per PPP \$ of GDP)	0.5	0.3	0.3	0.4 ..	..
CO2 emissions (metric tons per capita)	0.6	0.5	0.5	0.7 ..	..
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)	44	44	44	45	45
Improved water source (% of population with access)	39	39	39	40	40
Marine protected areas, (% of surface area)	..	..	..	1 ..	..
Nationally protected areas (% of total land area)	..	..	..	8	8
<b>Goal 8: Develop a global partnership for development</b>					
Target 8: Various					
Aid per capita (current US\$)	100	79	51	44	50
Debt service (PPG and IMF only, % of exports, excluding workers' remittances)	18	10	8	6 ..	..
Internet users (per 100 people)	0	0	0.8	1.7	1.8
Mobile cellular subscriptions (per 100 people)	0	0	0	1	5
Telephone lines (per 100 people)	1	1	1	1	1
<b>Other</b>					
Fertility rate, total (births per woman)	4.8	4.7	4.4	4	3.8
GNI per capita, Atlas method (current US\$)	790	1040	620	690	1010
GNI, Atlas method (current US\$) (billions)	3.3	4.9	3.3	4.2	6.5
Gross capital formation (% of GDP)	24.4	21.9	21.9	19.8	19.5
Life expectancy at birth, total (years)	55	56	57	57	57
Literacy rate, adult total (% of people ages 15 and above)	..	..	57	58	58
Population, total (millions)	4.1	4.7	5.4	6.1	6.4
Trade (% of GDP)	89.6	104.7	115.4	135	165.2

Source: World Development Indicators database, 2010.

Table 8. Papua New Guinea: Authorities' Response to Recent Fund Policy Advice 1/

Fund Recommendations	Policy Actions
<p><b>Monetary and Exchange Rate Policy</b></p> <p>With the balance of risks to inflation on the downside because of the deteriorating external environment, the central bank should be prepared to loosen quickly if a larger-than expected negative domestic impact materializes.</p> <p>The currency should be allowed to adjust to help offset the impact on export incomes. This policy would also help to safeguard foreign currency reserves.</p>	<p>This risk did not materialize and the policy rate was kept stable until year end when it was decreased by 100 bp to 7 percent in December 2009, mostly due to the decline in inflation in the third quarter of 2009.</p> <p>Exchange rate moved flexibly. Reserves have increased to the late-2008 level.</p>
<p><b>Fiscal Policy</b></p> <p>Macroeconomic stability would be enhanced if the monetary and fiscal authorities cooperated to ensure that the cyclical position of the economy determined the magnitude of annual spending from trust accounts.</p>	<p>Senior Treasury officials now meet regularly with senior BPNG officials to discuss current macroeconomic conditions, but no explicit mechanisms have been introduced to ensure that spending from above normal mineral revenue is consistent with available spare capacity. Staff are currently working with the authorities to develop a formal modeling framework to do this.</p>
<p><b>Financial Sector Policy</b></p> <p>The impact of declining commodity prices on export incomes could stress debt-servicing capabilities, driving up nonperforming loans. Therefore, banks should maintain strict lending standards and monitor borrowers' servicing abilities carefully.</p>	<p>Banks tightened lending standards by shortening average amortization periods.</p>
<p><b>Structural Reforms</b></p> <p>The public-sector reform program on health, education, and law and order needs to be reinvigorated. Complete transparency of the financial conditions of state-owned enterprises and full transfer of their returns to general government revenue will be necessary to implement the reform agenda.</p>	<p>The government expanded the PPP Task Force to include the Departments of Health, Education, Transport, Works, Lands and Physical Planning, and Attorney General, and the National Roads and Civil Aviation Authorities. Through the National Executive Council, the government approved the national public-private partnership policy.</p>
<p>To permanently raise long-term growth in the nonmineral sector, the resulting revenues and public ownership proceeds from the LNG projects must be channeled through the budget and directed toward effectively addressing development needs.</p>	<p>The authorities began exploring the benefits of creating a sovereign wealth fund to manage resource revenue. A working group was established in early 2010 to prepare a proposal for the government.</p>
<p>The government must press ahead with Fund recommendations on the compilation and dissemination of economic data.</p>	<p>Progress has been disappointing.</p>

Source: IMF Staff.

1/ Advice from the 2008 Article IV Consultation.

## APPENDIX I: PAPUA NEW GUINEA: DEBT SUSTAINABILITY ANALYSIS<sup>1</sup>

*Based on the low-income country debt sustainability analysis (LIC DSA), Papua New Guinea is rated to be at a moderate risk of debt distress. The baseline public DSA suggests that Papua New Guinea's overall public sector debt dynamics are sustainable in light of the current size and the evolution of the domestic stock. However, stress tests of both external and public DSA suggest that vulnerabilities rise against shocks from slower export and economic growth, which are related with uncertainties of the global economic recovery and the construction phase of the LNG projects. Moreover, the inclusion of the LNG contingent liabilities as well as other domestic liabilities would also undermine long-term fiscal sustainability, addressing requirements for adherence to the authorities' Medium-Term Fiscal Strategy and the needs to establish a Sovereign Wealth Fund (SWF) for more efficient revenue management.*

### I. BACKGROUND

**Papua New Guinea has been effectively reducing its public and external debt burden over past years.**<sup>2</sup> Public debt indicators improved dramatically, with the public sector debt ratio declining from 62 percent of GDP at end-2004 to an estimated 32 percent of GDP at end-2009 (Table 1). The public and publicly guaranteed (PPG) external debt also decreased from the peak of over 50 percent of GDP in 2001 to the current 13 percent of GDP (Table 2). Over 90 percent of public external debt is with multilateral institutions such as the AsDB and World Bank, with the rest mainly from Japan and Australia. Private sector external debt is estimated at about 14 percent of GDP by end-2009.

### II. ECONOMIC OUTLOOK AND UNDERLYING DSA ASSUMPTIONS

**The impact of the global financial crisis on Papua New Guinea is limited due to a relatively segmented financial market and strong recovery of commodity prices.** Real GDP growth slowed to 4.5 percent in 2009 accompanied by eased inflation. External demand also weakened in 2009 and led to a current account deficit for the first time since 2002. Consequently, the currency has depreciated in both nominal and real terms by end 2009. As

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<sup>1</sup> As Papua New Guinea is an IBRD/IDA blend country, this DSA is prepared by Fund staff in close consultation with the World Bank and the Asian Development Bank (AsDB) under the IMF-WB DSA framework for Low-Income Countries. The fiscal year of Papua New Guinea is the calendar year. An IMF country team visited Papua New Guinea for Article IV consultation in February 2010.

<sup>2</sup> Papua New Guinea is rated as a weak performer for its policies and institutions for the purposes of the IMF-WB low-income country DSA framework. Consequently, the applicable thresholds for this category for external public debt are: 30 percent for the present value (PV) of debt-to-GDP ratio; 100 percent for the PV of debt-to-exports ratio, 200 percent for the PV of debt-to-revenue ratio, 15 percent for the debt service-to-exports ratio, and 25 percent for the debt service-to-revenue ratio.

indicated in the 2008 DSA, Papua New Guinea is vulnerable to terms of trade shocks.<sup>3</sup> However, unfavorable public debt dynamics did not materialize in 2009 as its terms of trade deteriorated during the first half of 2009 but recovered quickly with rising commodity prices.

**The economic outlook of Papua New Guinea is expected to improve with the approval of two Liquefied Natural Gas (LNG) projects in December 2009.** During the construction phase of the projects from 2010 to 2014, there will be increasing economic activities with rising imports mostly financed by FDI inflows. The near-term challenge will be to maintain macroeconomic stability with limited economic capacity. The LNG project is therefore included in the baseline scenario and Box 1 summarizes the medium-term macroeconomic framework underlying the DSA.

### III. EXTERNAL DEBT SUSTAINABILITY ANALYSIS

**The baseline scenario indicates that all PPG external debt and debt service ratios stay well below the policy-dependent debt burden thresholds.** However, the vulnerability of the external debt sustainability remains if export value growth slows down in combination with other shocks. The main results of the external DSA are the following:

- **The baseline scenario shows a slight increase in external debt burden in the medium term before declining in the long run** (Table 3 and the text table). This is due to expected increase in disbursements of approved AsDB loans in the pipeline. Since additional financing needs for the LNG project and the current account deficit would be met with projected large FDI inflows, the PV of PPG external debt over GDP would remain around 11 percent in the medium term, which is below the 30 percent of threshold. The PVs of PPG external debt-to-exports and debt-to-revenue ratios are expected to stay well below the indicative threshold levels over the projection period.
- **However, the debt burden is expected to breach the indicative thresholds under some stress tests** (Table 4 and Figure 1). External debt sustainability is most vulnerable to shocks from lower export growth (Table 4). A decline in export value growth in 2010–11, by one standard deviation below its historical average, would raise the PV of public external debt-to-GDP ratio to 37 percentage points over the medium term, and only fall below the 30 percent threshold after 2018. Other stress tests including lower FDI inflows and a combination of several shocks above also generate similar debt patterns which move to alarming levels.<sup>4</sup>

<sup>3</sup> See Papua New Guinea: 2008 Article IV Consultation, IMF Staff Report 09/112.

<sup>4</sup> Bound test B5, which combines four different shocks with smaller standard deviations than those shocks in tests B1–B4, also shows the similar pattern of the debt dynamics with the shock from the export growth dominates.

- **The scenarios indicated by stress tests on external debt burden are not trivial and cannot be ruled out given the uncertainty ahead.** Export demand could remain weak if the recovery of the global economy is sluggish and a “double-dip” of commodity prices happens. Moreover, the negotiation between the government and local communities on land issues is ongoing and the construction of the LNG project would not be fully launched before these issues are settled.

