

Papua New Guinea economic survey: from boom to gloom?

Aaron Batten, Jonathan Gouy and Ron Duncan

This survey examines the impact of the collapse of global commodity prices on the PNG economy. It also compares the pattern of government expenditure during the 1990s commodity boom with its expenditure during the recent boom. Ongoing reforms in the telecommunications, international airline services and intergovernmental financing arrangements are also analysed. As well, it presses the case for further microeconomic reforms to promote a more inviting investment environment.

Aaron Batten, Scholar with National Research Institute, Papua New Guinea and Crawford School, The Australian National University.

Jonathan Gouy The Centre for International Economics. Prior to joining The CIE, Jonathan spent three years as an Economic and Fiscal Adviser at the PNG National Economic and Fiscal Commission.

Ron Duncan, Emeritus Professor, Crawford School, The Australian National University.

2008 was a turbulent year for Papua New Guinea (PNG). During the first two quarters economic growth remained strong as the country continued to benefit from the mineral price boom dating back to 2002. High commodity prices underpinned a significant expansion in other sectors of the economy such as manufacturing, construction and agriculture. Towards the middle of the year, however, poor monetary responses to rapid growth in the money supply, coupled with the strong external sector, meant that inflationary pressures began to increase—rising from 1.6 per cent in September 2007 to 13.5 per cent a year later. The inflation began to erode the benefits of solid economic growth.

September 2008 saw the onset of the global financial crisis. Barring some jitters on the stock exchange, the PNG economy weathered the immediate effects of the crisis

relatively unscathed. In large part this was because of the healthy foreign exchange reserves and domestic bank liquidity built up over previous years, which gave the financial sector flexibility to cope. However, one of the flow-on effects of the crisis has been the large downturn in the prices of most of Papua New Guinea's key primary commodity exports, which have been driving revenue and output growth.

The sharp decline in export prices had an immediate impact on the PNG Government's fiscal position, with the 2009 Budget predicting a 25 per cent decline in domestic tax revenues (Figure 1 shows the expected decline in commodity prices factored into the Budget). In last year's economic survey of Papua New Guinea, Warner and Omuru (2008) warned that Papua New Guinea would one day face this situation, highlighting the need for

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commodity boom revenues to be invested in productivity-enhancing sectors that can generate long-term economic benefits; so that the economy can better withstand future economic downturns. The global financial crisis appears to have brought a halt to the economic boom, raising questions such as: how will Papua New Guinea fare during this period of global instability? Has it made, or is it making, the needed investments in human and physical capital to withstand a sustained global economic downturn? Or will this commodity boom in Papua New Guinea follow the path of previous booms and be followed by an economic bust?

Recent economic developments

Papua New Guinea has benefited greatly in recent years from the upswing in global

primary commodity prices for its export cash crops (coffee, cocoa and palm oil), timber, minerals (copper and gold) and petroleum. There is no doubt that the adverse impact of the global financial crisis on the consumers of these commodities is having an adverse impact on the PNG economy. Moreover, it is likely that this adverse impact will continue for a considerable period. So far, however, the outcome for Papua New Guinea's exports is not all gloom. Cocoa, coffee and tea prices have held up fairly well (Table 1). Importantly for Papua New Guinea, the gold price remains at a high level. At the time of writing, the gold price had increased over the January 2009 level to around US\$1,000/troy ounce. Given the continuing instability in global financial markets, gold is likely to remain in strong demand and Papua New Guinea could be a beneficiary of this unfortunate situation.

Table 1 illustrates the severity of the impact of the global financial crisis and

Table 1 Recent international primary commodity prices, 2006–2009 (US\$)

	2006	2007	2008	2009 (Jan)
Cocoa (c/kg)	159.2	195.2	257.7	262.4
Coffee (c/kg) (Arabica)	252.2	272.4	308.2	282.9
Tea (c/kg) (Average of 3 auctions)	187.2	203.6	242.0	219.2
Palm oil (US\$ per metric tonne)	478	780	949	534
Logs Malaysian (US\$ per cubic metre)	239.4	268.0	292.3	329.7
Sawnwood Malaysian (US\$ per cubic metre)	749.0	806.3	889.1	818.4
Copper (US\$ per metric tonne)	6,722	7,118	6,956	3,221
Gold (US\$ per troy ounce)	604	697	872	859
Crude oil (US\$ per barrel, average spot price)	64.29	71.12	96.99	43.86

Source: World Bank, 2009a. *Commodity Pink Sheet*, February, World Bank, Washington, DC.

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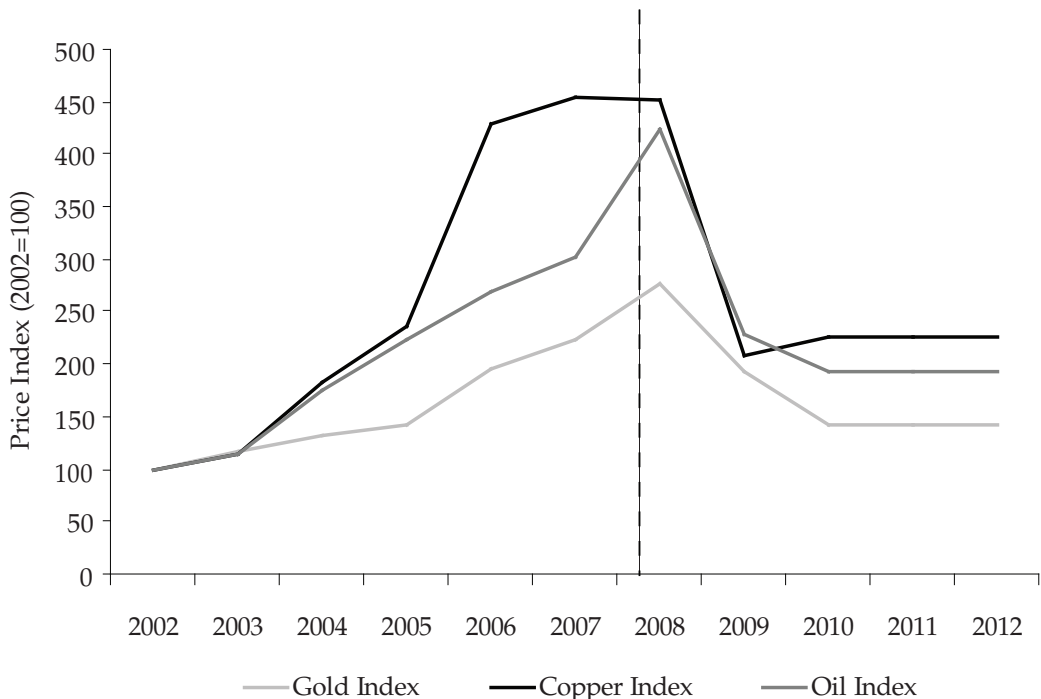
resulting recession on the demand for raw materials. The copper price and the crude oil price have more than halved from their 2008 averages (see also Figure 1). In January 2009, Malaysian log prices were above their average 2008 prices, while sawn wood had declined somewhat. However, it has to be expected that demand for timber will decline as the result of poor global economic growth. Beverage prices are likely to be similarly affected.

The huge decline in the price for palm oil is interesting. The sharp run-up in the price in 2007 and 2008 resulted from strong international demand for agricultural oils, led by the growing global interest in bio-

fuels. However, agricultural oils prices have declined along with the decline in the price of crude oil. As a result, the palm oil price is back to a level above the 2006 average. For those interested in developing palm oil projects in Papua New Guinea and elsewhere in the Pacific, the 2006 price is more likely to be an indicator of long-term prices for palm oil than the price levels in 2007 and 2008.

The 2009 National Budget estimated a real GDP growth rate of 7.3 per cent for 2008, the highest rate of growth since 1993 and well above the country's high population growth rate. This good performance builds on the 6.5 per cent real GDP growth in 2007.

Figure 1 Commodity Price Index, 2002–2012 (2002=100)



Source: Papua New Guinea, 2006, 2008a, 2009a. National Budget Documents, Department of Treasury and Finance, Government of Papua New Guinea, Port Moresby

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Non-mining and non-oil GDP is estimated to have grown by around 7.9 per cent in 2008; the result of the flow-on effects from the boom in minerals and petroleum prices, as well as the positive impact of the increase in the prices of the soft commodity exports. The economic expansion has been supported by the continuing growth in both government spending and private sector credit.

