

Parting with the past: is Papua New Guinea poised to begin a new chapter towards development?

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Papua New Guinea has entered its sixth year of solid economic growth. Understanding the constraints to growth and reviewing the changes that have taken place in the past few years shed light on this unprecedented outcome. A giant liquefied natural gas project has been confirmed, giving Papua New Guineans tremendous optimism that they are on an accelerating growth trend, but serious challenges remain. One relates to management of resource rents. Existing mechanisms are unable to cope, resulting in considerable fiscal instability. Another challenge is the economy's capacity constraint. Shortages in skilled labour and urban property are examined in detail. Other issues explored are aid effectiveness and the declining importance of foreign aid.

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Papua New Guinea is poised for economic development. The year 2009 was the fifth straight year to record non-mining GDP growth in excess of population growth—unprecedented for Papua New Guinea—and there was promise of a huge injection of funds from the recently confirmed liquefied natural gas project. If all the cards are played right and the forthcoming revenue windfalls are invested wisely, there is no reason to suggest that Papua New Guinea cannot emulate countries such as Botswana and Malaysia and become a middle-income country. There are, however, many bridges to cross and much work to be done to set Papua New Guinea on the right path. As much as Papua New Guinea has the potential for sustained and rapid growth, it

is also possible that it could fall off the rails. One thing that can be said with confidence is that whatever was done in the 30 years before 2005 has not worked and Papua New Guinea will need to pursue a new development path.

This article looks at the current situation and the outlook for Papua New Guinea. Managing future resource windfall revenues and converting them into development will be crucial, so a key focus is the fiscal situation, analysed in the next section. This section is followed by an analysis of the constraints to growth, which helps to provide an explanation for the recent strong economic performance. An update on mining and petroleum developments is followed by a critique of the management of

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windfall revenues. This section is followed by a critique of donor activities in the context of the severe skilled-labour constraints in Papua New Guinea. Finally, a review is undertaken of the constraints in the urban property market.

Fiscal instability

When economic historians look back at the past few years in Papua New Guinea, they might ponder the magnitude of the various economic and fiscal forces at play that, overall, have resulted in only a mild downturn during the global financial crisis. The deepest recession in the United States since World War II, which has impacted adversely on Europe and to a lesser extent Asia, would normally have been expected to curtail Papua New Guinea's growth very sharply—primarily through the commodity channel in this mining, oil and agricultural export-dependent economy. Real GDP growth in Papua New Guinea slowed as a result of moderating export earnings, slowing growth in government revenues and private consumption to 4.2 per cent in 2009.¹ In 2009, these impacts put the brakes on the hitherto booming labour market, where the rate of formal employment growth halved from its heady 8 per cent pace in 2007 and 2008. GDP growth remained above its long-term trend, however, as the government embarked on arguably the largest unplanned fiscal expansion in the country's history.²

The Asian Development Bank (ADB 2010) estimated that the budget deficit during calendar year 2009 was about 10 per cent of GDP. The official estimates show only a small deficit of 0.4 per cent of GDP (GPNG 2009). This is, however, a measure of the deficit in government finances and excludes the substantial draw-downs and expenditures from the trust accounts set up

between 2005 and 2008 to accommodate the windfall revenues from the boom in minerals prices. The draw-downs—particularly those in the second half of 2009—were enormous: in the June and September quarters, they were about K1.5 billion, or about 7 per cent of GDP (GPNG 2009).

The flip side is that the financial budget outcomes between 2006 and 2008 vastly underestimated the true size of the surpluses because funds transferred into trust accounts were counted as expenditures in the budget. These additional appropriations amounted to 7 per cent of GDP in 2006, 9 per cent of GDP in 2007 and 10 per cent in 2008. These huge discrepancies between real budget outcomes and the appropriated outcomes are a major test for budget credibility. Policymakers will need to present a more accurate picture of public finances going forward. A more substantive policy concern than mere budget presentation and transparency is the destabilising effect on service delivery and the broader economy of uncontrolled rises and falls in annual government spending. Such volatility is not conducive to the business of providing stable public services and undertaking continuing public infrastructure investment and maintenance programs.

Unarguably, fiscal discipline has waned in the past few years and the budget papers make this point in several places. The government has transgressed its own fiscal rules in several ways, in addition to the murky presentation of the trust account draw-downs. The rapid pace of draw-downs violated the Medium Term Fiscal Strategy 2008–12 (MTFS) rules set only a few years ago. The MTFS suggests that 70 per cent of additional mineral revenue³ be used to fund one-off investment projects and 30 per cent be used to repay public debt. However, 'the government has decided to allocate all of the expected AMR [additional mineral revenue] to fund major investment projects' (GPNG 2009:40).

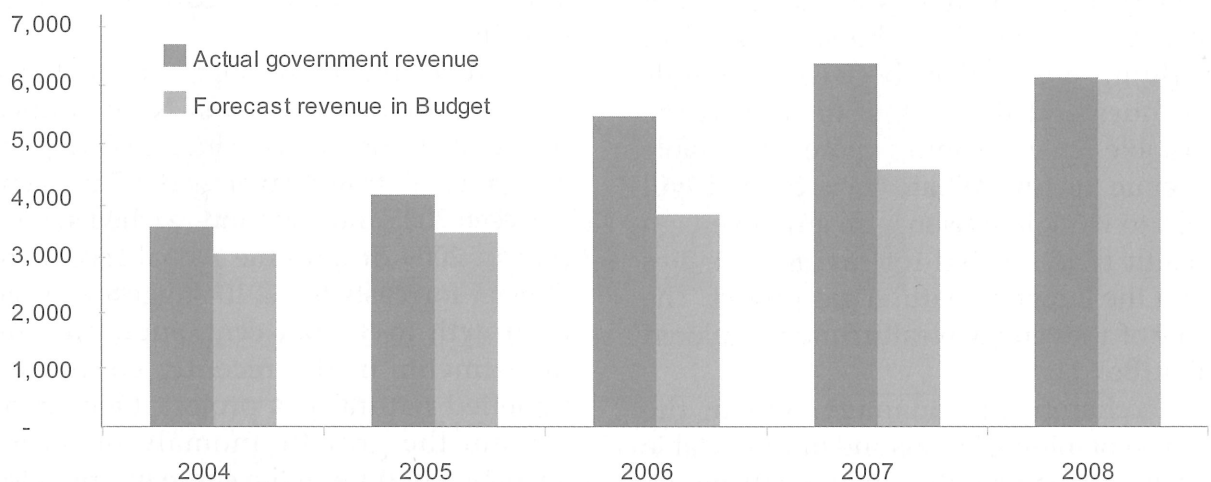
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Could one play devil's advocate and argue that the draw-downs were a beneficial fiscal stimulus, a bulwark against the impact of the global financial crisis, whether they were planned in that manner or not? In short, no! Assuming any fiscal stimulus has a multiplier greater than 1, the relevant fiscal policy questions remain. Is the expenditure targeted, timely and temporary? The answers are probably 'no', 'no' and 'yes'. Did the outlays expand the productive base of the economy or did they leak into sectors and activities where the economy was already operating at full capacity? It is difficult to say in a quantitative manner, but again the budget papers (GPNG 2009:10) provide some answers, noting that 'inflation remains at uncomfortably high levels, driven by strong domestic demand and very high government spending from trust funds'. This statement suggests that at least some of the trust fund spending could have been inflationary, compromising real longer-term economic benefits. With detailed analysis of the spending from the trust accounts, it might be possible to

counter this assumption, but the budget papers provide such limited detail about trust account spending that such an exercise is not possible. Hopefully, in time, closer analysis of this spending will reveal the proportion spent on infrastructure and capacity building.