Text Table: Policy-based PPG External Debt Burden Thresholds for PNG

	Thresholds	2009	PNG's ratios 2010–15	2016–30
PV of debt in percent of				
GDP	30	12.2	10.8	9.4
Exports	100	19.8	15.3	15.0
Revenues	200	52.4	41.0	30.7
Debt service in percent of				
Exports	15	2.7	1.6	1.0
Revenues	25	7.2	4.4	2.1

#### IV. PUBLIC DEBT SUSTAINABILITY ANALYSIS<sup>5</sup>

**With a prudent fiscal policy and improved economic outlook, the overall public debt dynamics for Papua New Guinea is favorable.** During previous years of rising commodity prices, windfall revenues were largely saved and public debt reduced. The public debt burden is forecasted to decrease over the projection period under the baseline. Meanwhile, compared to the 2008 Article IV DSA, given the LNG project now included in the baseline, it indicates Papua New Guinea remains vulnerable to external shocks as well as domestic ones during the construction period of the project. In addition, the inclusion of several contingent domestic liabilities shows potential risks to long-run fiscal sustainability.

- **The baseline scenario projects a gradual decline in the public sector debt ratio over the medium term.** The public debt ratio is projected to decline to 23.8 percent of GDP by 2015 (Table 1). The projected improvement results mainly from projected rapid economic growth, large FDI inflows associated with the LNG project, a continued prudent fiscal policy. The public debt is projected to decline further to about 14 percent by 2030.
- **The alternative scenarios and bound tests for public debt sustainability show that the projected debt path is particularly sensitive to changes in real GDP**

<sup>5</sup> Public debt includes domestic central government debt and external public and publicly guaranteed debt.



**growth** (Table 2 and Figure 2). A negative shock to real GDP growth<sup>6</sup> in 2011–12 would increase the present value (PV) of the public debt-to-GDP ratio close to 80 percent in 2030. This shock can be again related with the progress of the LNG construction given its significant contribution to the economic growth over the medium term. Moreover, if a primary deficit of 5.8 percent in 2009 is assumed to maintain for the projection period, the PV of the public debt-to-GDP ratio would be above 200 percent in 2030. While the case of a persistent primary deficit is unlikely to happen (in view of the unusual spending from the government trust account in 2009), this highlights the need for the government to ensure the project is moving forward as planned while protecting the priority spending in the event of a growth slowdown. In addition, as discussed in the previous section, a decline in the export growth would also exacerbate public debt burden.

- **Other country-specific liabilities from several potential sources may also undermine fiscal sustainability.** Government unfunded superannuation liabilities, estimated to be about 9 percent of GDP by end-2009, will remain sizable though the government has made partial repayment recently. The contingent liabilities related with the LNG project are estimated to be, in PV term, about 20 percent of GDP in 2014.<sup>7</sup> Other liabilities, including borrowings by SOEs<sup>8</sup> and the government's commitments under the memorandum of agreement with landowners, are also estimated to be significant though detailed information on the magnitude and timing is limited. These factors, as shown in the alternative scenario<sup>9</sup> (Table 2 and Figure 2), would result in unfavorable debt dynamics and add additional risks to public debt sustainability.

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<sup>6</sup> The GDP growth shock in 2011–12 is defined as the historical average of GDP growth rate minus one standard deviation. Another permanent GDP growth shock, which will bring the Debt-to-GDP ratio above 70 percent in 2030, is defined as the baseline GDP growth rate minus one standard deviation divided by the square root of the length of the projection period.

<sup>7</sup> These liabilities are arising from the issue of exchangeable bonds to finance the state's equity participation (in 2009) and the state's completion guarantee for debt financing (by 2014). Under this scheme, the creditor acquires exchangeable bonds, amounting to US\$1.1 billion, with the option to exchange the bonds for equities in the Oil Search company. Under the completion guarantee, if the project fails, the government may have to pay up to US\$2 billion to the creditor. Other liabilities including the settlements with landowners (negotiation is ongoing) may also be significant.

<sup>8</sup> From 2008 Article IV DSA estimates, SOEs related contingent liabilities are about 2.5 percent of GDP when we consider borrowings, various provisions, and other liabilities based on end-2007 financial statements of nine SOEs. However, there is no information on the off-balance sheet liabilities which also may be significant.

<sup>9</sup> The alternative scenario (All Other Liabilities: Pension, SOEs, and LNG contingent liabilities) assumes that pension and SOEs liabilities are to be covered in the 2011 budget (total about 10 percent of GDP) and all LNG contingent liabilities will materialize in 2014 (about 20 percent of GDP).

### BOX 1. MACROECONOMIC ASSUMPTIONS UNDERLYING THE DSA

- **Real GDP growth** is projected to be at 5.2 percent on average over the medium term, above the historical average of 2.9 percent, and slow to 3 percent in the long run. In the medium term rapid growth in the nonmineral sector, including in agriculture, as well as several mining projects coming on stream will offset the decline in petroleum and copper production and exports.
- **Inflation** is projected to rise in the medium term due to increasing domestic demand and near-term capacity constraints, while stabilizing at around 3 percent in the long run.
- The **two LNG projects** have a construction period of 5 years each, from 2010/11 to 2014/15. Production and exports are expected to commence in the second half of 2014, with a maximum capacity of about 60 million barrels of oil equivalent. The peak impact of the projects is estimated to be an increase of 25 to 30 percent in annual GDP growth. These 30-year projects are estimated to increase annual GDP growth, through both direct and indirect channels, by about 15 to 20 percent on average. Accounting for the substantial income outflows, the projects are expected to increase annual GNI by about 9 percent.
- The **current account** (including grants) is estimated to be in deficit in 2009 and the deficit is projected to remain over the medium term until 2013, primarily reflecting the strong import growth related with the construction phase of the LNG project. FDI inflows from foreign shareholders are projected to increase substantially given the financing scheme of the project.
- The **grant element of loans** is expected to decline. As per capita income rises, the share of external financing provided on concessional terms is expected to decline gradually over the projection period.<sup>1</sup>
- The **fiscal balance** is estimated to turn into a deficit<sup>2</sup> in 2009 due to falling mineral revenues and the spending of preceding years' mineral windfall revenues. The deficit is financed by a rundown of resources held in trust accounts. Over the medium term it is projected to remain balanced.

<sup>1</sup> Grant-equivalent financing (in percent of GDP) increases slightly in the near term before it declines in the long run, due to the expected large disbursement from the AsDB in the pipeline.

<sup>2</sup> The deficit is estimated by Fund staff. The official 2009 budget outcome does not include the large amount of spending from the government trust account held outside the budget. The trust accounts consist of saving from mineral windfall revenues in past years to address development and debt reduction needs. However, since 2008 the government has relaxed constraints on trust account spending. Trust spending was the main factor shifting the fiscal balance from a surplus of 2.5 percent of GDP in 2008 to a deficit of almost 8 percent of GDP in 2009. The result was a fiscal impulse of almost 13 percent of GDP.

## V. CONCLUSION

**It is the staffs' view that Papua New Guinea should be considered at moderate risk of debt stress based on both external debt burden indicators and stress tests on public debt pattern.** Although the baseline scenario indicates that all external PPG debt burden indicators are below their indicative thresholds, the projected PPG debt paths shows significant vulnerability against shocks from slower export and economic growth. The inclusion of the LNG contingent liability as well as other domestic liabilities would also add concerns to long-term fiscal sustainability.

**Enhanced debt management with adherence to the Medium-Term Fiscal Strategy (MTFS) would be required to offset the underlying risks in public debt sustainability.** The staff encourages the authorities to improve implementation of the MTFS during the construction phase of the LNG project to guard against unfavorable public debt dynamics from vulnerabilities such as those arising from potential LNG project delays, lower commodity prices, and weaker external demand. The staff also encourages the authorities to consider the establishment of a Sovereign Wealth Fund (SWF) to manage revenues from those projects more efficiently and to further strengthen debt management capacity.

Table 1. Papua New Guinea: Public Sector Debt Sustainability Framework, Baseline Scenario, 2007-2030  
(In percent of GDP, unless otherwise indicated)