Other sectors of the PNG economy also continued to perform strongly in 2008. The agriculture sector, which made up 35 per cent of Papua New Guinea's total output in 2007, grew by 3.8 per cent in that year and its growth is expected to have accelerated to 5.0 per cent in 2008. The industrial sector, which comprises manufacturing and construction, accounted for 33.8 per cent of GDP in 2007, and is estimated to have increased by 7.6 per cent in 2007 and by 7.8 per cent in 2008. Likewise, the output of the services sectors increased by 9.4 per cent in 2007 and is estimated to have grown by 9.6 per cent in 2008.

Within the services sector, the government has given high priority to the rehabilitation and development of infrastructure, drawing on the surge in its mineral revenues. This contributed to the strong growth in the transportation and communication sector, which grew by a stunning 35 per cent in 2007 and which is projected to grow by a further 27.4 per cent in 2008. Telecommunications and air transport have also contributed to these high growth rates and are discussed in more detail below. The building and construction sector also continued its recent high growth rates, most notably from an increase in mining development. The 2006 growth rate of this sector was 12 per cent. It rose to 14 per cent in 2007 and it is estimated to increase by around 13 per cent in 2008. The telecommunications and air transport sectors have also contributed to these high

growth rates and are discussed in more detail below.

Household incomes have increased, particularly as the result of the increase in world prices of tree crops. The strength of domestic demand was evident in the increase in lending to the private sector—which rose by 35.3 per cent as of June 2008—and in the increase in formal private sector employment by 8.4 per cent over the period March 2007 to March 2008. The government acted against the recent high petroleum prices, which, as with the recent high food prices, have had a negative impact on households, especially in squatter settlements in the urban areas but also in rural households. While it has reduced taxes on petroleum, the Government has not succumbed to pressure to implement widely favoured fuel subsidies, because of fears of a possible adverse impact on its fiscal position.

On any measure, Papua New Guinea's inflation rate in 2007 of just less than one per cent was an excellent performance. Food prices increased by only 1.6 per cent, while non-food prices fell by 1.3 per cent. In addition to global factors, continued fiscal surpluses combined with moderate public sector wage outcomes contributed to this outcome. However, inflationary pressures began rising in the first half of 2008. The main reasons behind the change were the fast growth in the money supply, strong private sector growth, improved terms of trade, and growing fiscal stimulus. The 2009 Budget projected inflation to be 10.6 per cent in 2008—well above the 5.2 per cent target of the 2008 Budget—as the result of higher imported inflation from the country's main trading partners, further increases in international food and oil prices, and depreciation of the kina against the major trading partners' currencies.

Whilst driven by imported sources, poor monetary responses from the central

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bank also encouraged inflation. Low interest rates were maintained throughout the period of rapid expansion in private sector credit before it was decided to lift the Kina Facility Rate by one per cent when the global financial crisis began.

Merchandise exports were estimated to be US\$4.9 billion in 2007—an increase of 16.4 per cent over 2006—but to decline to US\$4.6 billion in 2008. Merchandise imports were estimated to be US\$2.7 billion in 2007 and declining to US\$2.4 billion in 2008. Services imports were also expected to fall in 2008—from US\$1.9 billion in 2007 to US\$1.5 billion.

According to the Bank of Papua New Guinea, Australia was the main recipient of Papua New Guinea's exports in 2007, with 40.4 per cent of the total. Other major destinations were Japan (16.9 per cent), Germany (8.3 per cent), and the Philippines (7.7 per cent). In the first quarter of 2008, exports to China picked up, lifting its share from 3.4 per cent in 2007 to 8.3 per cent. China's demand for raw materials, combined with high commodity prices, fuelled this rise. As a result of China's raw materials risk management strategy of diversifying its sources, it has also become more interested in investing in mining projects in Papua New Guinea. Australia is also the main source of imports for Papua New Guinea. In 2007, imports from Australia contributed 42.3 per cent of Papua New Guinea's total imports. Other major partners were the US (19.5 per cent), Singapore (14.6 per cent) and Japan (4.2 per cent).

The current account surplus in 2007 was a modest US\$262 million because of continuing substantial net outflows in services trade and net factor income. The surplus was projected to decline to US\$209 million in 2008. However, the end of the commodity boom has led to a re-emergence of balance of payments outflows in the final quarter of 2008. The trade balance and

the current account are expected to move into deficit from 2009 onwards, resulting in a prolonged capital account deficit (see Figure 2).

Foreign reserves as at the end of 2007 were US\$2.1 billion, the equivalent of 4.7 months of goods and services import coverage. It was projected that reserves would reach US\$2.45 billion by the end of 2008 (equivalent to 5.2 months of imports).

Expected developments

The 2009 Budget expected the PNG economy to remain in a reasonably strong position over the next two years. Real GDP growth of 6.0 per cent was projected for 2009 and 5.2 per cent in 2010. The agricultural sector is expected to slow a little—to 4.0 per cent in both years—while real GDP in the manufacturing sector is expected to decline from 6 per cent in 2008 to 5 per cent in 2009.

The services sector is expected to take a sharp downturn from the over 9.0 per cent growth rates of the past two years to 5.5 per cent in 2009 and 3.1 per cent in 2010. The expected downturn is largely based on an assumption by the government that the recent robust growth in the 'transport, storage and communication' sector will not be maintained; which amongst other factors reflects an expected moderation of the recent rapid growth of the mobile phone sector (see further below).

The strong and broadly based economic growth has led to record increases in formal sector employment levels. In 2007 and 2008 non-mineral sector employment grew by 10.2 per cent and 8.3 per cent, respectively, with growth spread across the retail, agriculture, forestry and fisheries, manufacturing, and construction industries. Mineral sector employment also grew strongly, increasing in the year to June

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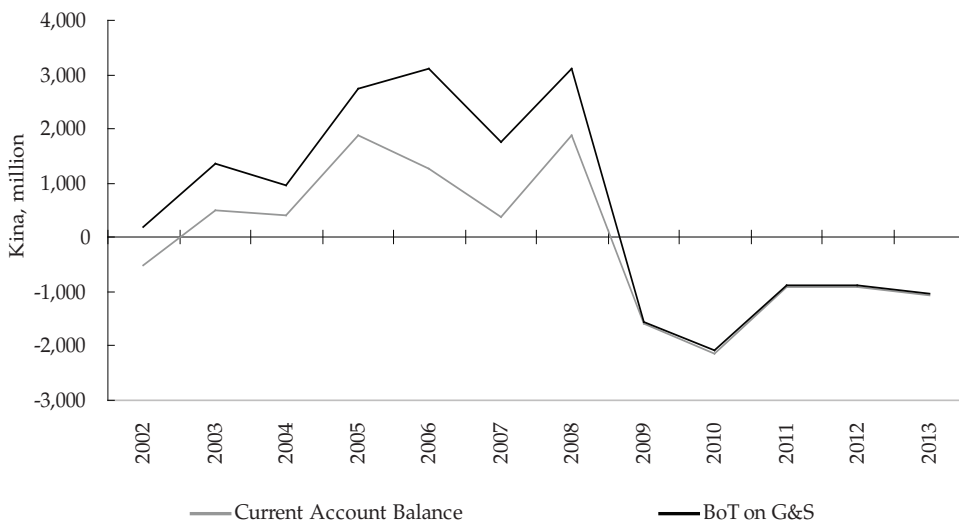
quarter 2008 by 12.6 per cent. However, this employment growth is likely to moderate in 2009 due to the slowdown in economic activity and implementation of the recent Minimum Wages Board final determination, which is awaiting approval from the National Executive Council (NEC). This determination recommends an immediate 35 per cent increase in minimum wages (from K0.84 per hour to K1.14 per hour), followed by a further 100 per cent increase to K2.29 per hour 40 weeks after its implementation.

Inflation of 6.1 per cent was projected for 2009 and 6.5 per cent for 2010 in the 2009 Budget. However, circumstances changed markedly towards the end of 2008 as a consequence of the global financial crisis, with the Australian dollar declining

sharply against the US dollar and the kina appreciating against the US dollar. As a result, the relatively high inflation expected in 2009 may well not be realised because the appreciation of the kina will keep imported inflation down and dampen domestic economic growth.