The first step in navigating a way forward is to comprehend how this situation emerged. The core of the problem is the huge and unpredictable fluctuations in government revenue. This volatility is a result of volatility in minerals revenues, which is in turn due primarily to volatility in commodity prices. With revenues so difficult to predict, the PNG Treasury has invariably been very conservative in its revenue forecasts via ultra-conservative commodity price forecasts. The commodity price boom of 2005–08 was unforeseen by most economists and the end result for Papua New Guinea was revenue far in excess of what had been predicted in the budgets (Figure 1). The additional revenue over that forecast in the budget amounted to an extraordinary K1.7 billion in 2006 and

Figure 1 Budget revenue forecasts and outcomes, 2004–08 (K million)



Source: PNG Department of Treasury Budget Papers, various issues 2004–10

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K1.8 billion in 2007—amounting to 10.1 per cent and 9.7 per cent of GDP, respectively.

If the commodity price levels of early 2010 continue, there will likely be another massive, unplanned revenue windfall in 2010. In March 2010, the prices of the key revenue-driving commodities were about US\$7,500 a tonne for copper, US\$1,100 an ounce for gold and US\$80 a barrel for oil. Compare these numbers with the 2010 budget forecasts of US\$5,200, US\$860 and US\$67, respectively.

Existing fiscal arrangements did not provide for a way to deal with these unplanned windfalls, so supplementary budgets were rushed through and the trust accounts were born. It is hard to avoid the conclusion that the fruits of the earlier Somare government years, when a concerted effort was made to shut down trust accounts, have been almost entirely undone with these parallel mechanisms now normalised in a budgeting sense. It is not that trust accounts were set up in bad faith; they were set up as a pragmatic approach to deal with the fundamental problem of wild fluctuations in revenues. This situation is set to become much worse when the liquefied natural gas project (discussed later) comes onstream about 2015.

Finding a solution is challenging, but clearly there needs to be some kind of bridging mechanism between minerals revenues and the budget to convert the unstable revenues into a more predictable revenue stream. Whatever is created will need to work in unison with any sovereign wealth fund created for saving revenues from the liquefied natural gas project. The issue of a sovereign wealth fund is explored later (Box 1).

Exchange rate management in the context of mining booms and unpredictable revenue streams will remain challenging, especially if revenues are robust and spent in tight domestic markets, creating upward

pressure on inflation. The casual observer might wonder about the extent to which the property markets in Port Moresby, and to a lesser extent, other urban areas have been unsustainably buoyed by the large fiscal stimulus. Property price trends in Port Moresby—for which other long-term supply-side forces have probably been more important—are analysed later.

Can Papua New Guinea grasp the elusive growth?

Papua New Guinea's poor economic growth performance since independence is well documented. The per capita average growth rate has been negligible, with economic growth of about 3 per cent a year barely matching population growth. What is worse is that the growth that has occurred has been channelled to small enclaves in the population, raising their living standards while the living standards of the broader population have languished, particularly in rural areas. Papua New Guinea ranked just 148 out of 185 countries in the United Nation's Human Development Index for 2007 (UN 2009), while GDP per capita remained at levels of sub-Saharan African and other low-income countries more broadly.

There is, however, something contradictory here. Papua New Guinea recorded strong growth since 2005 (Figure 2): real GDP growth averaged 4.7 per cent between 2005 and 2009 and reached 4.2 per cent in 2009 despite the global recession. Official forecasts for 2010 suggest a surge in growth to 8.5 per cent, supported by investments in the recently confirmed liquefied natural gas project. One could explain the growth anomaly of recent years by pointing to the surge in prices for Papua New Guinea's mineral commodities since 2005. This explanation is, however,

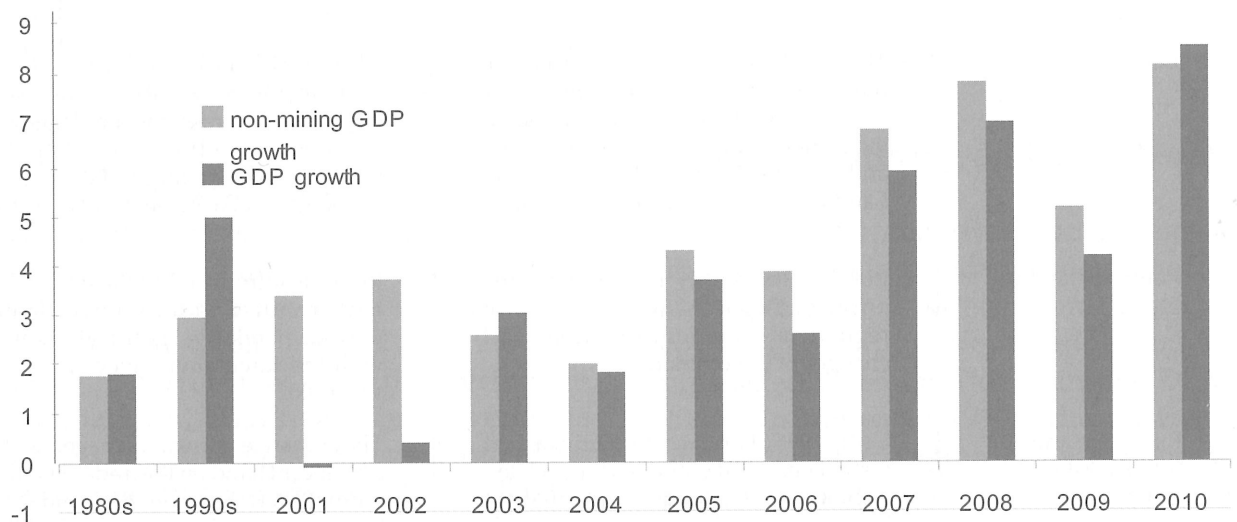
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inadequate. First, growth has been broad based, with growth in non-mining GDP averaging 5.6 per cent between 2005 and 2009—well above aggregate GDP growth (Figure 2). Second, there is no direct link between high minerals prices and the broader economy. Virtually the only benefit of high minerals prices that accrues to Papua New Guinea is through the increased taxes and dividends to the government. It is difficult to believe that the unprecedented, broad-based non-mining growth of 2005–09 could be explained by fiscal expansion.

There have been all manner of explanations offered for why Papua New Guinea has, in the past, been unable to find the elusive growth. Papua New Guinea has not been shy in implementing policy changes recommended by economists. For example, a popular theory in the first part of the 1990s was that an overvalued exchange rate

was holding Papua New Guinea back (for example, AIDAB 1992). After considerable pressure from the International Monetary Fund (IMF) and World Bank, the exchange rate was floated in 1995; but the opposite of what was supposed to happen took place. A large depreciation was followed by a period in which four of the next seven years recorded negative economic growth. Other theories related to tax and tariff policy. For example, Harden, Fallon, Cunningham and Duncan (1999) said that ‘the introduction of the VAT [value-added tax] and the tariff reform program...may well prove to be one of the most important economic policy initiatives since independence’. Tariffs were reduced in the 1990s and the goods and services tax (GST) was introduced, but the growth impact could hardly be described as significant. Labour market deregulation in the early 1990s was another perceived

Figure 2 Real growth in aggregate and non-mining GDP, 2002–10 (per cent)



Sources: Compiled by averaging across a range of data sources, including: PNG Department of Treasury Budget Papers (www.treasury.gov.pg); PNG National Statistics Office (www.nso.gov.pg); Bank of Papua New Guinea (www.bpng.gov.pg); International Monetary Fund *World Economic Outlook* database (www.imf.org/external/data.htm); Asian Development Bank key indicators (www.adb.org/Economics); and UNDATA (data.un.org/Default.aspx).