	Actual			Average	Standard Deviation	Estimate					Projections				
	2007	2008	2009			2010	2011	2012	2013	2014	2015	2010-15 Average	2020	2030	2016-30 Average
<b>Public sector debt 1/</b>	34.1	31.7	32.0			28.8	26.5	26.7	26.4	22.2	23.8		21.2	14.5	
o/w foreign-currency denominated	17.1	13.2	12.8			11.9	11.8	12.6	13.5	12.8	13.7		13.0	9.1	
Change in public sector debt	-5.6	-2.4	0.4			-3.3	-2.2	0.1	-0.2	-4.2	1.6		-0.6	-0.6	
Identified debt-creating flows	-14.2	-10.8	7.3			-1.2	-2.4	-1.5	-0.9	-7.8	-3.1		-1.8	-0.9	
Primary deficit	-11.0	-7.2	5.8	-3.8	4.8	0.2	-2.5	-2.8	-2.0	-4.3	-3.4	-2.5	-1.6	-0.7	
Revenue and grants	37.3	34.8	28.3			27.9	29.8	30.1	29.4	28.2	27.1		28.8	32.1	
of which: grants	3.8	5.1	4.7			2.0	2.5	2.4	2.2	1.8	1.9		1.5	0.8	
Primary (noninterest) expenditure	26.3	27.6	34.1			28.1	27.3	27.3	27.3	23.9	23.7		27.3	31.3	
Automatic debt dynamics	-3.2	-3.6	1.5			-1.4	0.1	1.3	1.2	-3.5	0.3		-0.2	-0.2	
Contribution from interest rate/growth differential	-1.4	-1.8	0.7			-2.0	-0.5	0.6	0.7	-2.4	-0.2		-0.1	-0.1	
of which: contribution from average real interest rate	1.2	0.4	2.0			0.4	1.0	1.4	1.2	-0.5	0.8		0.5	0.4	
of which: contribution from real GDP growth	-2.6	-2.1	-1.4			-2.4	-1.5	-0.8	-0.5	-2.0	-1.0		-0.6	-0.4	
Contribution from real exchange rate depreciation	-1.7	-1.9	0.8			0.5	0.7	0.7	0.5	-1.1	0.5		...	...	
Other identified debt-creating flows	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
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	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
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	8.6	8.4	-7.0			-2.0	0.1	1.6	0.6	3.6	4.7		1.2	0.3	
<b>Other Sustainability Indicators</b>															
<b>PV of public sector debt</b>	16.9	18.5	31.4			28.0	25.4	25.0	24.1	19.6	20.7		18.3	13.2	
o/w foreign-currency denominated	0.0	0.0	12.2			11.1	10.7	10.9	11.2	10.2	10.6		10.1	7.8	
o/w external	...	...	12.2			11.1	10.7	10.9	11.2	10.2	10.6		10.1	7.8	
PV of contingent liabilities (not included in public sector debt)	...	...	...			...	...	...	...	...	...		...	...	
Gross financing need 2/	6.3	4.6	20.6			11.0	7.6	6.6	6.7	2.8	3.0		3.3	3.3	
PV of public sector debt-to-revenue and grants ratio (in percent)	45.4	53.2	111.1			100.4	85.4	82.9	82.0	69.6	76.6		63.4	41.1	
PV of public sector debt-to-revenue ratio (in percent)	50.7	62.4	133.4			108.1	93.0	89.9	88.6	74.3	82.4		66.8	42.2	
o/w external 3/	...	...	51.9			42.9	39.3	39.4	41.2	38.5	42.4		36.8	24.9	
Debt service-to-revenue and grants ratio (in percent) 4/	34.0	24.4	30.3			17.0	17.0	17.9	18.5	16.2	15.7		10.0	8.5	
Debt service-to-revenue ratio (in percent) 4/	37.9	28.7	36.3			18.3	18.5	19.4	20.0	17.3	16.9		10.6	8.8	
Primary deficit that stabilizes the debt-to-GDP ratio	-5.5	-4.8	5.5			3.5	-0.3	-2.9	-1.8	-0.1	-5.0		-0.9	-0.1	
<b>Key macroeconomic and fiscal assumptions</b>															
Real GDP growth (in percent)	7.2	6.7	4.5	2.9	3.0	8.0	5.5	3.0	2.0	8.0	5.0	5.2	3.0	3.0	
Average nominal interest rate on forex debt (in percent)	3.2	2.7	2.6	3.2	0.4	2.8	2.8	2.8	2.6	2.3	2.2	2.6	1.8	2.1	
Average real interest rate on domestic debt (in percent)	5.0	0.7	10.9	3.9	5.8	1.8	5.6	9.2	8.3	-4.3	9.0	4.9	6.5	6.5	
Real exchange rate depreciation (in percent, + indicates depreciation)	-8.5	-11.4	6.5	-3.9	10.5	4.4	...	...	...	...	...	...	...	...	
Inflation rate (GDP deflator, in percent)	3.8	7.9	-3.6	6.5	5.0	4.7	2.2	0.2	1.4	14.8	1.1	4.1	3.0	3.0	
Growth of real primary spending (deflated by GDP deflator, in percent)	0.0	0.1	0.3	0.1	0.1	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	
Grant element of new external borrowing (in percent)	...	...	...	...	...	42.2	41.8	41.5	41.2	34.3	33.9	39.2	20.2	11.5	

Sources: Country authorities; and staff estimates and projections.

1/ Public sector includes central government and nonfinancial public sector. Gross debt is used.

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.

Table 2. Papua New Guinea: Sensitivity Analysis for Key Indicators of Public Debt 2010-2030

	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
<b>PV of Debt-to-GDP Ratio</b>								
<b>Baseline</b>	28	25	25	24	20	21	18	13
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	28	25	23	20	18	19	6	-27
A2. Primary balance is unchanged from 2010	28	34	43	51	56	67	112	210
A3. Permanently lower GDP growth 1/	28	26	26	26	22	24	30	65
A4. All Other Liabilities (Pension, SOEs, and LNG contingent liabilities)	28	36	36	36	51	54	57	66
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	28	28	32	33	31	34	46	76
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	28	29	33	32	27	29	27	24
B3. Combination of B1-B2 using one half standard deviation shocks	28	28	29	30	27	30	36	54
B4. One-time 30 percent real depreciation in 2011	28	31	30	29	24	25	23	21
B5. 10 percent of GDP increase in other debt-creating flows in 2011	28	36	36	35	30	32	30	28
<b>PV of Debt-to-Revenue Ratio</b>								
<b>Baseline</b>	100	85	83	82	70	77	63	41
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	100	83	78	70	63	71	22	-85
A2. Primary balance is unchanged from 2010	100	115	143	174	199	249	387	654
A3. Permanently lower GDP growth 1/	100	86	86	87	78	89	105	202
A4. All Other Liabilities (Pension, SOEs, and LNG contingent liabilities)	100	121	120	123	181	199	199	205
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	100	95	104	113	108	126	159	237
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	100	98	109	110	97	106	94	74
B3. Combination of B1-B2 using one half standard deviation shocks	100	93	97	103	95	109	126	168
B4. One-time 30 percent real depreciation in 2011	100	103	100	99	85	92	79	65
B5. 10 percent of GDP increase in other debt-creating flows in 2011	100	121	119	120	108	117	105	86
<b>Debt Service-to-Revenue Ratio</b>								
<b>Baseline</b>	17	17	18	18	16	16	10	9
<b>A. Alternative scenarios</b>								
A1. Real GDP growth and primary balance are at historical averages	17	17	18	18	14	14	2	-18
A2. Primary balance is unchanged from 2010	17	17	19	27	40	39	79	147
A3. Permanently lower GDP growth 1/	17	17	18	19	17	17	17	42
A4. All Other Liabilities (Pension, SOEs, and LNG contingent liabilities)	17	17	20	27	24	42	40	42
<b>B. Bound tests</b>								
B1. Real GDP growth is at historical average minus one standard deviations in 2011-2012	17	18	20	22	23	23	29	52
B2. Primary balance is at historical average minus one standard deviations in 2011-2012	17	17	19	22	25	22	17	16
B3. Combination of B1-B2 using one half standard deviation shocks	17	18	19	21	21	21	23	37
B4. One-time 30 percent real depreciation in 2011	17	18	20	21	19	19	15	16
B5. 10 percent of GDP increase in other debt-creating flows in 2011	17	17	20	27	28	25	20	19

Sources: Country authorities; and staff estimates and projections.

1/ Assumes that real GDP growth is at baseline minus one standard deviation divided by the square root of the length of the projection period.

2/ Revenues are defined inclusive of grants.

Table 3. External Debt Sustainability Framework, Baseline Scenario, 2007-2030 1/  
(In percent of GDP, unless otherwise indicated)