Unlike in previous booms, the Government has large unspent windfall revenues held in various trusts, which it will be able to use to maintain expenditure at commodity boom levels for a number of years. Indeed, this is expected to be the case in 2009 with the Budget foreshadowing a K600 million drawdown from a trust fund that was holding revenues to buy equity in the now defunct gas pipeline project. However, perhaps the most important difference between this and past cycles is

Figure 2 Balance of payments, 2002–2013 (kina million)



Source: Papua New Guinea, 2009a. *National Budget Documents*, Department of Treasury and Finance, Government of Papua New Guinea, Port Moresby; Papua New Guinea, 2006. *National Budget Documents*, Department of Treasury and Finance, Government of Papua New Guinea, Port Moresby.

the prospect of the Exxon-Mobile gas project. In the event that the gas project comes on-stream, it will fundamentally change the nature and structure of the PNG economy.

Despite this, the PNG economy faces a number of risks over the medium term. Gas project revenues will not come on-stream for many years, highlighting the need for continued fiscal discipline. The benefits of growth also continue to be concentrated in the hands of a few; and all wage earners are feeling the pinch of high inflation. Further microeconomic reform is also needed if Papua New Guinea is to set itself on a long-term, sustainable growth path.

Management of the windfall: comparing the mining booms of the 1990s and the 2000s

The mining boom of the early 1990s ended with a fiscal crisis and a forced floating of the currency. The mining boom experienced over the past several years has recently ended and the economy appears to be in reasonably good shape. It is of interest, therefore, to compare the government's management during the two mining boom periods.

Government expenditure during the two boom periods is shown in Table 2, broken down into major areas: salaries and benefits, goods and services (the main category is utilities), current transfers (the main category is grants and transfers to public authorities), international payments and borrowings (interest payments on domestic and overseas public debt) and debt repayments (repayment of principal of domestic and foreign public debt).

The main growth in expenditure during the 1991 to 1994 period took place in salaries and benefits and in current transfers (Table 2). In 1995, budgeted expenditure on salaries and benefits was cut back sharply to the 1991 level in current kina terms. Current

transfers were also reduced but not by as much. Meanwhile, domestic public borrowings tripled in current terms over the 1991–95 period (with Treasury Bills the main component) and external borrowings increased by 70 per cent. There was little attempt to pay down the public debt (see International Payments and Borrowings in Table 2 and Table 3), so that over the 1991–95 period aggregate public debt rose from 43.5 per cent of GDP to 53.7 per cent (Table 3).

Research has shown that developing countries' tend to respond to windfall revenues, such as from commodity booms, mainly by increasing consumption (recurrent) spending, rather than saving or investing in replacement capital (see, for example, Duncan 1995). This certainly appears to have been the case in Papua New Guinea in the 1990s mining boom. Government salaries and benefits and current transfers were increased to unsustainable levels, even to the point that the government had to borrow to such an extent that interest payments more than doubled between 1994 and 1995. Some of the other more extravagant recurrent expenditures were the tax incentives introduced in the 1993 Budget aimed at attracting private investment (expected to cost K100 million over 1993 and 1994) and the increase in the Electoral Development Fund (the so-called 'slush fund') to K300,000 in 1994 (from K100,000 in 1993) and to K500,000 in 1995. The introduction of free education in 1993 and 1994 was at least an effort to enhance human capital. However, government expenditure on physical investment did not increase at all during this period.

The following quote from the 1993 Budget reflects the attitude of the government at the time,

The 1993 Budget heralds in something of a new era in fiscal policy in that the revenue and balance of payments constraints have to some extent

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been relaxed, at least in the short term. The relaxation occurs as a result of receipt from 1993 of very rapidly improving revenues from mining and especially petroleum. Recognition of the new situation has led the government to believe that a somewhat more aggressive fiscal policy is now appropriate (Papua New Guinea 1993).

The government's handling of the recent commodity boom has two very different phases (see Table 2). In 2003, although government revenues had already increased quite substantially, expenditures on public sector salaries and benefits, goods and services, and current transfers were restrained as part of a package of measures (known as the Program for Recovery and Development) to effect macroeconomic stability. When the Somare Government

took office in 2002, the ratio of public debt/GDP was in excess of 60 per cent (Table 3). In 2003, also as part of the economic recovery program, there was the beginning of a sustained reduction in the public debt, such that by 2007 the public debt/GDP ratio had been reduced to 33.8 per cent from 63.1 per cent in 2003.

However, government management of the windfall revenues after 2003 has been a 'mixed bag' as recurrent expenditures have also risen very significantly. Between 2002 and 2007, salaries and benefits increased by 40 per cent. However, whilst the fiscal burden of these personal emoluments peaked in 2004 at just over 30 per cent of total government expenditures they declined thereafter to 22 per cent of total expenditures by 2007, due to the more rapid total expenditure growth.¹ In addition, following a decline in goods and services expenditure between 2002 and

Table 2 Government expenditure in the 'boom' years, 1990s and 2000s (kina million)

Years	Salaries and benefits	Goods and services	Current transfers	Interest payments and borrowings	Debt repayments
1990s' boom					
1991	384.8	235.8	287.0	114.0	276.8
1992	416.7	255.8	379.8	144.4	121.5
1993	450.5	279.2	498.2	158.3	154.7
1994	543.7	287.0	443.2	148.3	196.6
1995	397.3	275.8	397.3	326.0	224.4
2000s' boom					
2002	1,041.5	878.5	629.8	436.4	764.0
2003	1,100.9	654.7	418.7	739.6	729.4
2004	1,262.4	948.7	597.9	377.0	1,613.2
2005	1,265.8	1,245.1	705.7	332.8	1,673.4
2006	1,360.5	1,084.1	733.3	307.0	1,625.5
2007	1,456.3	1,387.1	..	370.1	..

Source: Papua New Guinea, various issues. *National Budget Documents*, Department of Treasury and Finance, Government of Papua New Guinea, Port Moresby.

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2003 (largely arising from the reduction in education subsidies), this category of expenditure rose by over 110 per cent up to 2007, whilst up to 2006 current transfers had increased by 75 per cent.

It is most likely that it will prove very difficult to maintain these levels of recurrent expenditure in the face of the large decline in commodity revenues expected over the next several years. Reducing salaries and benefits will be particularly difficult. Over the past two years the government has set aside part of the windfall revenues in various trust funds assigned to expenditure on needed investment in areas such as infrastructure, education, health, police, and agriculture. Will these trust funds be expended on the intended investments in the face of pressures to maintain the recurrent expenditures?

A closer look at competition policy reform in 2008

Readily-taxable, big money-earning sectors of the PNG economy, such as mining and resource extraction, have had significant impacts—both positive and negative—on the country's overall economic performance. The development of these resources has had some benefits for the country: increased output and employment and significant windfall revenues for the central and provincial governments. However, successive governments have so far been unable to leverage the exploitation of the country's natural resources into per capita income growth and improved service delivery.

One cause of the ineffectiveness of the large resource revenues to contribute

Table 3 Domestic and external public debt, 1990s (kina million)

Years	Domestic debt	Treasury bills	External debt	International agency borrowings	Public debt/ GDP (per cent)
1990s' boom					
1991	555.9	166.6	1,010.8	..	43.5
1992	824.4	351.5	1,120.8	..	46.0
1993	1,036.6	591.8	1,283.3	..	47.7
1994	1,424.3	1,008.1	1,513.2	..	53.1
1995	1,605.7	1,217.5	1,718.5	..	53.7
2000s' boom					
2001	2,115.1	1,748.8	5,294.0	5,178.0	63.0
2002	2,588.3	2,169.1	5,777.0	5,553.4	62.5
2003	3,022.9	2,755.3	4,901.1	4,717.4	63.1
2004	3,181.2	2,236.2	4,409.5	4,239.5	60.0
2005	3,405.4	1,796.5	3,855.8	3,722.7	47.8
2006	3,059.0	1,150.9	3,617.9	3,494.0	39.3
2007	3,168.8	980.1	3,072.7	2,965.1	33.8

Source: Bank of Papua New Guinea, various issues. *Quarterly Economic Bulletin*, Bank of Papua New Guinea, Port Moresby.

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to significant improvements in service delivery has been the poor quality control and accountability of the royalty revenues paid to the mining and petroleum provinces. As a result, with the deterioration of public sector capacity in the post-independence era, these funds have been wasted to a large extent (Standish 2007). Another cause of the ineffectiveness has been the inability of governments to establish a business environment that is conducive to the creation of diversified economic activity that supports widespread wealth creation. This has been due to the continuation of poor regulatory policies and a business environment that is expensive and unfriendly to the development of small to medium scale enterprises and to competition among them.