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Table 1 Progress on binding constraints, 1975–2010

Issue	Progress, 1975–2004	Progress, 2005–10
Law and order	↓ From Papua New Guinea being a relatively peaceful society in the mid 1970s, the law and order situation descended to tragically low levels, while police and legal resources to address the problem remained unchanged in real terms (Levantis 2000b)	Nil Crime rates have stabilised, consistent with a growing economy and growing employment, but police and legal resources remain unchanged in real terms
Corruption	↓ The problem deteriorated and became acute by the late 1990s. Papua New Guinea ranks among the worst 10 per cent of countries in the corruption category of the World Bank's Governance Indicators for 2009 (http://info.worldbank.org/governance/wgi/index.asp)	Nil Improvements in systems and public financial management might have stabilised the problem
Skilled labour constraints	↓ Primary and secondary education did not improve and the higher education system deteriorated markedly. Skilled labour shortages have put immense pressure on business costs	Nil The deterioration in higher education looks to have abated, although funding in 2010 remains at just US\$32 million. There are still no signs of improvement in primary or secondary education
Infrastructure	Nil From independence until the mid 2000s there was little development of transport, electricity and telecommunications infrastructure, with much infrastructure deteriorating	↑ National roads classified as being in good condition have risen from 900 km in 2004 to an estimated 3,000 km in 2010 (GPNG, 2010), and the telecommunications industry has been revolutionised with more than one million new mobile phone subscribers since 2007
Land	Nil The land-tenure system—in particular, the linking of customary land to the formal market—was dysfunctional at independence and remained unchanged and dysfunctional in 2005 (National Land Development Taskforce 2008)	↑ The establishment of a Land Development Program has seen important progress, with key legislative changes introduced in 2009. The program is continuing and the impacts are likely to take some years to be felt
Political stability	↓ Political instability had become the norm in Papua New Guinea, with regular no-confidence motions and changes of government	↑ Reforms introduced in the early 2000s have resulted in an unprecedented period of relative political stability with the same government in power since 2002
Exchange and interest rate stability	↓ Until 1995, Papua New Guinea had a stable exchange rate and associated stability in interest rates and inflation. This changed after the floating of the kina in 1995, until 2002, when the Bank of Papua New Guinea began managing the currency again. High and volatile interest rates and inflation were the consequences	↑ The exchange rate was managed within a 5 per cent band on the trade-weighted index (TWI) between 2003 and 2007. Since then, a shift towards stability against the US currency has resulted in greater fluctuations against the TWI

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panacea for growth that failed to live up to expectations (Levantis 2000a).

Fortunately, growth theory has moved on. Economists have come to terms with the futility of trying to explain growth in highly complex economic systems using single-variable economic theories and concepts. Instead, growth is considered in the context of the 'binding constraints' that exist in an economic system (for example, Commission on Growth and Development 2008; Hausmann, Rodrik and Velasco 2006; World Bank 2005). Taking such an approach leads to intuitive explanations of what has been holding back growth in Papua New Guinea.

Two surveys were carried out in the late 1990s and early 2000s exploring the impediments to business and investment in Papua New Guinea (Duncan and Lawson 1997; Levantis and Manning 2002). It is the private sector that drives growth, so such surveys should reveal insights into the binding constraints to growth. Their findings were consistent in that, at least until the early 2000s, growth was held back by law and order problems, corruption, skilled labour constraints, a lack of public infrastructure, land availability, political instability and exchange rate and interest rate instability.

We outlined the progress associated with each of these issues between 1975 and 2004 (Table 1) and in all cases there was either no improvement or some deterioration. This finding reconciles well with the poor growth performance for the period. In comparison, significant improvements have occurred since 2005 against four of the seven impediments (Table 1). Herein lies the explanation for the mystery of growth in the past five years.

It is notable that some of the key issues outlined in Table 1 correspond largely with what Stiglitz (2007) considers are the factors behind the rapid growth experienced in

East Asia in the past four decades: rapid infrastructure development, political stability, price and exchange rate stability, and human resource development.

Stiglitz (2007) also attributes the successful growth performance of East Asia to ambitious and proactive planning. The PNG government's *Papua New Guinea Development Strategic Plan 2010–2030* (GPNG 2010) envisages average growth of more than 8 per cent a year for the 2010–30 period of the strategy. If this is to be achieved, rapid progress will be needed in converting income from the exploitation of Papua New Guinea's rich gas and mining resources into investments to break down the first five constraints of Table 1. The good news is that the *Papua New Guinea Development Strategic Plan 2010–2030* is aimed at achieving exactly this. Certainly, there are often gaps between plans and implementation, but the progress already shown in Table 1 provides cause for optimism. Papua New Guinea will need to avoid regressing on the two remaining issues in Table 1—for example, the implementation of the *Papua New Guinea Development Strategic Plan 2010–2030* will no doubt depend on political stability.

A surge in mining and petroleum

In the early 2000s, there was much pessimism about the mining and petroleum sector and concern that a decline in the sector could lead Papua New Guinea into a protracted recession (for example, DFAT 2004). In the early 1990s, the oil fields of the Southern Highlands came into production, providing a tremendous boost to government revenues. The life of these fields was, however, limited, with production and revenues already at one-half their initial levels when the new millennium began. There was much promise that oil revenues would be replaced with that from

a gas project in which a pipeline would be built to Queensland, but the project never eventuated. Of even greater concern at the time was the expectation that the giant Ok Tedi copper and goldmine was to close at the end of the first decade of the 2000s.

One decade on and the mood has shifted from pessimism to a gold-fever level of excitement. Securing the Exxon-Mobil led liquefied natural gas project has been pivotal to the emergence of this newly found optimism. To add to the fever, another large gas project led by InterOil is at an advanced stage of planning and stands a good chance of proceeding. For mining, the talk is now of a forthcoming boom.

The liquefied natural gas project

In December 2009, the much talked about Exxon-Mobil led liquefied natural gas project received its final go-ahead and was scheduled to begin production in 2014. The exploitation of Papua New Guinea's vast gas reserves has been more than a decade in the making. The PNG government holds a direct stake of about 19 per cent, of which 2 per cent is held on behalf of provincial governments and landowners. An additional indirect stake is held through the government's shareholding in the consortium partner, Oil Search.

At this stage, the project consortium closely guards projections of production and government revenues. Based on an early report, however, the annual value of output would, from the outset, exceed US\$3 billion (K8.1 billion) a year and the government should expect annual tax and dividend revenue in excess of US\$1 billion (K2.7 billion), rising to about US\$1.5 billion (K4 billion) by the mid 2020s when the capital costs are amortised (Acil Tasman 2008). If oil prices continue above the assumed US\$65/barrel, revenues will be much more than this. Significant revenues will also flow to provincial governments and to landholder groups.

There are three good reasons for excitement about this project. First, the project life is at least 30 years and it is expected the revenue flows will be sustained for this period. Second, in order to attract finance, the production and revenue projections are, by necessity, conservative. There is a large potential upside to production based on discovered reserves, and the pipeline infrastructure is being designed to allow new fields to be tapped. There is also potential for the emergence of a significant downstream processing sector.

The third and perhaps most significant reason is that the PNG government appears to have secured a good fiscal arrangement for the project. This is no mean feat. Government negotiators in developing countries are almost always outgunned at the negotiating table against the might and expertise of the mining and oil companies. As Stiglitz (2007:141) points out: 'It is the strategy of oil, gas and mining companies to make sure the government gets as little as possible—while, at the same time, helping the government find arguments for why it is necessary for the government to receive so little.' The PNG government has resisted pressure to provide concessions and has stuck to its guns in negotiations. Key to the strength of the PNG government's negotiations was the 'whole of government' approach, with all key ministries engaged in the process. The outcome is that revenues amounting to about one-third of the value of production will flow to the government from the outset in about 2015. Moreover, the PNG government successfully negotiated the application of a new 'additional profits tax' for the project. This means that in times of high oil prices (to which gas prices are pegged) 'super profits' beyond a normal rate of return will be subject to additional taxation, thereby ensuring that such resource windfall rents are shared with Papua New Guinea.

