CHAPTER 11. UPDATE TO ECONOMIC AND FISCAL IMPACT OF PNG LNG

11.1 OVERVIEW

This section provides an analysis of the potential impact of the PNG LNG project on the PNG economy, following the decision by project partners to fully execute the project after financing and sales arrangements were finalized in March 2010. The analysis updates earlier projections published in the 2009 Budget based on the latest available data, and some refinements to the methodology and assumptions.

The PNG LNG project, undertaken by an Exxon Mobil led joint venture is the largest project undertaken in PNG. The project is an integrated development that includes gas production and processing facilities in the Southern Highlands and Western Provinces of Papua New Guinea, including liquefaction and storage facilities (located northwest of Port Moresby on the Gulf of Papua) with capacity of 6.6 million tons per year. There will be over 700 kilometers (450 miles) of pipelines connecting the facilities.

The investment for the initial phase of the Project, excluding shipping costs, is estimated at US$15.0 billion. Employment in the project is expected to peak during the four year construction phase at approximately 12,000 workers, about one third of whom are expected to be Papua New Guinean citizens.

Over the life of the Project, PNG LNG is expected to produce over nine trillion cubic feet of gas and 200 million barrels of associated liquids. First LNG deliveries are scheduled to begin in 2014 supplying four major LNG customers in the Asia Pacific region through long-term sales.

11.2 THE DIRECT IMPACT ON THE PNG ECONOMY

The PNG LNG project will be the largest and most expensive investment in PNG to date; however, the extent of the impact on Gross Domestic Product (GDP) depends on how much of the economic activity actually occurs in PNG. Much of the project construction material will take place offshore, which does not add to the size of the domestic economy.

The construction phase of the project covers field development, pipeline and PNG liquefaction plant, storage and load out. In this phase, it is assumed that all of the capital expenditure occurs offshore, and 90.0 per cent of the labour costs will be for foreign labour, with 10.0 per cent for domestic labour. While overall construction cost of the project will see direct activity of US$15.0 billion, only 4.5 per cent, or around US$675.0 million is expected to directly affect the PNG economy over the construction period.[10]

Similarly, much of the annual operating expenditure will be sourced from offshore, with an estimated 95.0 per cent of the non-labour costs imported, and an average of around 15 per cent of the labour costs relating to foreign labour. The domestic share of economic

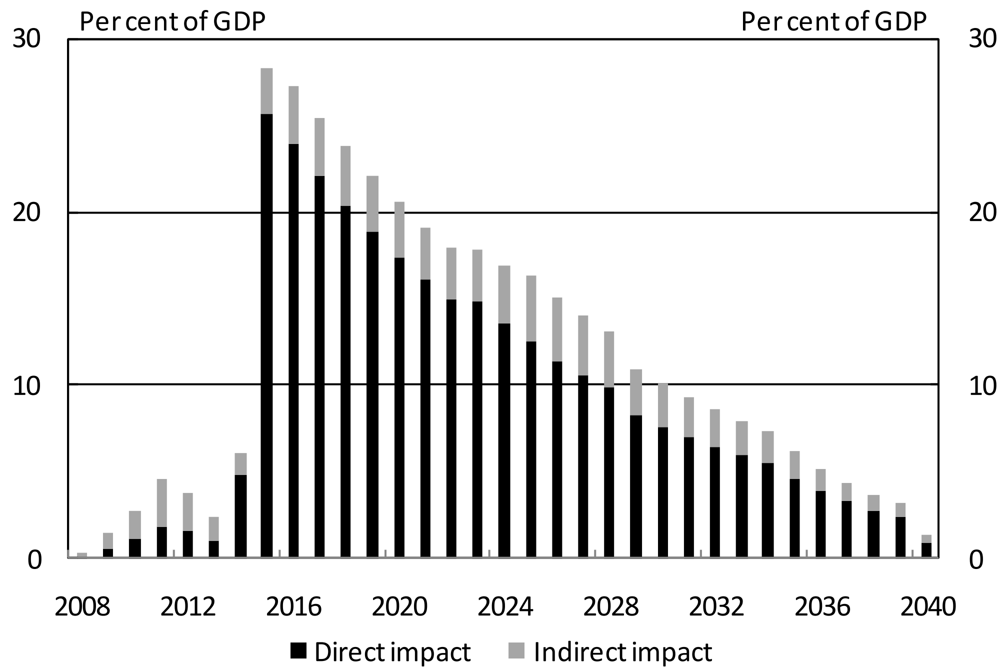
[10] This includes only PNG produced goods and services produced onshore; onshore spending on imported goods is largely excluded in this figure.

activity relating to operations and maintenance is estimated at around 21.0 per cent, translating to around US$40.0 million per year.