	Actual			Historical 0 Standard		Projections										
	2007	2008	2009	Average	0 Deviation	2010	2011	2012	2013	2014	2015	2010-2015 Average		2020	2030	2016-2030 Average
<b>External debt (nominal) 1/</b>	<b>31.2</b>	<b>25.5</b>	<b>26.9</b>			<b>25.8</b>	<b>26.7</b>	<b>29.0</b>	<b>30.2</b>	<b>27.1</b>	<b>28.1</b>			<b>27.4</b>	<b>23.4</b>	
o/w public and publicly guaranteed (PPG)	17.1	13.2	12.8			11.9	11.8	12.6	13.5	12.8	13.7			13.0	9.1	
Change in external debt	-7.9	-5.8	1.4			-1.1	0.9	2.2	1.3	-3.1	1.0			-0.3	-0.4	
Identified net debt-creating flows	-15.6	-16.2	-2.5			1.3	2.3	2.5	1.8	-9.2	-10.3			-7.5	-3.3	
<b>Non-interest current account deficit</b>	<b>-5.6</b>	<b>-11.4</b>	<b>5.4</b>	<b>-6.3</b>	<b>5.2</b>	<b>14.7</b>	<b>17.0</b>	<b>14.8</b>	<b>10.0</b>	<b>-4.8</b>	<b>-7.0</b>			<b>-5.4</b>	<b>-2.3</b>	<b>-4.3</b>
Deficit in balance of goods and services	-7.3	-16.0	1.6			11.2	13.8	11.8	7.2	-13.6	-15.7			-12.6	-6.9	
Exports	80.9	77.2	61.9			68.7	75.1	74.3	70.8	68.1	67.6			64.3	59.0	
Imports	73.6	61.1	63.6			79.9	88.9	86.2	77.9	54.5	51.9			51.7	52.1	
Net current transfers (negative = inflow)	-5.5	-2.0	-1.2	-4.8	2.2	-1.6	-1.3	-1.1	-1.1	-0.8	-0.7			-0.5	-0.2	-0.4
o/w official	-4.9	-1.6	-2.2			-2.5	-2.3	-2.2	-2.2	-2.1	-2.0			-1.6	-0.9	
Other current account flows (negative = net inflow)	7.2	6.7	4.9			5.1	4.5	4.0	3.9	9.6	9.4			7.7	4.7	
<b>Net FDI (negative = inflow)</b>	<b>-7.3</b>	<b>0.4</b>	<b>-9.7</b>	<b>-3.1</b>	<b>3.1</b>	<b>-12.9</b>	<b>-14.8</b>	<b>-13.1</b>	<b>-9.3</b>	<b>-3.8</b>	<b>-3.5</b>			<b>-2.7</b>	<b>-1.6</b>	<b>-2.4</b>
<b>Endogenous debt dynamics 2/</b>	<b>-2.7</b>	<b>-5.2</b>	<b>1.8</b>			<b>-0.5</b>	<b>0.1</b>	<b>0.8</b>	<b>1.1</b>	<b>-0.6</b>	<b>0.1</b>			<b>0.6</b>	<b>0.7</b>	
Contribution from nominal interest rate	2.3	1.3	1.5			1.4	1.5	1.7	1.7	1.4	1.4			1.4	1.3	
Contribution from real GDP growth	-2.4	-1.6	-1.2			-1.9	-1.4	-0.8	-0.6	-2.0	-1.3			-0.8	-0.7	
Contribution from price and exchange rate changes	-2.6	-4.9	1.5			...	...	...	...	...	...			...	...	
<b>Residual (3-4) 3/</b>	<b>7.7</b>	<b>10.4</b>	<b>4.0</b>			<b>-2.4</b>	<b>-1.4</b>	<b>-0.3</b>	<b>-0.5</b>	<b>6.1</b>	<b>11.4</b>			<b>7.3</b>	<b>2.9</b>	
o/w exceptional financing	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/	...	...	26.3			25.0	25.6	27.3	27.9	24.5	25.0			24.4	22.1	
In percent of exports	...	...	42.5			36.5	34.1	36.7	39.4	36.0	37.0			38.0	37.5	
<b>PV of PPG external debt</b>	<b>...</b>	<b>...</b>	<b>12.2</b>			<b>11.1</b>	<b>10.7</b>	<b>10.9</b>	<b>11.2</b>	<b>10.2</b>	<b>10.6</b>			<b>10.1</b>	<b>7.8</b>	
In percent of exports	...	...	19.8			16.2	14.3	14.7	15.8	14.9	15.8			15.7	13.2	
In percent of government revenues	...	...	51.9			42.9	39.3	39.4	41.2	38.5	42.4			36.8	24.9	
<b>Debt service-to-exports ratio (in percent)</b>	<b>8.3</b>	<b>5.1</b>	<b>7.0</b>			<b>5.7</b>	<b>5.2</b>	<b>5.4</b>	<b>7.0</b>	<b>6.0</b>	<b>6.1</b>			<b>5.6</b>	<b>6.8</b>	
<b>PPG debt service-to-exports ratio (in percent)</b>	<b>4.1</b>	<b>2.0</b>	<b>2.7</b>			<b>2.0</b>	<b>1.7</b>	<b>1.6</b>	<b>1.7</b>	<b>1.4</b>	<b>1.4</b>			<b>0.9</b>	<b>1.0</b>	
<b>PPG debt service-to-revenue ratio (in percent)</b>	<b>9.8</b>	<b>5.2</b>	<b>7.1</b>			<b>5.2</b>	<b>4.6</b>	<b>4.4</b>	<b>4.4</b>	<b>3.7</b>	<b>3.8</b>			<b>2.2</b>	<b>1.8</b>	
Total gross financing need (Billions of U.S. dollars)	-0.4	-0.6	0.0			0.5	0.5	0.5	0.5	-0.5	-0.7			-0.6	0.0	
Non-interest current account deficit that stabilizes debt ratio	2.4	-5.7	3.9			15.8	16.1	12.6	8.7	-1.7	-8.0			-5.1	-2.0	
<b>Key macroeconomic assumptions</b>																
Real GDP growth (in percent)	7.2	6.7	4.5	2.9	3.0	8.0	5.5	3.0	2.0	8.0	5.0	5.2	3.0	3.0	3.0	3.0
GDP deflator in US dollar terms (change in percent)	7.0	18.5	-5.6	6.0	10.1	3.2	-4.0	-4.7	-2.2	11.4	-1.8	0.3	3.0	3.0	3.0	2.9
Effective interest rate (percent) 5/	6.6	5.4	5.7	4.8	1.4	5.9	6.0	6.1	5.7	5.6	5.4	5.8	5.3	6.0	5.5	5.5
Growth of exports of G&S (US dollar terms, in percent)	11.5	20.5	-20.8	9.7	19.7	23.6	10.8	-2.9	-5.1	15.9	2.3	7.4	4.8	5.6	5.0	5.0
Growth of imports of G&S (US dollar terms, in percent)	30.7	4.9	2.7	12.2	19.1	40.1	12.7	-4.9	-9.8	-15.8	-1.9	3.4	5.9	6.3	6.0	6.0
Grant element of new public sector borrowing (in percent)	...	...	...	...	...	42.2	41.8	41.5	41.2	34.3	33.9	39.2	20.2	11.5	18.5	18.5
Government revenues (excluding grants, in percent of GDP)	33.4	29.6	23.6			25.9	27.3	27.8	27.2	26.4	25.1			27.3	31.2	28.5
Aid flows (in Billions of US dollars) 7/	0.3	0.4	0.4			0.2	0.3	0.3	0.3	0.4	0.4			0.3	0.2	
o/w Grants	0.2	0.4	0.4			0.2	0.2	0.2	0.2	0.2	0.2			0.2	0.2	
o/w Concessional loans	0.0	0.0	0.1			0.1	0.1	0.1	0.2	0.2	0.2			0.0	0.0	
Grant-equivalent financing (in percent of GDP) 8/	...	...	...			2.3	2.9	3.0	2.9	2.6	2.6			1.7	0.9	1.5
Grant-equivalent financing (in percent of external financing) 8/	...	...	...			84.2	81.8	77.0	73.2	63.8	65.8			70.9	64.9	69.3
<b>Memorandum items:</b>																
Nominal GDP (Billions of US dollars)	6.3	8.0	7.9			8.8	8.9	8.8	8.7	10.5	10.8			14.3	25.9	
PV of PPG external debt (in Billions of US dollars)	...	...	1.0			0.9	0.9	0.9	1.0	1.1	1.1			1.4	2.0	
Gross remittances (Billions of US dollars)	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	
PV of PPG external debt (in percent of GDP + remittances)	...	...	12.2			11.1	10.7	10.9	11.2	10.2	10.6			10.1	7.8	
PV of PPG external debt (in percent of exports + remittances)	...	...	19.8			16.2	14.3	14.7	15.8	14.9	15.8			15.7	13.2	
Debt service of PPG external debt (in percent of exports + remittances)	...	...	2.7			2.0	1.7	1.6	1.7	1.4	1.4			0.9	1.0	

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  $\rho$  = 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 4a. Papua New Guinea: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010-2030  
(In percent)

	Projections							
	2010	2011	2012	2013	2014	2015	2020	2030
<b>PV of debt-to GDP ratio</b>								
<b>Baseline</b>	11	11	11	11	10	11	<b>10</b>	8
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2010-2030 1/	11	1	-8	-15	-15	-13	<b>-8</b>	-27
A2. New public sector loans on less favorable terms in 2010-2030 2	11	11	11	12	12	13	<b>13</b>	12
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	11	11	12	12	11	11	<b>11</b>	8
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	11	21	36	37	33	33	<b>28</b>	15
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	11	10	11	11	10	10	<b>10</b>	8
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	11	21	31	32	28	28	<b>24</b>	14
B5. Combination of B1-B4 using one-half standard deviation shocks	11	24	34	36	31	32	<b>27</b>	15
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	11	15	16	16	14	15	<b>15</b>	11
<b>PV of debt-to-exports ratio</b>								
<b>Baseline</b>	16	14	15	16	15	16	<b>16</b>	13
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2010-2030 1/	16	1	-11	-22	-21	-19	<b>-13</b>	-45
A2. New public sector loans on less favorable terms in 2010-2030 2	16	14	15	17	17	19	<b>21</b>	20
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	16	14	14	16	15	15	<b>16</b>	13
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	16	35	65	70	64	65	<b>58</b>	35
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	16	14	14	16	15	15	<b>16</b>	13
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	16	28	41	45	41	42	<b>37</b>	23
B5. Combination of B1-B4 using one-half standard deviation shocks	16	36	53	57	52	53	<b>47</b>	28
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	16	14	14	16	15	15	<b>16</b>	13
<b>PV of debt-to-revenue ratio</b>								
<b>Baseline</b>	43	39	39	41	38	42	<b>37</b>	25
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2010-2030 1/	43	3	-29	-56	-55	-50	<b>-31</b>	-86
A2. New public sector loans on less favorable terms in 2010-2030 2	43	39	41	45	44	50	<b>49</b>	38
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	43	40	42	44	41	45	<b>40</b>	27
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	43	78	130	138	124	132	<b>103</b>	49
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	43	38	38	40	38	41	<b>36</b>	25
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	43	76	110	117	105	112	<b>88</b>	44
B5. Combination of B1-B4 using one-half standard deviation shocks	43	89	124	131	118	126	<b>98</b>	46
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	43	55	56	59	55	60	<b>53</b>	36

Table 4b. Papua New Guinea: Sensitivity Analysis for Key Indicators of Public and Publicly Guaranteed External Debt, 2010-2030 (cont.)  
(In percent)

<b>Debt service-to-exports ratio</b>								
<b>Baseline</b>	2	2	2	2	1	1	1	1
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2010-2030 1/	2	2	1	1	0	0	-1	-2
A2. New public sector loans on less favorable terms in 2010-2030 2	2	2	2	2	2	2	1	2
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	2	2	2	2	1	1	1	1
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	2	2	3	4	3	3	4	3
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	2	2	2	2	1	1	1	1
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	2	2	2	2	2	2	3	2
B5. Combination of B1-B4 using one-half standard deviation shocks	2	2	2	3	2	2	3	2
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	2	2	2	2	1	1	1	1
<b>Debt service-to-revenue ratio</b>								
<b>Baseline</b>	5	5	4	4	4	4	2	2
<b>A. Alternative Scenarios</b>								
A1. Key variables at their historical averages in 2010-2030 1/	5	4	3	2	1	1	-2	-3
A2. New public sector loans on less favorable terms in 2010-2030 2	5	5	4	5	4	4	3	3
<b>B. Bound Tests</b>								
B1. Real GDP growth at historical average minus one standard deviation in 2011-2012	5	5	5	5	4	4	2	2
B2. Export value growth at historical average minus one standard deviation in 2011-2012 3/	5	5	5	7	6	6	7	4
B3. US dollar GDP deflator at historical average minus one standard deviation in 2011-2012	5	5	4	4	4	4	2	2
B4. Net non-debt creating flows at historical average minus one standard deviation in 2011-2012 4/	5	5	5	6	5	6	6	4
B5. Combination of B1-B4 using one-half standard deviation shocks	5	5	5	7	6	6	7	4
B6. One-time 30 percent nominal depreciation relative to the baseline in 2011 5/	5	7	6	6	5	6	3	3
<b>Memorandum item:</b>								
Grant element assumed on residual financing (i.e., financing required above baseline) 6/	23	23	23	23	23	23	23	23

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).