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Curiously, and to reinforce the point made by Stiglitz, a similar tax previously applied to all mining companies in Papua New Guinea but was abolished in the early 2000s—just before the commodity price boom. Understanding what this has cost Papua New Guinea is difficult to determine. In view of the ‘super profits’ that have been earned during the commodity price boom, it is likely, however, that the mining companies have saved billions of kina as a result.

Things are not necessarily all rosy for the liquefied natural gas project as there are key areas of risk. First, there are the issues surrounding landowners. Establishing the rightful beneficiary landowner groups is a daunting challenge and inevitably there will be claims from groups outside the project area. Even when landowning groups are properly identified, there is the concern of converting income flows into investments for the social and economic benefit of the local communities. The recent experience of the Southern Highlands is telling. Despite the substantial income flows into the region as a result of exploiting its mineral wealth, the social and economic indicators show that the people there remain among the poorest in the country. In an attempt to deal with this issue, the government’s deal with landowners incorporates initiatives for investing in social and economic development.

The second key risk relates to how well the substantial revenues accruing to the government can be converted into investments for Papua New Guinea’s development. The endemic failure of developing countries to convert mineral wealth into development has given rise to the ‘resource curse’ literature. The resource curse is, however, avoidable. Botswana and Malaysia are examples of countries that have converted natural resource wealth into rapid and sustained development. The next

section explores further the management of revenues.

A third risk is that delays in project implementation will push back the timeframe for profitability and the receipt of tax and dividend revenues. The ADB (2010) cautions that large liquefied natural gas investments in other countries have tended to slip. Consequently, the ADB expects real GDP growth in 2010 to be lower than government forecasts: 5.5 per cent, before rising to 7.7 per cent in 2011.

Crude oil

Since the first flow of oil at Kutubu in the Southern Highlands in the early 1990s, production has been in steady decline (Figure 3). This decline has abated to some degree with production from new, smaller fields. No doubt, high oil prices have helped sustain production in recent years by providing impetus to investment. Exploration activity remains strong, with 50 licences and 35 licence applications for petroleum prospecting and nine petroleum development licences at the end of 2009. Unless there are significant new developments, however, the outlook is for a continued decline in production of crude oil as a result of the depletion of reserves in the existing oil fields.

Mining

The global financial crisis has had an impact on the domestic mining industry, particularly the junior exploration sector, with many companies laying off staff and curtailing programs. Several industry players were lost or merged with others. There are, however, already signs of recovery as several smaller players have been successful in raising new equity and several more have completed deals that will result in significant additional exploration expenditure in 2010. Drilling programs

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have continued or restarted at most of the advanced exploration sites around the country, including Yandera, Frieda, Wafi-Golpu, Woodlark, Kainantu and Tabar, although programs at several of these locations are at a reduced level.

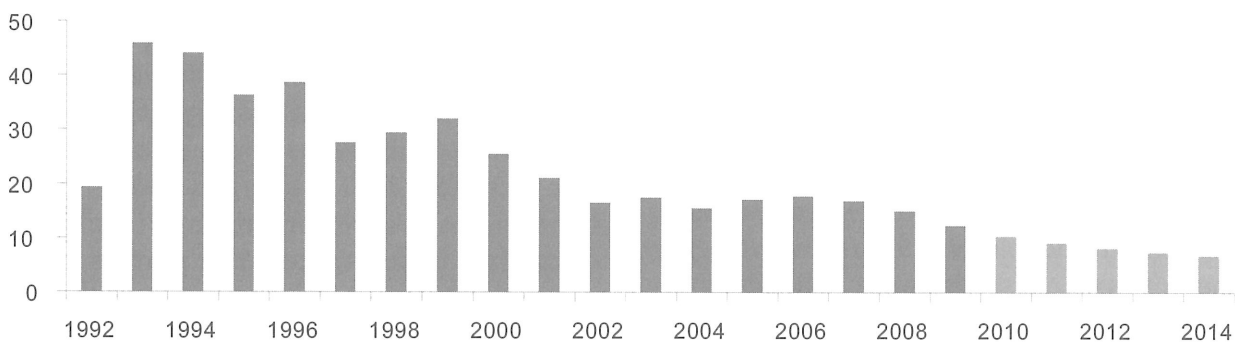
The commissioning of two mines is set to provide a boost to mining activity in Papua New Guinea. In mid 2009, the Hidden Valley goldmine in Morobe Province began production, with expected annual extraction rates of 250,000 ounces of gold and 4 million ounces of silver. The output could increase in future years with the equity holders undertaking significant exploration activity in the vicinity of the mine. By mid 2010, the giant Ramu nickel mine near Madang will begin production. Significantly, the mine life is expected to be upwards of 30 years. Annual production is expected to exceed 30,000 tonnes of nickel and 3,000 tonnes of cobalt, resulting in annual revenues of more than US\$600 million (K1.6 billion).

The Ok Tedi mine generates substantial income for the PNG economy and is more than 80 per cent PNG owned through the majority shareholding of PNG Sustainable Limited and the PNG government's 30 per cent stake. The mandate of PNG

Sustainable Limited is to invest earnings from the mine in sustainable development, particularly in Western Province where the mine is located. The impending closure of the mine, in 2013, will have a significant impact. There has, however, been significant capital expenditure at the Ok Tedi mine (a tailings scheme, drainage tunnel and a second clean-up dredge), and a decision is expected shortly on whether to invest in an extension of the mine's life to 2020 through a hybrid open pit/underground operation. Much will depend on the financial and environmental feasibility. If it proceeds, production for the period will be about half the current levels.

There are other good prospects for future growth in mining activity. At the Lihir goldmine a plant upgrade has begun, which will raise output to 1 million ounces a year from 2012. At prevailing gold prices, this will generate more than US\$1 billion (K2.7 billion) in export revenue. A smaller goldmine at Woodlark Island in Milne Bay Province is expected to begin production in 2013. The Freida River copper and gold project in northwestern Papua New Guinea is anticipated to reach production in 2016, with a 20-year mine life. If this happens it

Figure 3 Crude oil production, 1993–2009, and projections to 2014 (millions of barrels)



Source: Unpublished data from the PNG Department of Petroleum and Energy, Port Moresby.

will be a significant milestone for Papua New Guinea as the project involves one of the world's largest undeveloped copper and gold resources and is likely to be of a scale similar to the Ok Tedi mine. Copper reserves are estimated to be 7.5 million tonnes and gold reserves are estimated at 14 million ounces.

A current highlight of the PNG mining industry is its success in becoming a leading global player in the development of deep-sea mining. By 2012, a major deep-sea mine known as the Solwara 1 project is expected to begin production. Mining will take place 1,600 metres below the surface in the Bismarck Sea west of central New Ireland.

Another resource boom, another opportunity

For the foreseeable future, Papua New Guinea will be an extractives-dependent economy. The challenge for a government dependent on natural resources is to resist short-term temptations, progress reforms that benefit all and avoid the seemingly inevitable negative consequences on macroeconomic stability and governance of extractives projects. In this context, so-called sovereign wealth funds have become a fashionable suggestion for a mechanism to mitigate adverse impacts and possibly save revenues for future generations.

The budget papers survey the range of options for Papua New Guinea. Much of the debate has been focused on the mechanism rather than the policy intent of such a move. Arguably, given Papua New Guinea's chequered history of managing mining and oil booms,⁴ the mechanism is a lesser concern than the fundamental policy questions about what such a fund would be trying to achieve. We try to return this debate to basics by asking a series of policy questions about the intent of a sovereign

wealth fund for Papua New Guinea (Box 1). The answers to these questions should drive the debate and choice of mechanisms, not the other way around.