Papua New Guinea's reliance on large-scale mineral extraction is set to continue in 2009 with the potential development of the Exxon-Mobile LNG project. The LNG project is also likely to impose large negative externalities on other sectors. As past economic fluctuations have shown, however, large enclave mineral projects are unlikely to generate the type or quantity

of employment that is needed to absorb Papua New Guinea's rapidly expanding, and increasingly urban, labour force. For these reasons, it is now more important than ever to invigorate Papua New Guinea's microeconomic reform agenda so that widespread wealth creation can occur.

This section considers two aspects of Papua New Guinea's microeconomic reform agenda. The first covers recent developments in competition policy and the effects that these have had during 2008 on the air transport and ICT sectors. Emerging issues in these sectors are also discussed. The second provides an analysis of the costs of Papua New Guinea's regulatory environment and the potential benefits of making further progress in streamlining Papua New Guinea's business regulations.

Mobile telecommunications

One of the biggest gains made by Papua New Guinea during 2008 was the expansion of mobile telecommunications arising from the entrance of Digicel Pty Ltd as a competitor to the incumbent Telikom PNG mobile service, B-Mobile. Anecdotally, the introduc-

Table 4 Average call rates for domestic and international phone calls, 2008 (kina per minute)

	Peak (per minute)	Off-Peak (per minute)
Domestic		
Pre-Digicel	K1.80	K1.60
Post-Digicel (September 2008)	K0.99	K0.49
International		
Pre-Digicel	K2.45	K1.60
Post-Digicel (September 2008)	K1.48	K0.99

Source: Papua New Guinea, 2008e, *Submission to the ICCC Review of the ICT Sector*, Department of Treasury and Finance, September, Port Moresby (using ICCC and World Bank (2008a) estimates, combined with online information from B-mobile and Digicel).

tion of this competition is widely regarded as being one of the most significant improvements to have occurred in the PNG business environment.² Supporting evidence for this assessment is the continuing large growth in the number of PNG mobile subscribers and the market penetration of Digicel.

Prior to the entrance of Digicel in July 2007, Independent Consumer and Competition Commission (ICCC) and World Bank estimates placed the number of mobile phone subscribers at between 130,000 and 140,000. While exact industry figures are not available, Telikom and Digicel now claim to have over 500,000 customers each, which suggests a remarkable 700 per cent growth in the number of mobile phone subscribers (Papua New Guinea 2008e).

On 26 June 2008, the long-awaited interconnection of B-mobile and Digicel services was achieved. Previously, they had been operating on separate and unconnected networks. The interconnection ended the rather bizarre situation where many consumers carried two mobile phones, one for calling through Digicel and the other for calling through B-mobile.

Average peak and off-peak domestic call billing rates have fallen by 11 per cent for peak times and by 51 per cent for off-peak times (Table 4). Average peak and off-peak international call rates have fallen by 40 per cent and 38 per cent, respectively, since the introduction of Digicel. As well, calling rates for both carriers and for both domestic and international calls have moved from 30 second billing increments to per second billing increments.

Digicel claims to have invested in excess of K450 million in the PNG mobile telecommunications market. This investment has had a large impact on the coverage and quality of domestic services. The quality of international connections has also improved, with a substantial amount of the investment going towards enhancing an international

gateway. Moreover, there are plans for an additional K1 billion investment in the roll-out of further services over the next three years (Stanley 2008:10).

The mobile phone sector growth has made a strong contribution to GDP. Following the entrance of Digicel in 2007, the contribution of the transport, storage and communication (TSC) sector to total and non-mining GDP has almost doubled—increasing from 2.7 per cent and 3.0 per cent, respectively, in 2006 to 5.1 and 5.7 per cent, respectively, in 2008 (see Figure 3). Through 2008 this sector contributed to just over 20 per cent of Papua New Guinea's total GDP growth for the year. With total GDP growth estimated at 7.16 per cent, this means that the TSC sector contributed approximately 1.4 per cent percentage points to GDP growth in 2008.

Challenges for telecommunications reform in 2009

Another significant development in the mobile telecommunications market during 2008 was the reinstatement of Telikom PNG's right to monopoly operation of a single international gateway, following the National Executive Council's (NEC) endorsement of the Revised ICT Policy during April (Papua New Guinea 2008b). This component of the revised ICT policy was justified by the government as being necessary to give Telikom PNG the opportunity to reform over a transitional period. It is claimed that this will help avoid the reinstatement of a monopoly provider following a complete collapse of Telikom PNG, prevent the creation of duplicate infrastructure as competitors have an incentive to use the Telikom network, as well as meet the government's 'social and security policy' requirements. In effect it has removed Digicel's ability to operate its own gateway connection, lowering its ability to charge cheaper rates on international calls.

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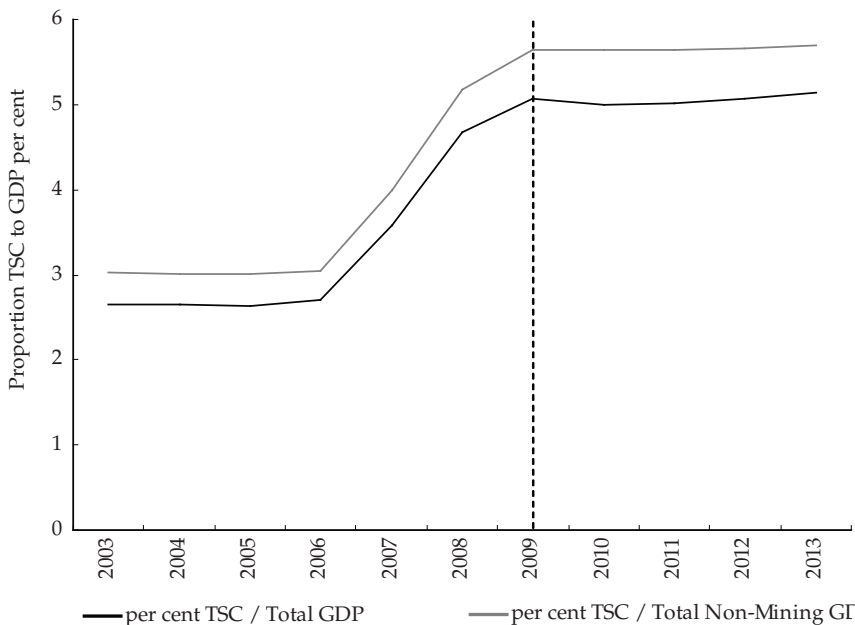
Digicel has disputed Telikom's exclusive rights over the international gateway, and the matter is now before the courts (ICCC 2008a:33)

Most recently, the Department of Communications and Information submitted an Experts Recommendation Report (Papua New Guinea 2009b) as part of the next phase of the ICT reform process. The Report's recommendations for the introduction of open competition in as timely a manner as possible, including the immediate liberalisation of international gateway operations and the removal of retail price regulation, will be a positive step forward for the sector. However, the Report also recommends that PNG

Telecommunication Authority (PANGTEL) should be rejuvenated and transformed so that it becomes the single ICT regulator, limiting the role of the ICCC to *ex post* competition policy issues. As the Report highlights, it is clear that PANGTEL needs reform (Papua New Guinea 2009b:364). However, it is unclear, and even unlikely, whether even after its reform PANGTEL would be as capable as the ICCC in undertaking *ex ante* regulation of the sector. The ICCC has been increasingly effective at promoting and regulating fair and transparent competition within Papua New Guinea.

Whether the NEC will adopt any or all these recommendations is, as yet,

Figure 3 Contribution of the transport, storage and communication sector to total and non-mining GDP, 2003–2013 (per cent)



Source: Papua New Guinea, 2008a. *National Budget Documents*, Department of Treasury and Finance, Government of Papua New Guinea, Port Moresby; Papua New Guinea, 2009a. *National Budget Documents*, Department of Treasury and Finance, Government of Papua New Guinea, Port Moresby.

unknown. These upcoming decisions over the introduction of open competition, combined with the reform of the sector's regulatory structures, will serve as a litmus test of the government's commitment to telecommunications reform in 2009.