In all, the direct economic impact on GDP in PNG is expected to be relatively small during the construction phase. This is because most of the expenditure will take place offshore, or will be paid to foreign labour, who are assumed to spend only 10.0 per cent of their income within PNG.

The major economic impact from the PNG LNG project will be felt in the first year of full production, which is expected to be 2015, providing a very large boost to GDP. Once production begins, the direct impact on GDP will be very large, as all of the value added from the project is recorded as taking place in PNG. Over the length of the project, annual gross value added is estimated to average around K2.0 billion in real terms. Over the peak production phase, this represents an additional 20.0 to 25.0 per cent of GDP per year, although the relative impact is expected to decline over time as the economy increases in size and as production declines towards the end of the project's life (Figure 40).

Figure 40: Direct and Indirect Impact on Real GDP

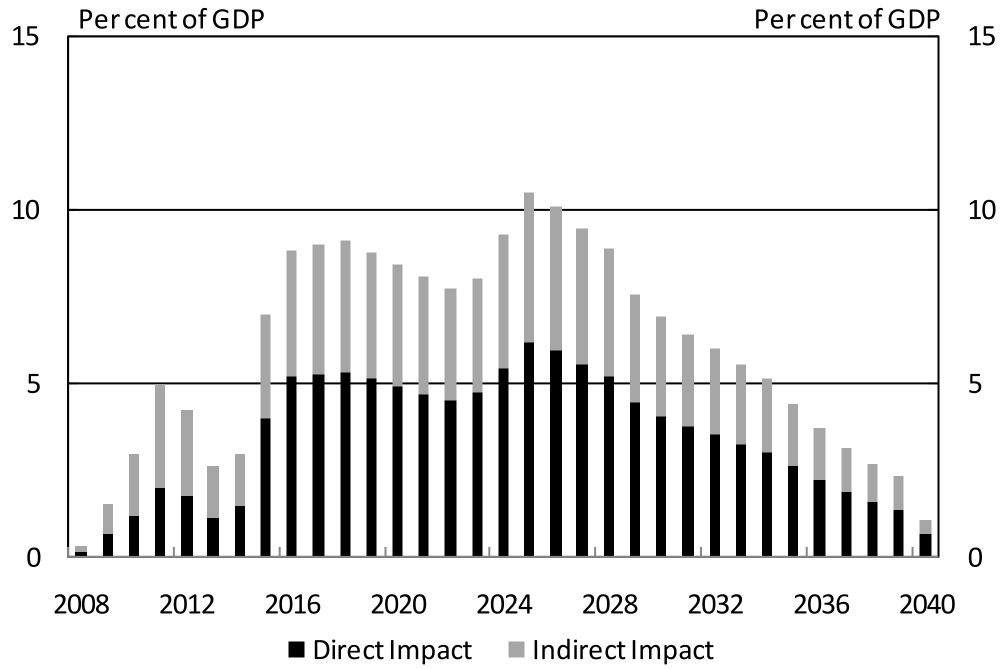


Note: Comparison is against baseline real GDP. This is the estimated level of GDP in the absence of the PNG LNG project.
Source: Department of Treasury

However, when estimating the economic impact of major investment projects in PNG, it is important to draw the distinction between production and income. This is because most of the gross operating surplus will be repatriated offshore, in the form of dividends or interest repayments on debt. These income outflows will not have any major economic impact within PNG. The income remaining onshore will include tax payments, which make up the bulk of the impact, dividend payments to PNG residents, royalty and development levy payments to landowners and provinces, as well as income earned by local employees and contractors. While it is usually more useful to examine production in real terms, so as to abstract from changes in prices, when analyzing income, the nominal impact (which includes both price and volume changes over time) is more relevant. Therefore the impact on Gross National Income (GNI) is stated in nominal terms.

Figure 41 shows that the most significant increase to GNI is expected to occur with the production and sale of LNG in 2015, with the impact on GNI peaking at around 11.0 per cent of baseline nominal GDP in 2025. During the first ten years of production, there is projected to be a higher outflow of income due to the repayment of principal and interest on debt. From 2023 onwards, the GNI profile increases, reflecting the fall in interest payments as project debt declines and tax concessions are exhausted. However, from 2025 the profile declines again due to revenue growing more slowly than GDP growth and as production of LNG declines.