Foreign aid and the skills gap

The changing foreign aid landscape

Foreign aid is becoming increasingly less important in Papua New Guinea. During the 1980s, Papua New Guinea was heavily dependent on foreign aid, with grants averaging about 12 per cent of GDP (Figure 4). Foreign aid fell sharply in the 1990s, to less than 8 per cent of GDP by the close of the decade. By the end of the first decade of the 2000s, foreign aid as a share of GDP had fallen further to just 4 per cent of GDP. If one were to extrapolate this trend, foreign aid would disappear by 2020.

Since Papua New Guinea's independence in 1975, Australia has been the dominant donor. In the first decade after Papua New Guinea's independence, Australian aid made up 96 per cent of all aid, which grew steadily from A\$233 million in 1975 to A\$313 million in 1985. After 1985, Australian aid stabilised about A\$320 million, until the latter part of the first decade of the 2000s. The ensuing sharp decline in Australian aid in real terms is the key reason for the decline in the importance of foreign aid shown in Figure 4.

Until 1990, 90 per cent of Australian aid was used in direct budget support, while the remainder was for activities outside the Government of Papua New Guinea's budget circle. Concerns about accountability and effectiveness, however, led thereafter to the radical shift in the management of foreign aid to programmatic or tied aid. During the 1990s, program aid was phased in, and budgetary support was wound down completely by 2000. Papua New

Box 1 Managing Papua New Guinea's future liquefied natural gas and other windfalls: some initial key questions, rather than answers, for policymakers, civil society and donors

The economy-wide impacts of one-off windfalls, which have been experienced by many countries, have been analysed for a long period. The earliest analysis of the macroeconomic impacts of large resource projects identifies that, for governments, there are dilemmas in choosing the optimal use and distribution of these windfalls, especially how and to whom they should be allocated and what share should be preserved for future generations. The potential for loss of competitiveness that might be experienced by the private, non-resource export sector has always been a central concern. In most countries, the largest non-resource export sector is typically agriculture, with the added worry that this sector is generally the one on which the poor are highly dependent. The problems include a higher real exchange rate, making the non-resource sector's exports more costly and raising the economic costs of its domestically sourced inputs. This is because the sector has to compete for labour and capital with the booming resource sector. In a much smaller number of cases concentrated in the Caribbean and Africa, plantation and industrial agriculture have been the booming sectors imposing costs on other sectors.

A second key group of potential impacts is those affecting governments and governance. Research has suggested that windfall resources make the job of earning revenues relatively 'easy' for governments, so that they do not face pressures to provide the services their taxpayers desire, or the incentive to focus on productive projects or undertake beneficial reforms. It has also been argued that large revenues from resource projects contribute to poorer governance. The consensus from the literature is that countries rich in natural resources experience slower per capita real income growth than those without. This potentially poisonous mix of macroeconomic, political-economic and governance impacts has often been described as 'Dutch disease' or the 'resource curse' (Sachs and Warner 1995).

Papua New Guinea, by virtue of its economic and social history since independence, is arguably a textbook case for all of these problems. Consequently, before precise mechanisms for managing resource flows are put forward, perhaps the most important question for policymakers is what their objectives are.

- How would they transfer surpluses from mining and oil into other sectors, remembering that much of Asia developed on the back of agricultural surpluses being saved and diverted into public infrastructure and social expenditures that rapidly expanded human and social capital (especially getting large numbers of children through primary and secondary school)? These educated children were in a position to take advantage of the opportunities that emerged in the export-oriented, labour-intensive manufacturing industries.
 - For any savings vehicle, is the primary purpose macroeconomic management (of inflation and exchange rates) or averting poor governance? If it is about macroeconomic management, any mechanism should be invested primarily in offshore assets.
 - In practice, the governance of the MRSF was weak and more recently the PNG government transgressed its own transparent fiscal rules. When it is time for the funds to be spent, what hope is there for other such mechanisms?
 - If governance has proved weak, why not bypass the government entirely and provide cash handouts of surplus revenue in boom periods directly to households, just as shareholders receive cash from corporations that cannot sensibly invest profits? The good Alaskan experience with the distribution of dividends from its oil fund is perhaps the most prominent version of this approach.
 - How much should be saved and how much spent now? What is the implicit discount rate applying for present and future generations? If Papua New Guinea is going to be mineral and oil rich for several generations to come, why is there any need to save for future generations? Should Papua New Guinea spend the resource earnings now to help raise people out of poverty?
 - What of sub-national governments? They are substantial and have the greatest direct role in providing core public services to the poor, especially roads, schools and health services. If surpluses are to be spent in genuinely expanding human and physical capital across the country, should the focus be on helping the sub-national governments to save their windfalls properly so that they can invest prudently in their populations?
 - Following the experience so far with trust accounts, how can governments be encouraged to spend draw-downs prudently or not draw down resources at all?
 - How can governments be prevented from spending too much of the windfall before it arrives, which might be a problem for the liquefied natural gas project?
 - How can any draw-down arrangement be made consistent with fiscal rules.
-

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Guinea's other key bilateral donors—Japan, the European Union, China, New Zealand, South Korea and the United States—also provide program or project aid, while China, on occasions, provides direct budgetary support. The World Bank group and the ADB continue to provide concessionary loans for public investment.

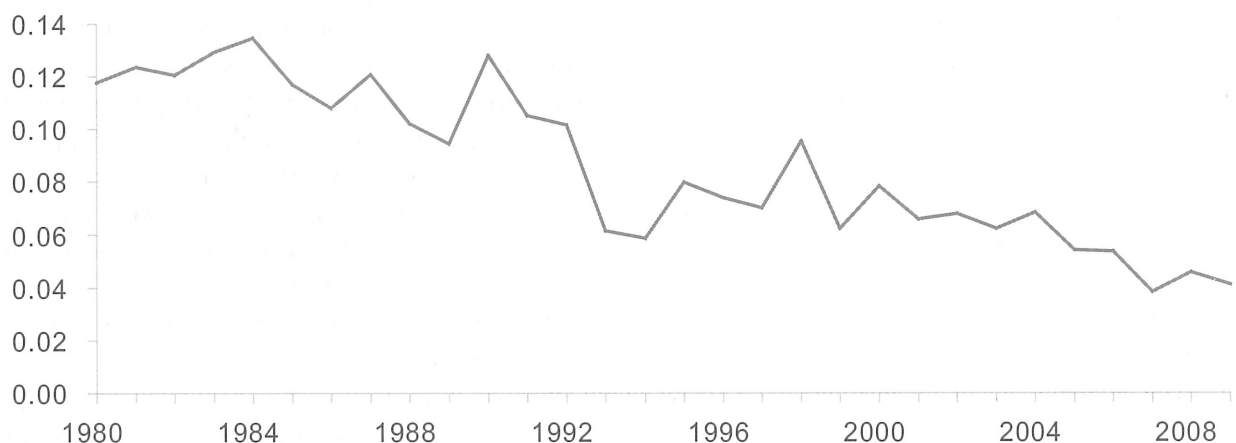
The focus away from direct budget support to donor-led projects and programs has raised some interesting questions about aid effectiveness. The first point to consider is that the onus of accountability has shifted from the PNG government to donors. Against this, the transparency of Australia's aid program is poor at best—as confirmed by a recent report by the Australian National Audit Office (ANAO). The report states that 'AusAID's approach to classifying costs is not in line with conventional practice and reduces the transparency of aid program expenditure, and the agency's accountability for costs that it controls' (Australian National Audit Office, 2009, *AusAID's Management of the Expanding*

Australian Aid Program, available at <http://www.anao.gov.au>). For example, it is not possible to assess accurately the amounts being allocated to the direct provision of infrastructure and services, to technical assistance to fill the skills gap or to the commissioning of consultants for internal administrative purposes in the Australian Agency for International Development (AusAID). The ANAO report alludes to the existence of the last category, but there is no way of knowing to what extent such administrative costs are reclassified as technical assistance.