Air transport

The other major change to Papua New Guinea's national competition policy in 2008 was the introduction of a code-sharing arrangement between an existing airline, Airlines PNG, and the Australian-based Pacific Blue for flights between Australia and Port Moresby (ICCC 2008b). The code-share arrangement considerably strengthened the competitiveness of Airlines PNG, which, because of its small size and limited seat capacity, had been a weak competitor for the existing code-sharing arrangement between Qantas and Air Niugini.

This reform represents further significant change in the competitiveness of Papua New Guinea's air transport over recent years. In 2001, the introduction of Qantas flights competing for air travel between Australia and Papua New Guinea brought Air Niugini to the brink of collapse. Following this, the two airlines formed a joint service in 2003, effectively limiting price competition on flights between the two countries.

The monopoly was weakened somewhat following the expansion of Airlines PNG from its existing domestic flights to turbo-prop flights between Port Moresby and Cairns in November 2005. This service was extended in August 2006 to flights between Port Moresby and Brisbane. While it is a small carrier, Airlines PNG had a substantial impact by absorbing a significant amount of excess demand within the sector. Total passenger numbers between Australia and Papua New Guinea grew by 12 per cent in the first 12 months after Airlines PNG commenced international services. The addition of Airlines PNG's Brisbane-

Port Moresby service also contributed to the 14 per cent growth in passenger numbers between Australia and Papua New Guinea between June 2006 and June 2007 (McNamara 2008:7).

To ensure that competition was expanded within the sector from the arrangement between Airlines PNG and Virgin Pacific, the ICCC has maintained the system of 'hard block' seat allocations, which it implemented for the Qantas-Air Niugini partnership. Under this arrangement, Airlines PNG pays a pre-determined amount to Virgin Pacific for a fixed number of seats on each route (ICCC 2008b:25). Airlines PNG also assumes the cost of any unsold seats within their block allocation. This arrangement provides an incentive for both airlines to price seats competitively.

Figure 4 shows airfares (measured in US\$ per kilometre travelled) for three major routes—Brisbane–Port Moresby, Cairns–Port Moresby and Singapore–Port Moresby—in January 2008 and January 2009, the introduction of this additional code share has had significant impacts on price levels within the sector. In 2008, despite Airlines PNG's considerably lower fares, Air Niugini and Qantas chose not to lower their fares to comparable levels. This is likely to have been because of the limited seat capacity, less frequent flight times, and poor marketing outlets of Airlines PNG which, whilst stimulating its own demand through cheaper prices, had a limited impact on the passenger numbers of the major carriers.

However, in 2009, following the introduction of the Pacific Blue partnership arrangement, all airlines reduced prices for these routes to comparable levels. For both the Brisbane and Cairns to Port Moresby routes, this has meant an almost 65 per cent reduction in prices. Another interesting point is that on other key non-competing routes, such as between Port Moresby and Singapore, Air Niugini fares have increased

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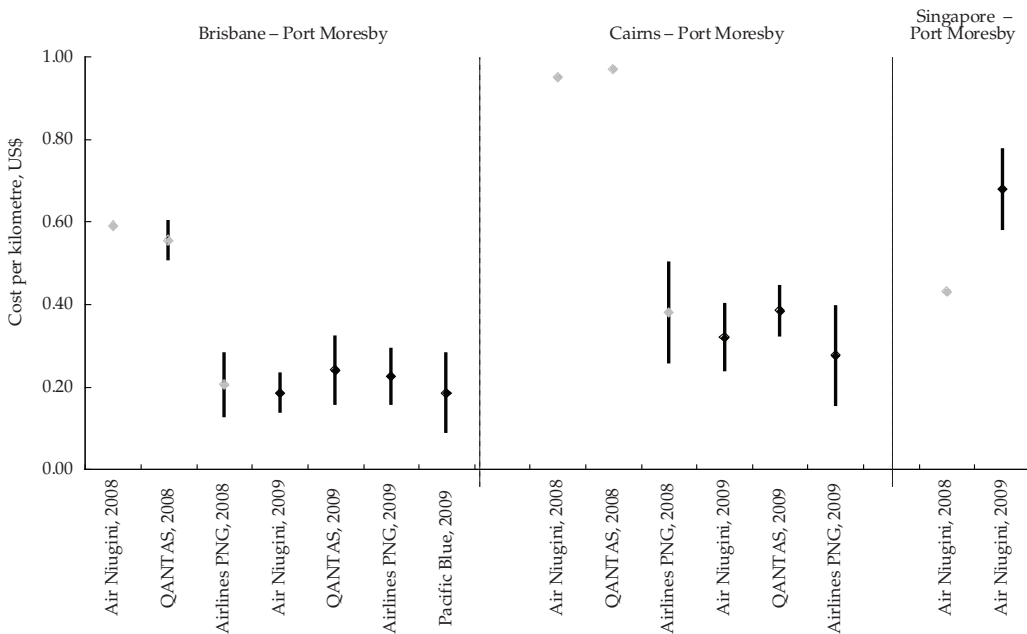
in the 12-month period. This suggests that the airline has been cross-subsidising the reduced revenues from the Australian destinations.³

2009 data from carrier websites and authors' calculations. Lines represent the difference between the highest and lowest cost economy fares available. Grey diamonds represent the median price level in 2008. Black diamonds represent the median price level in 2009. All airfares include taxes. Conversions were carried out at the following exchange rates AUD\$1 = US\$0.666 and K1 = US\$0.379 spot rate as at 15 January 2009. All prices were measured for travel on 30 January 2009.

Upcoming challenges for aviation sector reform

The entry of an additional international airline under a partnership arrangement has increased the benefits from competition in Papua New Guinea's aviation sector. There have been major reductions in fares and increased services for international travellers. In addition to the direct consumer benefits of the fare reductions, reduced air travel costs will flow on to other sectors such as tourism. However, Australia is only one of many key trade, investment, and tourism sources for Papua New Guinea and consumers still face prohibitively expensive airfares to other key destinations in Asia.

Figure 4 Prices of major international Papua New Guinea air routes, by carrier, January 2008 and January 2009 (US dollars)



Source: 2008 data from McNamara, S., 2008. 'Aviation in the Pacific: building on recent gains', background paper for the Pacific Economic Survey 2008, Canberra. Data for 2009 is from Airline Carrier websites and authors calculations.

For example, as of January 2009, flight costs to Manila and Tokyo were approximately K5,500 and K7,000, respectively. This highlights the need to open up all of Papua New Guinea's major air routes to international competition, in line with the government's 'open skies' policy, so that the country can be more competitive internationally across a range of sectors.

The continuing commercial success of the two partnership arrangements raises an important question about the future of aviation reform. Their success contradicts one of the key justifications for the code-share arrangements, which argued that it was not feasible to have two separate airlines operating on these routes. Is the government's policy on code-sharing arrangements optimal, or even necessary? Reforming these arrangements so that all airlines compete individually, across both domestic and international markets, may help to bolster competition in the sector.

A closer look at PNG business regulation

The impact of streamlining business regulation on wealth creation⁴

As history has demonstrated, large enclave mining projects do not generate the type or quantity of employment that is needed to absorb Papua New Guinea's rapidly expanding, and increasingly urban, labour force. For this to occur, Papua New Guinea requires investment across a range of industries. Pervasively high business operating costs and an unfriendly regulatory regime that impose a large burden on private sector activity, particularly small-scale enterprises, are frequently cited as some of the key development constraints on wealth creation in Papua New Guinea (Warner and Omuru 2008:13, Chand 2003:23). Indeed, despite being the largest market and the

closest to major international markets, Papua New Guinea is seen as having the least business friendly environment in Melanesia, ranking 95th out of 181 countries in the 2009 global 'ease of doing business' index calculated by the World Bank's *Cost of Doing Business* (CDB) survey (World Bank 2009b, see also Figure 5).

Throughout 2008, this situation led to frequent calls by donors, academics, the private sector, and the general public for the introduction of microeconomic reforms to reduce business costs and streamline bureaucratic processes. Ultimately, the goal of these reforms is to create a regulatory environment that encourages the widespread establishment of formal private sector activity that can unleash the competitive market forces witnessed by the entrance of firms such as Digicel and Virgin Blue.⁵

This section examines a number of potential areas of regulatory reform in Papua New Guinea and illustrates how these may impact on the country's international competitiveness and its ease of doing business ranking. The potential gains from implementing the reforms are estimated.