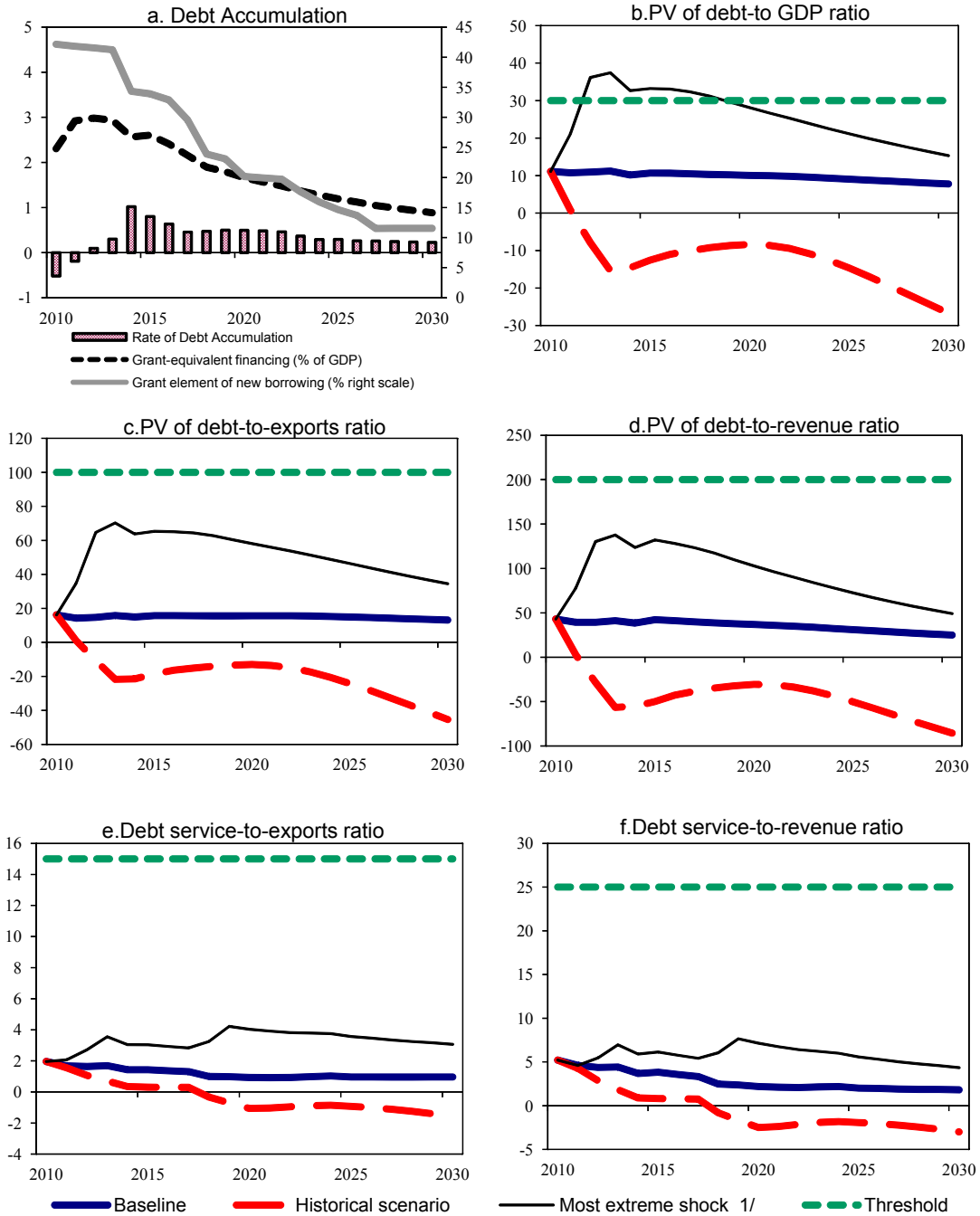
4/ Includes official and private transfers and FDI.

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.



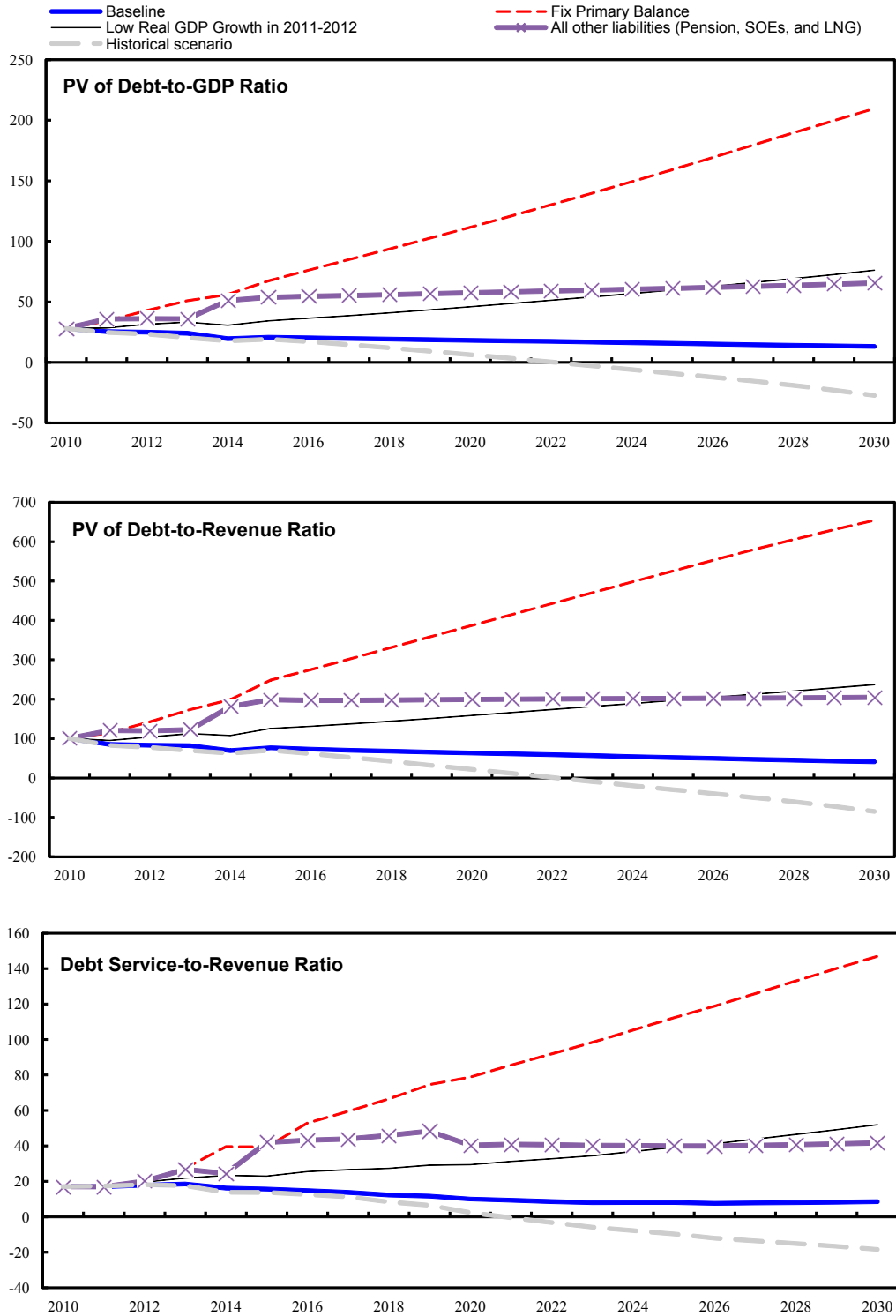
Figure 1. Papua New Guinea: Indicators of Public and Publicly Guaranteed External Debt under Alternatives Scenarios, 2010-2030 1/



Sources: Country authorities; and staff estimates and projections.

1/ The most extreme stress test is the test that yields the highest ratio in 2020. In figure b. it corresponds to a Exports shock; in c. to a Exports shock; in d. to a Exports shock; in e. to a Exports shock and in figure f. to a Exports shock

Figure 2. Papua New Guinea: Indicators of Public Debt Under Alternative Scenarios, 2010-2030 1/



Sources: Country authorities; and staff estimates and projections.

1/ Revenues are defined inclusive of grants.

INTERNATIONAL MONETARY FUND

PAPUA NEW GUINEA

**Staff Report for the 2010 Article IV Consultation—Informational Annex**

Prepared by the Asia and Pacific Department

May 4, 2010

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**ANNEX I: PAPUA NEW GUINEA—FUND RELATIONS**  
(As of March 31, 2010)

**I. Membership Status:** Joined October 9, 1975; Article VIII

<b>II. General Resources Account:</b>	<b>SDR Million</b>	<b>Percent Quota</b>
Quota	131.60	100.00
Fund holdings of currency	131.16	99.67
Reserve position in Fund	0.44	0.33

<b>III. SDR Department:</b>	<b>SDR Million</b>	<b>Percent Allocation</b>
Net cumulative allocation	125.49	100.00
Holdings	116.21	92.60

**IV. Outstanding Purchases and Loans:** None

**V. Financial Arrangements:**

	<b>Approval Date</b>	<b>Expiration Date</b>	<b>Amount Approved (SDR Million)</b>	<b>Amount Drawn (SDR Million)</b>
Stand-by	7/31/91	9/30/92	26.36	0.00
Stand-by	7/14/95	12/15/97	71.48	35.34
Stand-by	3/29/00	9/28/01	85.54	85.54

**VI. Projected Obligations to Fund<sup>1</sup>** (SDR million; based on existing use of resources and present holdings of SDRs):

	<b>2010</b>	<b>Forthcoming</b>		<b>2013</b>	<b>2014</b>
		<b>2011</b>	<b>2012</b>		
Principal	0.00	0.00	0.00	0.00	0.00
Charges/interest	<u>0.03</u>	<u>0.03</u>	<u>0.03</u>	<u>0.03</u>	<u>0.03</u>
Total	<u>0.03</u>	<u>0.03</u>	<u>0.03</u>	<u>0.03</u>	<u>0.03</u>

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

**VII. 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 made recommendations to alleviate identified weaknesses. Currently, the BPNG is not subject to the Safeguards Assessments policy.