The skills gap

What is clear is that technical assistance makes up the bulk of foreign aid to Papua New Guinea, particularly from Papua New Guinea's largest donor, Australia. That technical assistance is required at all is symptomatic of a skills gap in Papua New Guinea. The local workforce does not have sufficient tertiary and postgraduate educated people to meet the needs of

Figure 4 Declining importance of foreign aid, 1980–2009 (percentage of GDP)



Sources: Derived from data obtained from the PNG Department of Treasury Budget Papers, various years, and UNDATA (data.un.org/Default.aspx).

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the PNG government. The upshot is that Papua New Guinea has become *dependent* on foreign donors to fill the skills gap—as happens in most of the world’s low-income countries.

The strategy of donors for dealing with the skills gap comes back to the issue of aid effectiveness. One does not need to be a rocket scientist to understand that the root cause of the problem is a lack of capacity in the higher education system, as well as in the higher secondary education system that feeds into it. Papua New Guinea’s higher education and post-year eight secondary education institutions are, however, somehow excluded from donor assistance. Donors are therefore addressing the symptoms without looking at the cause. The exception is the scholarship support provided to a select number of Papua New Guineans to gain postgraduate education abroad. The numbers are, however, insufficient to make significant inroads into the skills gap; and the deficiencies of the primary, secondary and tertiary sectors undermine the ability of the scholarship holders to take full advantage of the opportunities for overseas education.

In 2009, Papua New Guinea received about US\$340 million in aid.⁵ Although lack of transparency means there is no way of knowing for certain, it is possible that the amounts spent on technical assistance have exceeded US\$200 million (2.5 per cent of GDP). The official figure from the Organisation for Economic Cooperation and Development (OECD) database suggests US\$168 million, but there are all kinds of classification issues. Regardless, contrast these numbers with the PNG government’s annual budget for higher education of about US\$32 million.

The diversion of foreign aid to the direct filling of the skills gap and away from other areas in need of finance is not the only consequence of an inadequate higher

education system. The limited availability of skilled labour presents a major constraint to business and investment (Table 1). When the engineers, accountants, lawyers and information technology specialists are not available in the local labour market, businesses are forced to recruit from abroad. The cost of skilled labour has become exorbitant—especially in the context of the high cost of real estate discussed in the next section—compromising the competitiveness of local businesses. Moreover, the hire of foreign labour represents a significant leakage abroad of domestic value added. Based on data from a 2009 employment survey,⁶ about K780 million was being paid to foreign labour—equivalent to 3.6 per cent of GDP (GPNG, 2010). It is reasonable to expect that most of this is transferred abroad—particularly when one considers that foreign workers paid by donors are generally exempt from income tax.

Making foreign aid work for Papua New Guinea

The objective of foreign aid under various UN charters is to build the economic capacity of recipients to take care of themselves and to participate in global development. A wide literature has emerged debating the practices and effectiveness of donors in meeting this objective. The general recommendations from the literature call for improvements in the institutional mechanisms such as governance, political regimes, domestic policies and macroeconomic stability so that aid can be channelled effectively to promote economic growth. In the international arena, major inroads have been made to reinforce aid effectiveness.

Since independence, Papua New Guinea has received about US\$11 billion in grant aid and perhaps another US\$15 billion in concessionary loans (data.un.org/Default.aspx; Department of National Planning and Monitoring n.d.). The data

are, however, very sketchy and the lack of donor expenditure records points to one of the flaws in aid practice in Papua New Guinea, where donors have had their own program implementation units running in parallel with PNG government systems. Donor funding is reflected in Papua New Guinea's annual budgets, although Papua New Guinea does not have any control over the real expenditure. Whatever good such resources might have delivered is clouded by Papua New Guinea's poor social development indicators. Some authors have already given their verdict that aid has failed the countries of the Pacific, including Papua New Guinea (for example, Hughes 2003). The reasons behind the lack of impact could include lack of policy oversight, a disjointed development policy environment, donor-driven versus policy-driven programs and parallel systems. The situation has worried politicians and bureaucrats in Papua New Guinea, prompting a rethink in the way aid is delivered.

Papua New Guinea has now embraced the recent international framework for aid effectiveness—as outlined in the Paris Declaration and Accra Agenda for Action (AAA)—as the way forward for how donors operate in the country. Poor transparency and accountability at AusAID was no doubt a key trigger for Papua New Guinea being the world's first developing-country signatory to the International Aid Transparency Initiative launched in 2008. Conforming to the new international agenda means that donors will be obliged to direct aid flows behind the *Papua New Guinea Development Strategic Plan 2010–2030*. Importantly, the plan will include a requirement for a significant reduction in technical assistance. For all of this to work, however, Papua New Guinea will need to build its institutional capacity to take control of the aid agenda in the country.

Why is property so expensive in Port Moresby?

One of the unexpected surprises that new residents and investors to Port Moresby find is the extraordinary price of unimproved and improved property in all categories. While consistent and comparable public data are not readily available, an array of anecdotal evidence (for example, 'Port Moresby housing price boom leaves locals homeless', *Radio Australia*, July 2009. Available from <http://www.radioaustralia.net.au/pacbeat/stories/200907/s2615666.htm> [accessed February 2010]) suggests that prices are at a high level and that they have been increasing rapidly in recent years.

A central concern is the fact that housing in Port Moresby is increasingly unaffordable for most Papua New Guineans. Even those with formal sector employment are being forced to live in settlements. There are other adverse impacts on the economy and society, especially the upward pressure it puts on the prices of domestically produced goods and services. It is also a significant disincentive to invest and live in Port Moresby, which must impose constraints on investment, economic growth and development for the whole country.

A property affordability crisis

These issues have recently been given prominence at the policy level by the Independent Consumer and Competition Commission's real estate industry review (ICCC 2010a), which puts forward proposals for expanding housing supply and improving housing affordability for ordinary Papua New Guineans. The ICCC considers that the PNG housing sector is 'in crisis' and needs urgent attention from the national government, by implementing its proposed reform package (ICCC 2010b). The thrust of these proposed reforms is

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geared around increasing the availability of land for housing and adopting measures to attract greater private sector investment in the construction of housing.

The crisis raises the obvious question of why land and properties are so expensive to rent and purchase. There have always been demand-side pressures from aid inflows, relatively rapid population growth, sporadic mining and oil booms and, more recently, the liquefied natural gas project, which will drive prices even higher in the next few years. These factors could partially explain the high price levels. On the supply side, however, it is not clear that there is an *absolute* land shortage in Port Moresby, given the abundance of undeveloped alienated blocks that can be seen throughout the city. If the customary land in the city was also alienated and marketable, this would of course help ease supply pressures; but this is a more challenging and complicated task to achieve in practice, as a range of analyses has long highlighted (for example, Lea 2001). The reforms to land laws catalysed by the National Land Development Taskforce could help expand urban land supply in Port Moresby and elsewhere, but this will not happen quickly and any impact on the housing stock will take some time to show. The outcomes of trials under way in several urban and peri-urban areas of the country using these new arrangements will be of great interest.

As there are no official data compiled on property prices, this survey presents some basic purchase and rental price levels quoted by Port Moresby real estate agents during February 2010. Explanations for the high prices on the supply side are considered, including land alienation issues and regulatory structures for land release and building construction, as well as the demand pressures. There is some consideration of whether the current price levels are sustainable, and some short-term

and longer-term policy suggestions for easing the property affordability crisis are put forward.