The method used to make the calculations is as follows. First, a regression fit scatter plot was calculated to estimate the marginal elasticity of income associated with improvements in a country's ranking on the CDB Survey. Second, three of the ten areas covered by the CDB survey are chosen as potential reform areas, on the basis of their relevance to Papua New Guinea and areas where the country currently lags furthest behind. These include Dealing with Construction Licences, Trading across Borders, and Enforcing Contracts.

Third, a package of possible reform outcomes is hypothesised for each of these sectors to lower Papua New Guinea's score on the respective indicators to the regional average.⁶ Fourth, the *CDB Simulation Dataset*

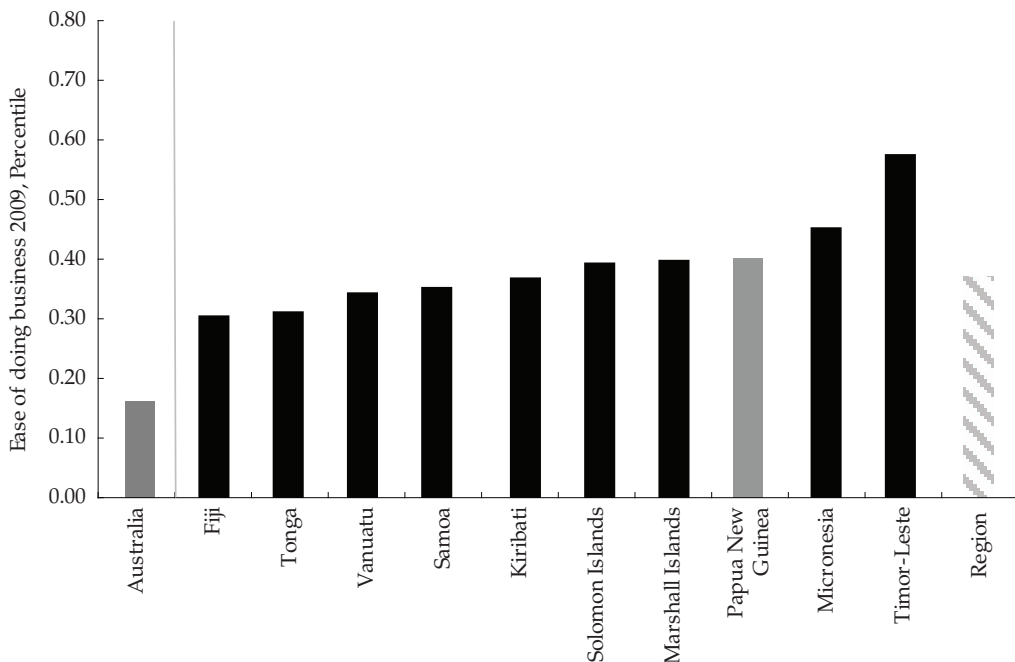
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is used to calculate the impact each of the reforms has on Papua New Guinea's overall ranking on the CDB database. Finally, this change in aggregate ranking is compared against the calculated marginal income elasticity to illustrate the level of income achieved by countries with a comparable business environment.

It is important to highlight that these calculations are by no means causal in their nature. Although the countries in the sample provide a reasonably good fit to the regression line, the regression has not taken into account the myriad of other factors that determine income growth. The measures are also relative such that any improvement or decline in Papua New Guinea's score

depends on the performance of all the other countries in the sample. In addition, the analysis assumes that the links between regulatory quality and per capita income in other countries are indicative of the links between regulatory quality and per capita income in Papua New Guinea. As such, the calculated income gains from each of the three reform packages do not represent the immediate or even longer-term gains in income that would accrue should Papua New Guinea make improvements in each one of these indicators. The calculations are intended to illustrate the income levels achieved by countries that have managed to lower their costs of doing business to comparable levels to those hypothesised

Figure 5 Ease of doing business percentile rankings for Pacific island countries



Source: World Bank, 2009b. *Cost of Doing Business Database*, World Bank, Washington DC. Available online at www.doingbusiness.org (accessed on 20 January 2009).

by these reforms. As discussed, these comparisons illustrate several important points regarding the potential for, and impact of, regulatory reforms in Papua New Guinea.

Estimating the potential impact of procedural regulatory reforms

As stated, the three areas chosen for the hypothesised reforms were selected on the basis of where Papua New Guinea lags furthest behind and hence where the biggest potential gains can be made from modest attempts at reform. Also, the reform targets in each scenario have been set to where Papua New Guinea achieves the regional averages. For this purpose the region is defined as Fiji, Tonga, Vanuatu, Samoa, Kiribati, Solomon Islands, Marshall Islands, Papua New Guinea, and Federated States of Micronesia (see Table 5 for the comparison of Papua New Guinea's performance on five indicators with the defined Pacific region). Unless otherwise stated, these reforms are purely procedural changes; meaning that all of the gains to business occur as the result of shorter time delays or fewer procedures for the completion of certain regulatory requirements, rather than any reduction in the government charges for the regulatory approval.

Figure 6 provides a regression fit scatter plot of each country's average percentile rank for each of the ten CDB Indicators measured against the natural logarithm of the country's GDP per capita. The value obtained from this fitted line reflects the average change in GDP per capita associated with a marginal change in the country's average percentile score on the CDB rankings. Put more simply, the slope of the line indicates the average rate at which a country's income increases as its performance on the CDB index improves. Because GDP per capita is expressed as a natural logarithm, this figure is expressed as a percentage. Therefore, given a slope

coefficient of, say, 7.7, an improvement in a country's percentile ranking from, say, 0.8 to 0.7 is associated with a 77 per cent improvement in its GDP per capita.

The assumptions discussed above notwithstanding, a number of interesting results were found in each of the reform scenarios. The results are summarised in Tables 6 and 7.

I. Reform Package One: Dealing with construction permits

The first reform package is aimed at improving the ease with which companies can build a standard size warehouse. This reform package addresses the procedures, time taken, and cost of submitting and obtaining all necessary clearances, licences, permits, and certificates; as well as completing all required notifications and all necessary inspections being undertaken. Also included are *the number of* procedures required and the time taken to obtain all necessary utility connections. At present, Papua New Guinea's Ease of Construction Licence index is the worst in the region, ranking 124th in the world.

The reform package assumes that Papua New Guinea

- reduces the number of procedures to obtain all necessary construction licences and permits from its current level of 24 to the regional average of 14, and
- reduces the time taken to complete all required procedures from the current level of 217 days to the regional average of 102 days.

These reforms would have several impacts on Papua New Guinea's international competitiveness. In the first instance, they would improve the Ease of Dealing with Construction Licences ranking from 124th to 31st in the world, which would place Papua New Guinea in the top 25th percentile of countries, compared to its

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present rank in the 60th percentile (see Table 6). Because of its cheaper fees and charges for obtaining these licences (which are assumed to stay constant), Papua New Guinea's 25th percentile ranking would be below the regional average, which scores in the top 30th percentile of countries. This effect would flow on to Papua New Guinea's overall Ease of Doing Business index, which would improve by 12 places to number 83 in the world.

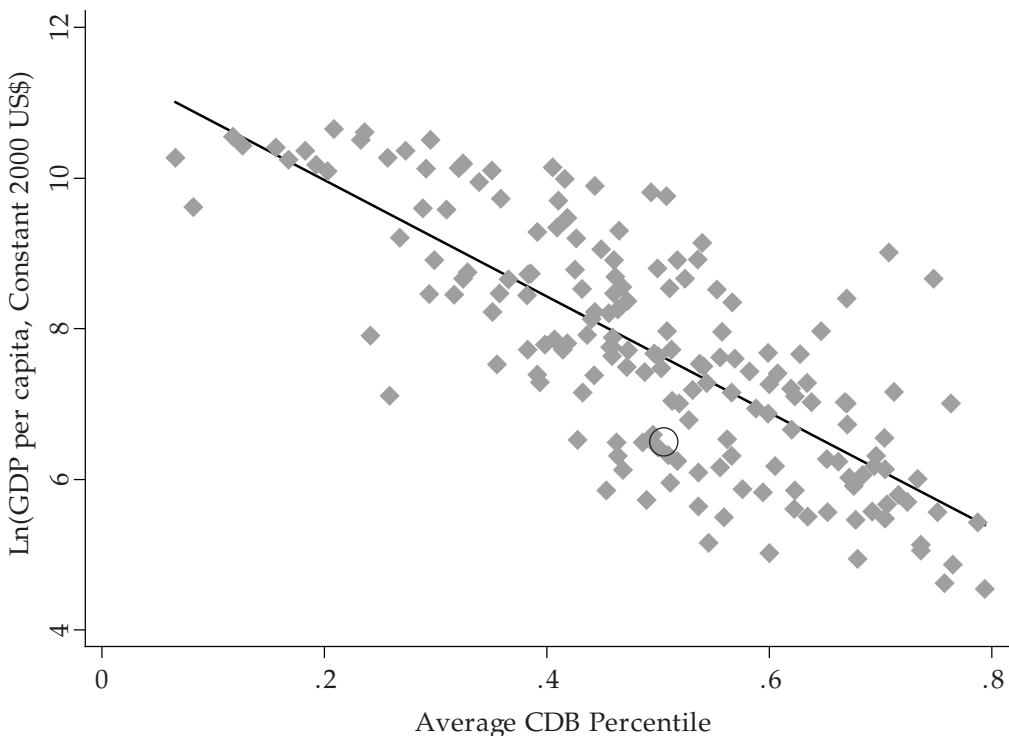
These simulated reforms have the largest impact of the three proposed reform packages on levels of real GDP per capita