**VIII. Exchange Rate Arrangement:**

Papua New Guinea has a floating exchange rate arrangement; the exchange rate of the kina is determined in the interbank market in which authorized banks participate. Papua New Guinea has accepted the obligations of Article VIII, Sections 2, 3, and 4, and maintains an exchange system free of restrictions on payments and transfers for current international transactions.

**IX. Article IV Consultation:**

The 2008 Article IV consultation discussions were held during December 4–15, 2008. It was concluded by the Executive Board on March 16, 2009 (IMF Country Report No. 09/112). Papua New Guinea is on the 12-month cycle.

**X. Technical Assistance 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.

**LEG:** A mission in November 1996 provided advice on the legal framework for the National Value-Added Tax. 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:** During 2001–03 assistance was provided through missions in bank supervision, financial sector restructuring and improving the accounting framework and monetary operations of the central bank. A resident advisor was assigned to the BPNG research department for 15 months through August 2003. Technical assistance 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), and monetary and forex operations (July–August 2009, February 2010).

**STA:** Four GDDS missions took place in 1995–96; one inspection visit was conducted in April 2001; one mission provided advice on the compilation of national accounts in February 2006; and one mission provided advice on balance of payments in May 2003. A mission reviewed monetary and financial statistics in April 2005 and a follow-up mission took place in May 2006. Subsequently, a multisector statistics mission visited in September 2006 followed by a high level STA visit in December 2007. Two follow-up missions in balance of payments took place in June 2008 and November 2009 and two follow-up missions in monetary and financial statistics took place in April 2008 and November 2009.

**XI. Resident Representative:** None

**ANNEX II: PAPUA NEW GUINEA—RELATIONS WITH THE PACIFIC FINANCIAL  
TECHNICAL ASSISTANCE CENTRE<sup>1</sup>**  
(As of March 30, 2010)

Until the Resident Representative position was closed in May 2008, the resident representative helped coordinating TA assistance to Papua New Guinea (PNG), with the extensive assistance provided by the Australian Enhanced Cooperation Program (ECP). Since 2000, PFTAC has provided more than 25 missions to PNG, and the Government has sent over 50 officials to the Centre's regional seminars, workshops, and training courses in this period.

**Public Financial Management**

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 US Treasury study visit in September 2008.

**Tax Administration and Policy**

The IMF Legal Department drafted a Tax Administration Act in 2005, adopted by the Government in 2006, that: (i) re-established the Internal Revenue Commission as an independent tax authority; and (ii) included customs administrative provisions. An IMF Legal Department mission in September 2007 prepared the Internal Revenue Commission Administration Bill 2007 to strengthen and consolidate all revenue administrative provisions into one statute.

PFTAC has delivered a project to: objectively assess the existing IT system of the Internal Revenue Commission and; develop and draft an information technology strategic plan (ITSP) and: based on the ITSP, draft a business plan for the redevelopment of the IT system. The project comprised of a number of missions between 2006 and 2009 that delivered:

- An assessment of the current and future business drivers.
- Development of the business system architecture for the ITSP.
- Completion of the applications, information and IT technical architecture phases of the ITSP project.
- Recommendations for the management and delivery of IT services within the IRC.

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<sup>1</sup> The Pacific Financial Technical Assistance Centre (PFTAC) in Suva, Fiji is a regional technical assistance institution operated by the IMF with financial support of the Asian Development Bank, Australia, Korea, Japan 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, Tokelau, Tonga, Tuvalu, and Vanuatu.

- Completion and approval of the ITSP Transition Plan.
- Drafting of the request for information (RFI) to test the market availability of suitable tax administration packaged software.
- Development of a business case to fund redevelopment of the Internal Revenue Commission (IRC) technology system, that is suitable for presentation and decision making by the Government of PNG and other potential donor organisations.

### **Financial Sector Regulation and Supervision**

There is no current PFTAC involvement in this area, as technical assistance is provided by MCM, but the Advisor visited BPNG in September 2004 and July 2005 to identify areas where technical assistance could be provided. In October 2005, the 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 under an on-site examination of a local branch of a PNG-based bank.

### **Economic and Financial Statistics**

In February 2006, the Advisor briefly assessed the BOP compilation with a view to improve its quality, and to assess progress against 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. The BOP expert provided some TA to progress improvements to the methodology and source data. In 2008 and 2009 the Advisor undertook balance of payment (BOP) statistics missions to review statistics prerequisites, progress in improving compilation methods and source data, as well as to assist Bank of PNG statistics staff in assessing the feasibility of electronic data collection.

**ANNEX III: PAPUA NEW GUINEA—RELATIONS WITH THE WORLD BANK GROUP**

(As of April 12, 2010)

The World Bank Group has a long history of engagement in Papua New Guinea (PNG). PNG formally became a member of the World Bank upon gaining independence in 1975 but had been a recipient of loans from the World Bank since 1968. To date, the World Bank has provided PNG with 36 IBRD loans totaling US\$786.6 million and 16 IDA credits totaling US\$195.0 million in commitments.

The Bank's relationship with the Government of PNG in 2003–06 was uneven as a result of policy differences resulting eventually in the suspension and later cancellation of the Forestry Conservation Project. Between 2003 and 2006 the World Bank did not approve any loans or credits for PNG and focused instead on analytical and outreach activities.

Following a significant improvement in political stability and macroeconomic performance, and as an integral part of intensive efforts by the Country Management team to repair the relationship with the Government, the Bank launch an joint effort with the Government in 2007 to prepare a full four-year Country Assistance Strategy (CAS), which was approved by the Bank's Board of Directors on December 18, 2007. The FY08–11 CAS articulated a long-term partnership between the Bank and PNG aimed at supporting sound management of economy and natural resources, and addressing immediate livelihood and service delivery needs of the poor people, while also building a foundation for tackling longer-term institutional and accountability challenges. Empowering women and youth, and strengthening governance are prioritized as cross-cutting themes in the program.

Under the FY08–11 CAS, the World Bank provides PNG with concessional financial resources on the order of US\$40 million per year<sup>2</sup> and assists the country in accessing global and regional grant funds such as Global Environmental Facility. In the first two years of the CAS, the Bank approved the Smallholder Agriculture Development Project (US\$27.5 million; approved by the Board in December 2007) and the Second Mining Sector Institutional Strengthening Project (US\$17.0 million; approved in June 2008). Together with the ongoing Road Maintenance and Rehabilitation Project totaling US\$40.0 million in IBRD and US\$37.3 million in IDA commitments, these projects represent the World Bank's current credit portfolio in PNG. In addition to the loan and credits, the Bank is also currently implementing a Global Environment Facility-supported Teachers' Solar Lighting Project (US\$0.99 million) and the regional Sustainable Energy Financing Project, which covers also PNG.

In line with PNG's medium-term debt strategy which envisions limiting external public borrowing primarily to concessional terms and using mineral windfall revenue for early

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<sup>2</sup> PNG is formally a blend IBRD-IDA country. However, PNG's debt strategy does not provide for non-concessional borrowing and no immediate IBRD lending to PNG is therefore envisioned.



repayment of more expensive debt, in late 2007 the Government pre-paid seven IBRD loans totaling US\$56 million. As a result, PNG's debt outstanding to the World Bank as end-December, 2009 stood at US\$229.6 million compared to over US\$321.5 million at the end of 2006. In December 2008, the Government made an additional prepayment of four more IBRD loans totaling about US\$15 million.

The pipeline of the World Bank projects under preparation is rapidly expanding as the last two years of the FY08–11 CAS unfold. Currently five projects are being prepared:

- Productive Partnership in Agriculture (focusing on coffee and cocoa sub-sectors, scheduled for Board discussion in April 2010),
- Rural Communications (which will create a fund to roll out telecommunications services to uneconomic areas, scheduled for Board in May 2010),
- Urban Youth Empowerment (aiming at expanding training and job opportunities for urban youth, planned for Board in June or July 2010),
- Second Chance Education through Flexible and Open Distance Education, FODE (seeks to improve quality and completion of equivalency programs to provide jobseeking school-leavers with credentials, targeted for Board in July 2010) and
- SME Access to Finance IDA-IFC Risk-Sharing Facility (risk-sharing facility with technical assistance to support increased lending by commercial banks to national SMEs poised to benefit from large resource projects, scheduled for Board in August 2010).

The Rural Service Delivery and Local Governance (focusing on small community-level development projects), is being reconfigured at preparation stage to better fit with the GoPNG's new strategic planning frameworks as recently launched, and is now expected for end FY11. Two more projects— Energy Sector Strategy Technical Assistance (replacing the CAS-listed Rural Electrification Project at GoPNG request), and a Programmatic Support to Health—are at the concept stage. The Bank is also moving forward with mobilizing additional global grant resources for PNG, in particular through the Fast Track Initiative for Education.

The Bank's analytical work and technical assistance include economic monitoring and reporting, dialogue with the Government as part of the programmatic Public Expenditure Review and Rationalization process, and support to the nationally representative Household Income and Expenditure Survey (jointly with AusAID). The Bank is also assisting the Government in preparing a Climate Change Strategy. The Bank's support to civil society has consisted of two rounds of the Development Marketplace-type Youth Competition (in 2006 and 2008) which provided small grants to promising grassroots development project. The Bank has also been involved in a number of community outreach activities through its Global Development Learning Network and Public Information Center. As part of its strengthening commitment to PNG, the Bank Group has also expanded the staff of its Port Moresby office, adding national professional staff and international staff on both the IFC and World Bank side.

The Bank's private sector arm, International Financial Corporation, has also strengthened the level of its engagement in PNG over the past few years. IFC's Advisory Services—Pacific (IFC-AS Pacific) established a full-time presence in PNG in early 2006, co-located with the World

Bank. Since then IFC advisory service activity in PNG has increased considerably, with a focus on access to finance, tourism, the business environment, and infrastructure.

Within these programs IFC-AS Pacific is working to: improve the capacity of commercial banks to provide credit; increase the availability of finance and financial services for the poor, including investment in PNG Microfinance; assist in building financial infrastructure, including establishment and strengthening of a credit referral bureau; improve the business environment - including by working on a sub-set of the Doing Business indicators, strengthen the operating environment for the tourism sector; improve agribusiness production, quality, supply chains and marketing; and explore—jointly with the Bank—opportunities to support growth in the commercial fisheries sector, including enabling work on a special economic zone to host regional tuna processing.