Ideally, this survey should also consider price pressures in the other major urban areas. The ICCC (2010a) report suggests that the imbalance between demand and supply is largest in Port Moresby and, to a lesser extent, Lae. Given the problems with law and order in the peri-urban areas of Lae—driven partially by housing costs and insecure land tenure for the settlements—the inclusion of Lae in the analysis would be a worthwhile exercise; however, it is beyond the scope of this short survey.

Construction activity

There is a paucity of data on PNG construction-sector activity. The National Statistical Office's *Building Statistics* (2000) suggested that annual dwelling completions averaged about 95 per annum during 1997–2000. Reliable GDP data on an expenditure basis are not available, so annual additions to the housing, commercial and industrial property stock cannot be readily assessed. The limited data do point, however, to something of a building boom in recent years. GDP estimates by industry show the construction sector accounting for 14 per cent of the economy in 2009. Construction was the largest industry contributor to growth during calendar years 2008 and 2009 (GPNG 2009). The government considered that the construction sector was operating close to full capacity during 2007, 2008 and 2009 (GPNG 2009).

Bank of Papua New Guinea employment data also support the view that the construction sector has been booming, with construction industry formal employment growing by about 80 per cent in the five years to the December quarter of 2009. For the same period, total formal employment grew by 33 per cent (Bank of Papua New Guinea 2010). The data do not separate out

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employment for the purpose of housing as opposed to that for industrial and commercial projects. Unfortunately, Bank of Papua New Guinea lending data are not available specifically for housing finance.

Property prices

There are no official data available to shed light on the realised sales prices, returns and trends in property markets. Ideally, there would be a price index compiled consistently over time that makes some adjustment for compositional differences of different property types. This would be compiled from sales data. The unique features of the property market mean that any index faces compositional problems. Every individual property is unique and property markets are thin at some points in the economic cycle but very fluid at others. Even point-in-time valuations are somewhat theoretical, since the entire housing stock could not be feasibly purchased and sold at any given price at one point in time by domestic purchasers only. Generally speaking, supply and underlying demand fundamentals should explain prices, but household confidence levels and the 'animal spirits' of investors are often better short-run explanations of price trends. These forces can wax and wane quite rapidly and unpredictably, as the recent experience in the US housing sector has shown.

To at least partially fill the information gap, this survey presents property prices quoted by a range of real estate companies in Port Moresby during February 2010. These data are not pretending to be complete or perfectly representative, but are intended to give some insight into the property affordability crisis presently afflicting many ordinary Papua New Guinean households and businesses. Data were collected for residential, industrial and commercial properties in the formal sector. Data were not collected for the settlements. On the

advice of agents on broad price levels applying in different parts of the city, Port Moresby was split up into three zones

- zone A: town (CBD) area, Paga Point, Kone Dobu, Ela Beach, Two Mile Hill
- zone B: Poroperena Villages, Hanuabada, Koki, Badili, Gabatu, Sabam, Korobosea, Boroko, Gordons, Savannah Heights, Six Mile, Hohola and Waigani
- zone C: Tokarara, Ensis Valley, Morata, Gerehu, Kila Kila, Rainbow Valley Estate, Seven Mile, Eight Mile and Nine Mile.

Data were collected for purchase and rental prices for housing. Rental prices for commercial and industrial properties were collected. This information was sourced from five real estate agents: LJ Hooker, Strickland, BoiBoi, Century 21 and Ray White. For housing, the data are based on a sample of 339 listed properties. The data presented represent the average of the range of prices quoted for each property type (Table 2).

The data collected showed that quoted housing property prices in Port Moresby were at extraordinarily high levels

- two-bedroom dwellings in zones A, B and C were selling for an average of K470,000
- three-bedroom dwellings in zones A, B and C were selling for an average of K872,000
- in zone A, two and three-bedroom dwellings were listed for an average of K1.9 million
- for zone B, 210 one to three-bedroom dwellings were listed for an overall average of K644,000
- for zone C, the 71 dwellings of one to four bedrooms in size were listed for an average of K348,000
- the cheapest listed dwelling of *any* form that could be found in zone C was a

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Table 2 Port Moresby prices for residential, industrial and commercial properties, February 2010

	All zones	Zone A	Zone B	Zone C
	Kina			
Residential purchase				
Average	820,000	2.1 million	716,600	418,000
Most expensive	3.8 million	3.7 million	3.8 million	2.2 million
Least expensive	110,000	875,000	157,000	110,000
Residential lease (K per annum)				
Average	112,000	204,000	114,600	34,900
Most expensive	521,400	521,400	312,000	83,400
Least expensive	10,400	41,600	33,800	10,400
Commercial/industrial lease (K per sq m per annum)				
Average	789	1,050	729	567
Most expensive	1,500	1,500	1,000	650
Least expensive	400	750	400	450

Source: Port Moresby real estate sales data, 2010, Published and unpublished data of five Port Moresby real estate agents, provided to the author in February 2010.

one-bedroom unit in Tokarara listed for K110,000.

As far as residential rentals are concerned, the picture is not much better.

- In all zones, on average, one to three-bedroom rentals were listed for an annual rental equivalent of K82,000.
- In zone A, four-bedroom apartments were listed for an average of K425,000 per annum rent and three-bedroom dwellings for an average of K178,000 per annum rent.
- For zones B and C, one to three-bedroom dwellings were listed for an annual average of K71,000.
- In zone C, one to three-bedroom dwellings were fetching K30,000 in annual rent.

- The cheapest rental dwelling of any form was a one-bedroom unit in Rainbow Valley, for K13,000 per annum.

Residential businesses are also not being spared the pain. For commercial and industrial property

- in zone A, businesses signing leases now are being charged K1,050 per square metre per annum
- in zone B, businesses are signing leases for K729 per square metre per annum
- for the handful of properties in zone C for which data are available, office space is leasing for K567 per square metre per annum.

While no data were collected in settlements on the rental prices applying there, anecdotal evidence from the real estate agents was that basic dwellings in

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the subset of settlements where stable rental arrangements were possible were renting for K150 a fortnight, or K3,910 per annum, plus costs. If this is correct, such settlements are probably of borderline affordability for an entry-level or unskilled formal sector worker with a family to look after.

How plausible are these results?

There was a range of imperfections with these data and approach: the data were not measured over the course of one calendar year (seasonality could play a part), properties of different sizes were being compared and realised prices were likely to be lower than advertised prices. That said, the results unambiguously point to property being very expensive for a country of Papua New Guinea's per capita income level. A house in zone C is unaffordable for most people in formal sector employment, let alone the majority of Papua New Guineans. Purchasing properties in the more salubrious regions of zone B is now out of the question, and the apparent prices of properties in zone A are so far out of reach they might as well be in New York, London or Tokyo.

When one further considers that the typical requirement for buyers trying to lend from financiers is to have at least a 20 per cent deposit (or 30 per cent if they do not have superannuation savings), accessibility for ordinary purchasers seems even more unlikely.⁷ In addition, the data represent gross prices and do not include other costs.

Prices understate true costs

Such other costs could be substantial. New purchasers will likely have to spend additional funds repairing their dwellings. As the ICCC (2010b) points out, the dwelling stock in Papua New Guinea is in a generally average state of repair, with many buildings constructed about

30 or more years ago. Solidly constructed dwellings are the exception rather than the rule, especially for stand-alone houses. For commercial property, the tightness of the market is confirmed by the fact that premium properties in a good state of repair and with all modern amenities—such as Deloitte Tower (K1,000 per square metre per annum)—do not rent for substantially more than older properties offering much lower amenity, such as Mogaru Haus (K900 per square metre per annum).