(Table 7). The 0.35 point improvement in the average percentile ranking gives Papua New Guinea a business environment comparable to countries with a per capita GDP approximately 3.5 times higher than its current level of US\$656. These comparable countries include Bulgaria (US\$2,406), Colombia (US\$2,461) and Romania (US\$2,593).

II. Reform Package Two: Reducing the costs of trade

The second reform package is aimed at reducing the number of procedures required

Figure 6 Cost of doing business average percentile score vs. log GDP per capita (constant US\$ 2000)⁷



Source: Authors' calculations.

and the time taken to move a shipping container of goods through the PNG port system. Import procedures begin with the vessel's arrival at the port of entry to the shipment's delivery to the importer's warehouse. For the export of goods, the procedures begin with the packing of the goods at the factory to their departure from the port of exit (World Bank 2008b:21). Here again, Papua New Guinea has low administrative prices compared to other countries in the region. For example, in 2009 the average administrative costs imposed on a shipping container of exports from Port Moresby was US\$664, compared to the regional average of US\$944. The cost to import was estimated at US\$722 per container, which again compares favourably with the regional average of US\$967.⁸ However, the average time taken for export containers to move across the wharf is above the regional average, at 26 days, as is the time to import at 29 days.

The second reform package envisions that Papua New Guinea

- reduces the number of documents required for exporting from their current level of seven to the regional average of six, which in turn leads to a reduction in the time taken to export from the current 26 days to the regional average of 24 days, and
- reduces the number of documents required for importing from their current level of nine to the regional average of seven, which leads to a reduction in the time taken to import from 29 days to the regional average of 27 days.

These modest changes in the time and effort required to import and export goods lead to significant changes in Papua New Guinea's international competitiveness. Papua New Guinea presently ranks 89th in the Ease of Trading index, placing it in the 44th percentile of countries. After the

reforms, Papua New Guinea would make a substantial improvement to rank 57th in its Ease of Trading index, placing it in the 33rd percentile. Overall, this would lead to Papua New Guinea's aggregate CDB ranking improving by five places, to 90th in the world (Table 6).

These reforms have the smallest impact of the three hypothesised packages, increasing Papua New Guinea's average percentile ranking by 0.11 (Table 7). Nevertheless, they result in Papua New Guinea having a business environment comparable to countries with a per capita GDP approximately double its current income levels. These comparable countries include Philippines (US\$1,216), Georgia (US\$1,218) and Vanuatu (US\$1,275).

III. Reform Package Three: Streamlining contract enforcement

The final reform package addresses the enforcement of contracts, which attempts to measure the efficiency (number of procedures required, time taken, and administrative costs) of the judicial system in resolving commercial disputes. This is Papua New Guinea's worst area of performance across the CDB index, ranking 162nd in the world. This poor ranking is the result of the high number of procedures required to enforce a contract, 43, and the 591 days, which, on average, is required to complete this set of procedures. Papua New Guinea's poor ranking in this area also reflects, for the first time, administrative costs. The cost of solving commercial disputes is estimated to be equivalent to 110 per cent of income per capita.

This reform package would not only be the most ambitious in terms of reducing the procedural requirements and time taken to enforce a contract but also involves reductions in the cost of achieving these outcomes to the regional average.

Therefore, the third reform package assumes that Papua New Guinea

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- reduces the number of procedures required to enforce a contract from 43 to the regional average of 36
- Reduces the time taken to enforce a contract from Papua New Guinea's current level of 591 days to the regional average of 531 days, and
- accompanies these two procedural reforms with a reduction in the cost of meeting these requirements from 110 per cent of per capita income to the regional average of 52 per cent.

Bringing the cost and effort required to enforce a contract down to regional averages has a large impact on the ease of enforcing contracts, with Papua New Guinea's ranking improving by 50 places to 112th in the world. This moves Papua New Guinea from the top 77th to the 56th percentile band of countries. In turn, this has the effect of raising Papua New Guinea's overall Ease

of Doing Business index by nine places to number 86th in the world (see Table 6).

The impact of these reforms on per capita GDP is at the mid-point between reform packages I and II. The 0.21 point improvement in Papua New Guinea's average percentile ranking across each of its indicators improves its business environment to be comparable with countries with per capita GDP of US\$1,712 (see Table 7). Such countries include Morocco (US\$1,685), Serbia (US\$1,763), and China (US\$1,791).

Lessons from the analysis

Illustrating the changes in Papua New Guinea's international competitiveness with these three potentially simple, and entirely feasible, reform packages offers several important insights into the future path of Papua New Guinea's regulatory reform process. The first insight is that large gains in Papua New Guinea's regional

Table 5 Comparison of financial costs and time delays for key business activities, 2009

Financial cost	Cost of starting a business (per cent of income per capita)	Cost of licences (per cent of income per capita)	Cost to export (US\$ per container)	Cost to import (US\$ per container)	Cost of closing a business (per cent of estate)
Papua New Guinea	23.58	95.07	664.00	722.00	23.00
Regional average	47.32	245.44	944.00	967.89	34.13
Time taken	Time to start a business (days)	Time to obtain a licence (days)	Time to export (days)	Time to import (days)	Time to close a business (years)
Papua New Guinea	56.00	217.00	26.00	29.00	3.00
Regional average	34.67	101.89	24.22	27.11	2.60

Source: World Bank, 2009b. *Cost of Doing Business Database*, World Bank, Washington DC. Available online at www.doingbusiness.org (accessed on 20 January 2009) and authors' calculations.

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competitiveness can be made by relatively small reforms that streamline business procedures and reduce transaction times. Furthermore, whilst other barriers to growth remain, lifting the performance of Papua New Guinea's regulatory environment in a number of key areas to regional averages—a modest goal—could have a large impact on income growth.

Second, costs imposed by government on business are not only related to the amount of money charged for delivering a service. Indeed, as can be seen in Table 5, Papua New Guinea compares quite favourably with other countries in the region in terms of fees, licence charges and trade duties.

Table 5 also highlights that the reason Papua New Guinea ranks so poorly on so many indicators is the result of the lengthy time delays and the large number of bureaucratic procedures involved in these business activities. These inefficiencies are likely to be a result of a number of factors including weak public sector governance and the existence of entrenched rent-seeking behaviour within the bureaucracy. Streamlining the number of business

processes *vis-à-vis* reducing fees and charges should thus stand as a core reform challenge for the PNG Government in 2009 as it seeks out ways to improve rates of private sector growth.

Finally, unlike competition reform, each of the reform gains made can be made without the creation of losers—beyond reducing opportunities for rent seeking behaviour by bureaucrats. This 'win-win' situation, or Pareto welfare improvement, means that the government does not have to battle vested interest groups as it goes about implementing the reforms. This is not to diminish the importance of creating a more competitive business environment but simply to illustrate that streamlining of business procedures can generally occur without the same political cost as competition reform, which has often been a binding constraint on economic reform in Papua New Guinea.

Ultimately, this discussion highlights that streamlining bureaucratic processes, reducing the regulatory burden on business, and enhancing competition in the private sector should not be side issues in the government's development policy.