The IFC's current investment portfolio in PNG consists of a US\$1.2 million equity commitment to PNG Microfinance Limited, of which US\$936 thousand has already been disbursed, giving IFC a 19 percent shareholding in the institution. The equity investment is supported by a US\$2 million institutional capacity building program presently under implementation. IFC also currently has a legacy US\$3.6 million investment in Kula I Fund and a recent US\$4 million investment in Kula II Fund, both of which are Pacific regional private equity facilities. IFC has provided Digicel PNG Ltd with a US\$80 million senior loan to support the expansion of its national mobile telephony network, a US\$44 million line of credit to global agribusiness company ECOM Ltd. for coffee supply chain improvement across 6 countries, including PNG, and \$4 million in equity funding to KK Kingston Limited, a PNG based supplier of hardware, commercial and household goods. In addition, the IFC is pursuing investment opportunities in financial markets, agribusiness, gas and mining and infrastructure.

The Multilateral Investment Guarantee Agency (MIGA) has provided one guarantee in PNG. The guarantee worth US\$76.6 million in gross exposure covers a portion of equity investment and a loan by a syndicate of commercial lending institutions for the Lihir open-pit gold mine. The guarantee facilitated several hundred million US\$ in foreign investment in PNG.

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**Papua New Guinea: IBRD/IDA Lending Operations**  
(In millions of U.S. dollars)

Fiscal Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009*
Commitments	132.3	0	57.3	0	0	0	0	37.3	44.5	0
Disbursements	39.8	11.3	65.1	7.3	7.8	10.9	22.4	20.7	1.4	5.9
Undisbursed balance	134.5	114.1	106.4	85.8	77.1	51.1	28.3	45.4	92.4	82.9
Debt service**	49.9	43.8	39.3	37.7	36.0	32.8	39.8	40.3	92.0	28.5

Note: Fiscal year is July–June.

\* As of December 31, 2008.

\*\* Including debt prepayment of around US\$56 million in December 2007 and around US\$15 million in December 2008.

**ANNEX IV: PAPUA NEW GUINEA—RELATIONS WITH THE ASIAN DEVELOPMENT BANK<sup>3</sup>**  
(As of December 31, 2009)

The Asian Development Bank (ADB) has approved 67 loans to Papua New Guinea (PNG) totaling \$1,247 million for 49 projects, of which 27 loans (\$583 million) have been extended from ordinary capital resources while 40 loans (\$664 million) from special funds resources. The special fund resources were also used for one grant amounting \$15 million. In addition, \$62.4 million has been provided for 153 technical assistance projects. There are currently 13 active loans involving 8 projects (and one special fund grant-financed project).

A Country Program Strategy Mid-Term Review (CPSMTR), concluded in December 2008, confirmed the rationale and validity of the Country Strategy and Program (CSP) for 2006-2010, approved in June 2006, which focuses on key strategic areas, including private sector development, the transport sector, public financial management and health and HIV/AIDS. In addition, reforming public sector enterprises remains a key issue.

The ADB's lending to PNG for 2009-2011 is expected to remain a blend from the Asian Development Fund (ADF) and ordinary capital resources (OCR). ADB's ADF allocation for PNG for 2009-2011 totals approximately \$170 million and a similar level of OCR lending is expected. Lending activities will support power, roads, civil aviation, water transport, primary health and microfinance expansion.

Indicative non-lending assistance for 2009-2011 totals \$13.8 million (\$16.8 including co-financing). Consistent with the Country Strategy and Planning document, non-lending assistance continues to focus on project preparation, strengthening governance, and improving public sector management.

In 2009, the ADB approved financing of the Civil Aviation Development Investment Program that supports the socioeconomic development of the country by providing safe, efficient, reliable, sustainable, and affordable aviation services and infrastructure to facilitate access to the country and improve the mobility of communities. The ADB also approved financing of the Pilot Border Trade and Investment Development Program that will help improve the business environment in West Sepik Province by reducing the business transaction costs associated with infrastructure, compliance with government rules and regulations, and thin human capital.

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<sup>3</sup> Prepared by AsDB staff.

## Papua New Guinea: Loan Approvals and Disbursements, 2003–2009

(In millions of U.S. dollars)

	2003	2004	2005	2006	2007	2008	2009
Loan approvals	0.0	19.0	0.0	53.0	100.0	100.0	146.5
Loan disbursements	13.8	19.2	21.5	29.3	27.4	19.8	17.4

**ANNEX V: PAPUA NEW GUINEA—STATISTICAL ISSUES**

As of April 9, 2010

**I. Assessment of Data Adequacy for Surveillance**

**General:** Data provision has some shortcomings, but is broadly adequate for surveillance. Most affected areas are: national accounts, fiscal accounts, and balance of payments.

**National Accounts:** The National Statistical Office (NSO) lacks sufficient staff with computer training. The accuracy and reliability of the data are affected by inadequate source data. The Bank of Papua New Guinea (BPNG) and the Department of Treasury produce the most current data. In mid-2000, the NSO released a set of national accounts estimates: National Income, Expenditure and Product, 1993–98. These estimates were compiled using the 1968 System of National Accounts. However, the NSO has been working to implement the 1993 SNA. In March 2004, the NSO released a preliminary set of national income, expenditure, and production accounts estimates for 1994–2002, rebased to 1998 prices. As these figures are still in need of substantial improvements, the 2006 STA multisector mission recommended against publication of the new GDP data until the needed revisions are made. In an attempt to fill the vacuum, the Treasury—responsible for Government finance statistics (GFS)—has actually assumed the role of estimating the NA for 2002 to the present.

**Price statistics:** The NSO currently compiles a new quarterly wholesale price index (which it does not publish) and a quarterly consumer price index that is based on weights that are thirty three years old. The NSO intends to use the results of the planned Household Income Expenditure Survey (HIES) to rebase the CPI; however, this has been delayed for a long time.

**Government finance statistics:** Annual GFS reported to STA suffer from insufficient coverage. While central government tax revenue statistics are generally accurate and timely, nontax revenue and public expenditure data are deficient. In particular, 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. While interest payment records are accurate, there are timing issues regarding the recording of interest on discount securities. These weaknesses contribute to discrepancies in domestic financing between estimates from monetary and debt data and those derived from fiscal records. The 2006 STA multisector mission encouraged the authorities to prepare a list of public sector units to permit a comprehensive delineation of the levels of government, which should help reconcile the GFS with other datasets.

**Monetary statistics:** Monetary data are now being produced on a regular basis and reporting to STA has improved. Three monetary and financial statistics missions (April 2005, May 2006, April 2008, and November 2009) visited Papua New Guinea which helped to (i) finalize the review of the collection, compilation, and dissemination procedures of monetary statistics by the BPNG; (ii) develop a work program to facilitate the full implementation of the methodology recommended in the Monetary and Financial Statistics Manual (MFSM); (iii) prepare the standardized report forms (SRFs) for reporting monetary data of the central bank, other depository corporations, other financial corporations, and monetary aggregates; and (iv) finalize the integrated monetary database that meets the data needs of the BPNG, STA, and APD.

**Balance of payments:** 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 areas of private external debt. Quarterly data are also published by the BPNG. The 2006 STA multisector mission identified as a priority to strengthen current account estimates, including through improved classification of investment earnings, trade credits, and grant receipts as well as enhancing source data for imports and exports. Progress is being made to implement the recommendations from the PFTAC's BOP mission in June 2008. Follow up BOP statistics mission is undertaken in November 2009. Detailed BOP statistics are under review to be released in the near future.

<b>II. Data Standards and Quality</b>	
Does not participate in the General Data Dissemination System.	No data ROSC is available.
<b>III. Reporting to STA</b>	
Papua New Guinea last reported government finance statistics for publication in the <i>Government Finance Statistics Yearbook</i> and in <i>International Financial Statistics</i> for 1999-2002 and cover only budgetary central government.	
Monetary data are reported to STA for publication in the <i>IFS</i> and <i>IFS Supplement on Monetary and Financial Statistics</i> on a regular monthly basis.	
Balance of payments data for 2005 were reported to STA for publication in the <i>IFS</i> and in <i>BOPSY</i>	
National accounts data for 2004 were reported to STA for publication in the <i>IFS</i>	

**PAPUA NEW GUINEA: TABLE OF COMMON INDICATORS REQUIRED FOR SURVEILLANCE**  
(As of April 09, 2010)

	Date of Latest Observation	Date Received	Frequency of Data <sup>7</sup>	Frequency of Reporting <sup>7</sup>	Frequency of Publication <sup>7</sup>
Exchange rates	03/19/10	03/30/10	D	W	W
International reserve assets and reserve liabilities of the monetary authorities <sup>1</sup>	03/19/10	03/30/10	W	W	Q
Reserve/base money	03/10	04/08/10	M	M	Q
Broad money	03/10	04/08/10	M	M	Q
Central bank balance sheet	03/10	04/08/10	M	M	Q
Consolidated balance sheet of the banking system	03/10	04/08/10	M	M	Q
Interest rates <sup>2</sup>	03/17/10	03/30/10	W	W	Q
Consumer price index	12/09	02/10	Q	Q	Q
Revenue, expenditure, balance and composition of financing <sup>3</sup> —general government <sup>4</sup>	N/A	N/A	N/A	N/A	N/A
Revenue, expenditure, balance and composition of financing <sup>3</sup> —central government	04/10	04/10	A	A	A
Stocks of central government and central government-guaranteed debt <sup>5</sup>	09/09	12/09	Q	Q	Q
External current account balance	09/09	12/09	Q	Q	Q
Exports and imports of goods and services	09/09	12/09	Q	Q	Q
GDP/GNI	2008	11/09	A	A	A
Gross external debt	2008	02/10	Q	A	A
International Investment Position <sup>6</sup>					

<sup>1</sup> Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.

<sup>2</sup> Both market-based and officially determined, including discount rates, money market rates, rates on treasury bills, notes, and bonds.

<sup>3</sup> Foreign, domestic bank, and domestic nonbank financing.