Renters face other costs in tight markets. The residential rental prices do not always include furnishings, brown and white goods and running costs. Renters in tight housing markets in any country inevitably struggle to motivate landlords to make essential repairs, for fear of being replaced by tenants paying even higher rents. The ICCC's analysis suggests that, in practice, a lease offers renters little protection from this behaviour. Even for those who can afford a modest dwelling in Gerehu—one of the remotest suburbs—there can be substantial travel costs for workers making the journey to jobs in the town area.

Real estate agents indicated that the single most important feature of properties in Port Moresby was the quality of security provided. Units and apartments in compounds tend to fetch a premium, partially because they tend to be more secure by their nature and the fixed costs of security can be spread across several dwellings rather than one. Renters and purchasers in stand-alone dwellings or compounds with poor security face additional costs in terms of a higher risk of crime.

Housing rates of return

One way to assess whether the results are plausible is to assess rates of return. The sample size for this analysis is tiny by any measure since only 21 of the 361 residential properties for sale have published data

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for the current lease. For these properties, the average gross rate of return was 7 per cent per annum, which was lower than the typical 10 per cent return-on-capital benchmark. If this figure is correct, it points to some overvaluation in the market. A bigger sample size and additional data are necessary to draw firmer conclusions.

Explaining these prices

A range of supply and demand-side factors could help explain these prices. On the supply side, there is the well-documented limited growth in the supply of marketable, traditionally owned land. The ICCC (2010a) also points to large holdings of state lease land in Port Moresby held by state-owned public enterprises. It contended that these holdings were sizeable, but during its lengthy investigation process it was unsuccessful in fully identifying them and their magnitude from public enterprises or from Lands Department records. Nonetheless, it sensibly argues for their identification, release, auction and sale—and it is hard to think of any reason why this should not be possible.

Another possible explanation is that town boundaries for urban areas have been broadly stable since independence and governments have not been able to expand these boundaries to allow cities to grow naturally. Many of the settlers in Lae's challenging peri-urban areas live on state land with uncertain tenure and this uncertainty in part explains the socioeconomic problems apparent. This constraint is, of course, intimately related to Papua New Guinea's limited success in encouraging customary land to be marketed as land available for subdivision or commercial development.

The ICCC also argues that perhaps the most important explanation for the tight supply situation is the nature of state land release. In particular, the vertical-

chain approach to developing land under urban development leases (UDLs) from the subdivision stage to home construction stage is undertaken with little transparency, it encourages developers to 'sit' on valuable land while they gather funds to further develop blocks and it locks out smaller building contractors.

The high costs facing developers encourage them to build properties targeted at the premium end of the market, rather than at ordinary Papua New Guineans. Government involvement in housing provision has been inefficient, has not even come close to meeting demand from public servants, let alone other groups in society and, since completions by the National Housing Corporation have been so low, this has had the effect of locking up otherwise marketable state land without the benefits of private sector development. Rezoning of land appears to happen relatively easily. Indeed, real estate agents consider zoning issues the least important of the constraints on greater supply. Marketability of land is considered to be the major constraint on supply.

There are some demand-side explanations for the tight housing and commercial property situation. As already mentioned, aid inflows and mining and oil booms have underpinned demand for premium properties. The liquefied natural gas project will no doubt add markedly to demand, especially during the construction phase. Port Moresby's rapid population growth rate also continually raises demand across all property categories.

During the 1990s, macroeconomic volatility and uncertainty about the direction of political events dissuaded all but the most risk-loving developers from construction projects. After 2001, political stability emerged under the Somare government, and the mining and oil price boom kicked off in 2005. This boosted underlying

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demand, which galloped some way ahead of available supply. During 2008 and 2009 and into 2010, the property market in Port Moresby must have been driven to some extent by the draw-downs in funds from the trust accounts noted earlier.

A final demand-side explanation to consider is the role of financiers. Is it possible that excessive lending to consumers has driven demand? The evidence does not support this conclusion. Bank of Papua New Guinea lending data do not separately identify housing finance, but the fact that commercial banks continue to require a 30 per cent deposit and a lengthy credit and savings history suggests that PNG banks' lending standards have not noticeably deteriorated, even during the mining and oil boom. Commercial banks' housing and commercial property portfolios remain conservatively managed and their funding sources are primarily domestic rather than international capital markets. Other cashed-up domestic investors, such as superannuation funds, have been more active and exposed to the property sector. Many commercial buildings and higher-end rental properties are owned by corporate entities.

Is there a bubble?

The data presented on returns suggest that properties might be a little overvalued. Going forward, there is primarily upside risk to demand through 2010 and 2011, assuming some of the additional workers on the liquefied natural gas project become resident in Port Moresby and that the timing of this project does not slip. As that demand is unwound, there might be some market adjustment, but the mining and oil prices that bloat government revenues might be just as important. Given the tightness apparent in all parts of the market and the fact that the pressure is primarily on the supply side, it is difficult to envisage a sharp decline in prices occurring any time soon.

The real estate agents consulted note that many investors are expecting 10 per cent annual price growth. They probably will not be disappointed in the next few years, as supply slowly catches up with demand. This trend cannot, however, go on forever. In the long run, demand for housing should reflect underlying population growth rates and average new household formation rates. By definition, this game can be played out only between residents. Foreign investors might inflate property markets but only for limited periods. For example, a long-run study of the New York commercial property market from 1899 to 1999 found that, adjusting for inflation, commercial office property values were 30 per cent lower in 1999 than in 1899. It also found that within any decade, property values could move up and down markedly, but the long-term appreciation in commercial property was no greater than inflation (Wheaton 2006).

Policy recommendations

In dealing with this 'crisis', the most important things that governments can do to ease the supply and demand imbalances so that ordinary Papua New Guineans can more easily afford housing are

- identify, gather up and auction available state lease land held in all parts of the public sector in a transparent manner
- reform the UDL process, in particular auctioning UDL rights and allowing various models of developers, builders and subcontractors to emerge, rather than a large developer-builder model supported by the State
- work closely with communities in peri-urban areas, using the recent the land reforms to expand the supply of tradeable and developable land; to this end, the community-based trials under way in several places must be rolled out elsewhere if they prove to be a more successful approach

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- for settlers on state land, consider giving or selling titles, to improve certainty and encourage more permanent dwelling construction, which will improve socioeconomic conditions in these areas and permit governments to provide chargeable services in a more formalised manner
- reconsider the gazetted town boundaries and whether, in concert with community-based trials under the lands reform, additional supply can be brought to the market
- reconsider the role of the National Housing Corporation (NHC) in providing dwellings and use the private sector for NHC developments to maximise the supply of affordable dwellings
- consider the other elements of the package of the ICCC's proposed reforms, to expand supply and improve affordability.

Notes

- ¹ The official estimate from the Department of Treasury is 4.5 per cent. The figure of 4.2 per cent is derived by averaging with the International Monetary Fund's estimate of 3.9 per cent.
- ² Economic historians could counter that the currency crisis of 1994, when foreign reserves were rapidly run down, constituted a larger deficit in the absence of an Australian government bailout.
- ³ 'Additional mineral revenue' is the portion of mineral and oil revenue that exceeds 4 per cent of GDP.
- ⁴ For example, the resource boom of the 1990s saw the failure of the Minerals Resources Stabilisation Fund (MRSF) and recently there was the failure to adhere to the principles of the fiscal rules in the MTFS and *Fiscal Responsibility Act 2006*.
- ⁵ Calculated from data reported in GPNG (2009).

- ⁶ Undertaken for the Department of National Planning and Monitoring and the Office of Higher Education.
- ⁷ Loan application information obtained by the author from Bank of South Pacific, Boroko branch, February 2010.

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