Table 6 Impact of simulated reforms on Papua New Guinea's international competitiveness

Reform package	Initial overall CDB rank	Initial CDB rank for sector	Initial percentile for sector	Post-reform overall CDB rank	Post-reform CDB rank for sector	Post-reform percentile for sector
I	95	124	60	83	31	25
II	95	89	44	90	57	33
III	95	162	77	86	112	56

Source: Authors' calculations.

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These issues are in fact at the heart of improving Papua New Guinea's regional and international competitiveness. It is only through the creation of an environment that encourages business growth and development across a broad range of sectors that Papua New Guinea will be able to create the numbers of jobs required to absorb its rapidly expanding population.

Recent policy developments in intergovernmental fiscal relations

This section discusses the reforms being implemented in the system of decentralisation operating in Papua New Guinea. A more substantive overview of Papua New Guinea's intergovernmental financing history, reforms, and challenges can be found in this issue of the *Pacific Economic Bulletin* (Gouy 2009:114-131).

A new system of intergovernmental fiscal relations began in January 2009, the third distinct system of fiscal decentralisation

adopted by the Government of PNG. The new arrangements are set out in the Intergovernmental Relations [Functions and Funding] Bill (Papua New Guinea 2008c) and an amended Organic Law on Provincial Governments and Local Level Governments (Papua New Guinea 2008d). The new measures are focussed on improving the quality and reach of public services, in response to the well-documented problems experienced with the system of fiscal decentralisation in place since 1996, especially

- large horizontal fiscal imbalances, reflecting the large differences between lower-level governments' resources and their expenditure needs
- uncertainty and unpredictability of the transfers, as they were fiscally unsustainable
- weak links between the financing available and the roles and responsibilities of the different levels of government
- failings on the part of the National Government in implementing and

Table 7 Impact of simulated reforms on GDP per capita

Reform package	Initial GDP per capita (constant 2000 US\$)	Marginal elasticity of income (with respect to percentile rank)	Impact of reform on percentile rank (change)	Impact of reform on GDP per capita (per cent increase)	Final GDP per capita (constant 2000 US\$)
I	656.32	7.7	0.35	269	2,421.82
II	656.32	7.7	0.11	84	1,212.22
III	656.32	7.7	0.21	161	1,712.99

Source: Authors' calculations.

managing the decentralisation program, and

- the fiscal transfers operating in isolation of each other.

Key elements of the reform

The key intent of the reforms is to reduce horizontal fiscal imbalances; that is, to place jurisdictions in a similar financial position to deliver recurrent services. There are separate transfers to pay for all lower-level government staff and non-staff, recurrent expenditures on national priorities. The reforms amend the formulae for distributing the non-staff, recurrent grants that lower-level governments are expected to spend delivering national priorities.

From 2009, the grants for individual jurisdictions will reflect their recurrent expenditure needs: that is, the difference between estimates of a jurisdiction's recurrent service delivery costs and their revenue raising capacity. The new framework links the definition of costs to the jurisdiction's expenditure responsibilities, which thus creates a link between funding and function. There is provision for functions and funding to potentially be reallocated to a different level of government. Because there is now a process for this, the risk of unilateral reassignment of functions to lower-level governments without the necessary funding is reduced. The mechanism permits an asymmetric allocation of responsibilities.

Provincial and local-level governments will receive a share of a pool, reflecting their proportionate share of total needs. If needs are judged to be zero, then the lower-level government would potentially receive zero in non-staff, recurrent grants.

The PNG National Government has, sensibly, increased the size of the non-staff, recurrent grants pool in order to fund service delivery more effectively and pay for a five-year 'no worse off' promise made

to the wealthier jurisdictions. The suite of grants remains of a similar magnitude in nominal terms as it was in 1996. The additional resources are being introduced slowly to avoid flooding poorer regions with additional money too quickly. This transition period runs through to 2013. The reforms will try to protect the transfers from fiscal adjustments caused by Papua New Guinea's periodic macroeconomic exigencies. To do this, the grant pool is specified as a precise share of net national government revenues: actual total tax revenue two years previously, excluding mining and petroleum revenue. However, there is nothing to stop the National Government from breaking its fiscal promises again. Lower-level governments will need to see several years of promises being kept to be assured there will be no repeat of the 1996–2008 experience.

Potential impacts of the reform

The largest gains from fiscal decentralisation reforms will come from prodding lower-level governments to spend whatever resources they have more effectively; not doing so has come to be regarded as a central failing of the old system. Notwithstanding political pronouncements of Governors and sub-national politicians, Papua New Guinea has the administrative features of a unitary system of government, where lower-level governments primarily exist to implement a set of delegated expenditure responsibilities. It is thus appropriate that the centre plays an active and vigorous role in ensuring that lower-level governments spend resources on national priorities. To this end, the reforms also embody beefed-up conditionality, monitoring, and enforcement arrangements by the National Government, focusing on the 11 Minimum Priority Activities in health, education, infrastructure maintenance, agriculture, and local law and justice. The challenge for the centre is to follow through

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and enforce these conditions, as hitherto poor jurisdictions begin receiving additional resources: otherwise, these extra funds will be of no consequence in improving service delivery outcomes.

Conclusions

The global commodity boom that led to strong growth in the PNG economy in recent years came to an end in late 2008 under the influence of the global financial crisis. Slower economic growth and much higher inflation, resulting from poor monetary responses to rapid growth in the money supply, have put a different face on the economic situation in Papua New Guinea compared to a year ago.

How will Papua New Guinea cope with this economic downturn? The government has set aside funds accumulated during the commodity boom to be spent on refurbishing and developing vital infrastructure and human capital. However, it has also increased recurrent expenditure significantly during the boom. Will the accumulated funds be invested in ways that raise productivity growth and incomes or will the trust funds be used to maintain the level of recurrent expenditure committed in recent years? The government's fiscal discipline will be tested over the next two years or so.

The government has made significant microeconomic reforms in opening up the telecommunications and airline markets. These reforms are delivering substantial benefits to a wide cross-section of the population. But further reforms are needed to reduce the costs of doing business in Papua New Guinea. The scenarios explored in this economic survey show how some 'win-win' reforms to improve the investment environment can help to deliver increased private investment and economic growth.

Finally, the effective delivery of basic services to people has proven to be a very difficult objective for governments to achieve. Attempts to achieve this mainly through decentralisation of the activities to provincial and local-level governments have been largely unsuccessful so far. The new set of intergovernmental financing reforms being adopted attempt to reduce the horizontal fiscal imbalances that have plagued earlier attempts at fiscal decentralisation. In the process, it is planned for the reforms to create a better link between funding and function. However, in order to achieve the reform goals, the national government will have to be more active than in the past in ensuring that the lower-level governments spend the funds effectively on the national priorities.

Acknowledgments

The authors would like to thank Satish Chand and Charles Yala for their useful comments.

Notes

- ¹ One of the most significant increases in expenditure in the latter half of the recent commodity boom has been the dramatic rise in the size of District Support Grants, despite few improvements being made to their accountability and control mechanisms. In 2007 and 2008, government allocated one-off payments of K10 million to each of the countries 89 districts, and an additional K4 million in 2009.
- ² A third service provider, GreenCom Pty Ltd, has also been given regulatory approval to compete in the PNG mobile telecommunications sector but has, as yet, to begin operations (Stanley 2008:3).
- ³ Although not shown in Figure 4, there is similar behaviour on other key Air Niugini international routes.

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- ⁴ These calculations are easily made and there are many possible ways in which this analysis could be improved and extended. We encourage policymakers, academics, and others to draw on the resources provided by the World Bank to continue illustrating the potentially large economic benefits that can accrue from relatively simple reforms to streamline business procedures and lower the cost of doing business in Papua New Guinea and across the Pacific.
- ⁵ An increasing number of studies have shown that countries with burdensome regulations tend to have larger informal sectors, higher unemployment rates, slower rates of new business formation and, ultimately, slower rates of economic growth (World Bank 2009b:9).
- ⁶ The regional average is chosen both to reflect a reasonable reform target and to illustrate the point that relatively large gains can be made in the international competitiveness of Papua New Guinea's business environment with relatively small reductions in business costs.
- ⁷ The circled data point indicates Papua New Guinea, which has an average CDB percentile of 0.48 and a log of GDP per capita of 6.48.
- ⁸ Costs include the fees levied on a 20-foot container, measured in US dollars. All fees associated with completing the procedures to export or import goods are included, such as the cost of documents, administrative fees for customs clearance and technical control, terminal handling charges, and inland transport. The cost measure does not include tariffs or other duties.
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