<sup>4</sup> The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.

<sup>5</sup> Including currency and maturity composition.

<sup>6</sup> Includes external gross financial asset and liability positions vis-à-vis nonresidents.

<sup>7</sup> Daily (D), Weekly (W), Monthly (M), Quarterly (Q), Annually (A); Irregular (I); and Not Available (NA).



INTERNATIONAL MONETARY FUND

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International Monetary Fund  
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## **IMF Executive Board Concludes 2010 Article IV Consultation with Papua New Guinea**

On May 19, 2010, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation<sup>1</sup> with Papua New Guinea on a lapse of time basis. Under the IMF's lapse of time procedures, the Executive Board completes Article IV consultations without convening formal discussions.

### **Background**

Macroeconomic performance has improved, but Papua New Guinea remains a poor country highly exposed to commodity price fluctuations. GDP per capita remains low and improvement has lagged other low-income countries in the region. An unattractive investment environment, due primarily to weak infrastructure, problems with governance, and high crime, curtails development.

Real activity was relatively unaffected by the global downturn, with growth easing to roughly 5 percent in 2009 from 7 percent in 2008. A number of factors contributed to this favorable outcome. The country's financial sector was insulated from the turmoil in global capital markets and domestic credit continued to grow, albeit at a slower pace than in the preceding few years. Export demand also held up, as stimulus measures in other Asian countries supported demand for commodities, the country's main export. Finally, following a prudent fiscal policy during the years of booming commodity prices left the government in a position to fund a significant fiscal expansion that help support domestic demand.

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<sup>1</sup> 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. At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities.

Over the course of 2009, inflation moderated substantially. After peaking in September 2008 at roughly 13 percent, inflation fell to under 6 percent by end-2009, primarily from declines in international food and energy prices.

After maintaining a tight monetary stance since mid-2008, the Bank of Papua New Guinea (BPNG) reduced the policy rate in December 2009. Despite increasing with the decline in inflation, real lending rates are currently below their long-term average, suggesting monetary conditions are accommodative. After several years of posting surpluses, the stimulus in 2009 shifted the fiscal balance into a deficit of almost 8 percent of GDP. With the 2010 Budget targeting fiscal balance, a significant portion of the stimulus is being withdrawn.

Following several years where both the real and nominal effective exchange rates were stable, the turmoil in global markets in late-2008 and early-2009 induced a period of volatility. However, the exchange market has stabilized and effective exchange rates have returned close to their previous five-year averages. The decline in export commodity prices shifted the current account into deficit in 2009 for the first time in six years. However, external debt rose only modestly to about 29 percent of GDP at end-2009.

### **Executive Board Assessment**

In concluding the 2010 Article IV consultation with Papua New Guinea, Executive Directors endorsed staff's appraisal, as follows:

We commend the authorities for maintaining a medium-term fiscal framework. However, recent slippages in the implementation of the framework have undermined its stabilization objective. Spending from accumulated mineral revenue above the framework's limit imparted a fiscal stimulus in 2009 larger than warranted. Although the 2010 budget reduces the stimulus, the planned level of spending is likely to be too expansionary given the expected strength in private activity. Further, spending from trust accounts outside the budget will add to demand pressures. Delaying some infrastructure spending would ease overall demand pressures and help ensure that good value is achieved from this spending.

The construction phase of the Liquefied Natural Gas (LNG) projects will increase the difficulty of maintaining macroeconomic stability and enhancements to the Medium-Term Fiscal Strategy (MTFS) could be helpful. First, it would be prudent to lower the assumption of normal mineral revenue to 3 percent of GDP between now and 2014, when LNG production should commence. This would reduce pressures from public spending during a period of strong private spending and the increased public savings could be used to finance currently unfunded government liabilities. Second, annual consultation between the monetary and fiscal authorities should determine how much of the 4 percent of GDP limit from above-normal mineral revenue can be spent.

The implementation of the MTFS needs to be strengthened. The fiscal credibility built during years of adherence to the framework can be easily lost, reducing long-term growth prospects. Strict adherence to the framework will also help deliver the fiscal prudence required to guard



against unfavorable public debt dynamics from vulnerabilities such as those arising from potential LNG project delays, lower commodity prices, and weaker external demand.

With LNG projects underway, now is the time to develop a sovereign wealth fund (SWF) to manage. The best way forward is a financing fund that directs all public spending through the budget, thereby enhancing macroeconomic stabilization and helping to ensure high quality spending aligned with development objectives. To maximize the long-run development impact of LNG income, domestic absorption capacity will need to guide the rate of drawdown. Further, to minimize the potential for currency appreciation that would undermine the welfare of rural populations that depends on agriculture exports, the fund's resources should be invested offshore. To effectively achieve its objectives, the SWF needs to be integrated into the macro framework and thereby supported by other fiscal institutions, such as the MTFs and the Fiscal Responsibility Act.

Although inflation declined over 2009, monetary policy needs to be focused on emerging inflation pressures. Compared to the recent episode of high inflation, domestic demand will play a more important role in driving inflation up, which implies a greater risk that high inflation could become entrenched in expectations. The central bank should be tightening monetary policy now with a view to achieving real lending rates of around 6 percent. Further, to contain inflation and manage inflation expectations, they should be prepared to maintain real lending rates around this level, or higher if significant overheating occurs.

Closer coordination of monetary and fiscal policy is desirable. Public trust accounts should be moved to the BPNG and procedures to automatically deposit above-normal mineral revenue with the central bank should be introduced. This will give the BPNG better control over domestic liquidity and market interest rates, strengthening the effectiveness of monetary policy. Also, the net cost to the public sector would be reduced by limiting the need to use high-cost central bank bills to remove excess liquidity.

Indicators suggest that the financial sector remains sound. However, to safeguard financial health, banks should be encouraged to maintain strict lending standards as credit demand increases in line with opportunities associated with the LNG projects. Furthermore, all financial institutions need to guard against overexposure to the property sector that could become significantly overvalued during the LNG construction phase.

The projected widening in the current account deficit is not expected to threaten external stability. The exchange rate is estimated to be broadly in line with fundamentals and reserves remain adequate to address potential balance of payments needs.

To achieve the Development Strategic Plan it will be essential to better align development spending with priorities and reinvigorate the reform process. There has been some progress on reform, with increased competition in telecommunications, aviation, and power. However, more needs to be done, particularly with those state-owned enterprises that will see considerable increases in demand for their services from the LNG projects. The government's commitment to implement a public-private-partnership policy is encouraging and could potentially facilitate

significant private investment in infrastructure. Improvements to security and the business environment would also yield significant benefits.

**Public Information Notices (PINs)** form part of the IMF's efforts to promote transparency of the IMF's views and analysis of economic developments and policies. With the consent of the country (or countries) concerned, PINs are issued after Executive Board discussions of Article IV consultations with member countries, of its surveillance of developments at the regional level, of post-program monitoring, and of ex post assessments of member countries with longer-term program engagements. PINs are also issued after Executive Board discussions of general policy matters, unless otherwise decided by the Executive Board in a particular case. The [staff report](#) (use the free [Adobe Acrobat Reader](#) to view this pdf file) for the 2010 Article IV Consultation with Papua New Guinea is also available.

## Papua New Guinea: Selected Economic and Financial Indicators, 2006–10

Nominal GDP (2008): US\$7.8 billion 1/ Population (2008): 6.2 million GDP per capita (2008): US\$1,267 Quota: SDR 131.6 million					
	2006	2007	2008	2009	2010
				Est.	Proj.
	(Percent change)				
Real sector					
Real GDP growth	2.3	7.2	6.7	4.5	8.0
Mineral	-8.5	-0.1	-1.0	-1.8	5.5
Nonmineral	3.9	8.1	7.6	5.3	8.2
CPI (annual average)	2.4	0.9	10.7	6.9	7.1
CPI (end-period)	-0.9	3.2	11.2	5.7	8.5
	(In percent of GDP)				
Central government operations					
Revenue and grants	37.2	37.3	32.6	28.3	27.9
Expenditure and net lending	30.7	28.4	30.0	35.7	29.5
Overall balance (including grants)	6.5	8.9	2.5	-7.4	-1.6
Nonmineral balance 2/	-7.8	-7.5	-7.4	-11.2	-6.9
	(Percent change)				
Money and credit (percentage change)					
Domestic credit	19.4	5.5	31.3	30.2	25.2
Net credit to government	-13.3	-82.3	-147.7	-843.5	84.7
Credit to the private sector	38.2	34.4	39.4	17.3	20.0
Broad money	38.9	27.8	11.2	19.3	18.7
Interest rate (182-day T-bills; period average)	3.7	4.4	5.9	7.2	...
	(In millions of U.S. dollars)				
Balance of payments					
Exports, f.o.b.	4,324	4,822	5,823	4,617	5,742
Of which: Mineral	3,506	3,673	4,262	3,516	4,584
Imports, c.i.f.	-1,991	-2,629	-3,148	-3,430	-5,424
Current account (including grants)	442	208	805	-541	-1422
(In percent of GDP)	8.0	3.3	10.0	-6.8	-16.1
Exceptional financing (net)	0.0	0.0	0.0	0.0	0.0
Gross official international reserves	1449	2087	1988	2571	2432
(In months of nonmining imports, c.i.f.)	12	14	11	12	7
(In months of goods and services imports)	4	4	4	6	4
Public external debt					
Public external debt-service-ratio (percent of exports) 3/	4	4	2	2	2
Public external debt-to-GDP ratio (in percent) 3/	21	17	13	13	12
Exchange rates					
US\$/kina (period-average)	0.327	0.337	0.370	0.363	...
US\$/kina (end-period)	0.330	0.353	0.373	0.370	...
NEER (2000=100, end-period)	79.3	77.1	82.3	83.8	...
REER (2000=100, end-period)	100.9	96.5	109.4	117.9	...
Nominal GDP (millions of kina)	16,897	18,798	21,626	21,784	24,620

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

1/ Based on period average exchange rate.

2/ Measured from below the line in the fiscal accounts.

3/ Includes central government, central bank external debt, and statutory authorities.