Figure 41: Direct and Indirect Impact on Nominal GNI



Note: Comparison is against baseline nominal GDP. This is the estimated level of GDP in the absence of the PNG LNG project.
Source: Department of Treasury

11.3 THE INDIRECT IMPACT ON THE PNG ECONOMY

The methodology employed by ACIL Tasman has been used to estimate the indirect impact of the project on economic activity in PNG. The indirect impact reflects the flow-on effects of higher government expenditure on the broader economy, additional domestic expenditure from foreign workers and increased business and consumption activity generally. Applying a multiplier of 0.7 to the direct impact on GNI provides an estimate of around K450 million annually in real terms of additional activity over the life of the project. In addition, during the construction period, when there are large numbers of expatriate employees working in PNG, their local expenditure (assumed at 10 per cent of their incomes) is anticipated to add to indirect activity – in the range of K100 to 200 million per annum in real terms during the peak of the construction phase.

These indirect impacts are likely to come from a number of sources, including increased business activity from local companies that supply goods and services to the mining project and its employees, increased activity relating to higher Government expenditures, as well as increased domestic activity from unrelated activities, such as agriculture, that experience higher aggregate demand and possibly improved access to markets.

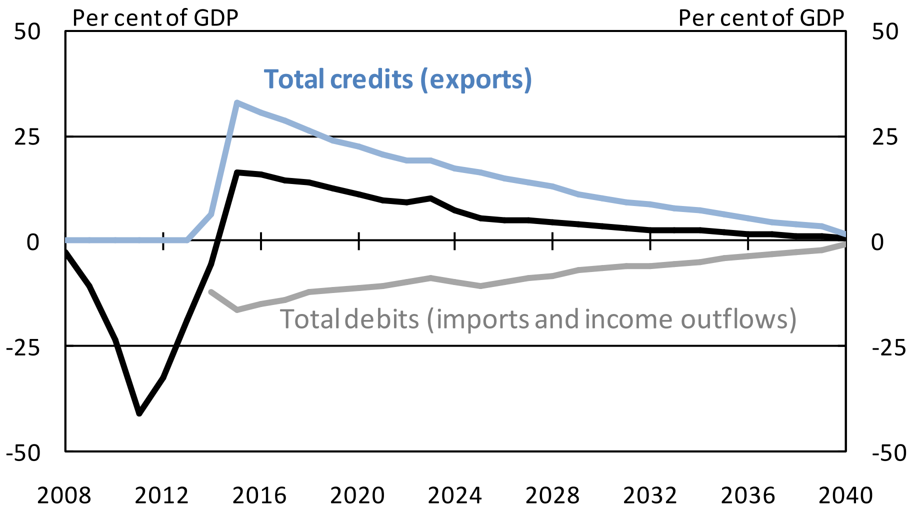
The project's total impact on the economy is the sum of the direct and indirect impacts. The total impact on real GDP is estimated to average around K3 billion to K3.5 billion in real terms (an increase of around 25 to 30 per cent) over the peak production phase of the project, and average around K2 billion to K2.5 billion per annum in real terms over the life of the project.

While the total impact of the project on nominal GNI, which provides a more representative picture of the economic impact of the project, once overseas flows are removed, is around K7 billion per annum in nominal terms or 6 per cent of nominal GDP.

11.4 THE IMPACT ON THE BALANCE OF PAYMENTS

The PNG LNG project is also anticipated to have an extremely large impact on PNG's balance of payments. During the initial construction phase, large amounts of imports and income payments can be expected to result in exceptionally large current account deficits (Figure 42). Once construction is completed, and production begins, the increases in exports are expected to move the current account into surplus, although this will be partially offset by increased income outflows, as interest and dividend payments flow offshore.

Figure 42: Impact on Current Account Balance



Note: Comparison is against baseline nominal GDP. This is the estimated level of GDP in the absence of the PNG LNG project.
Source: Department of Treasury

The majority of construction activity is anticipated to be imported directly from overseas, or built and assembled within PNG by foreign residents on short term visits. The construction materials, worth approximately, K22 billion, will be recorded as imports of goods and services, while payments to expatriate employees temporarily residing in PNG, worth approximately K18 billion, will be recorded as compensation of employees in the income account (although some may fall under service imports). These imports and income payments will result in an extremely large current account deficit.

As the project moves into the production phase, exports of LNG, condensate and LPG are expected to be worth K13 billion to K14 billion annually. Partially offsetting this will be imports of goods and services and payments made to foreign workers of around K1 billion to K1.5 billion per annum, resulting in a large trade surplus.

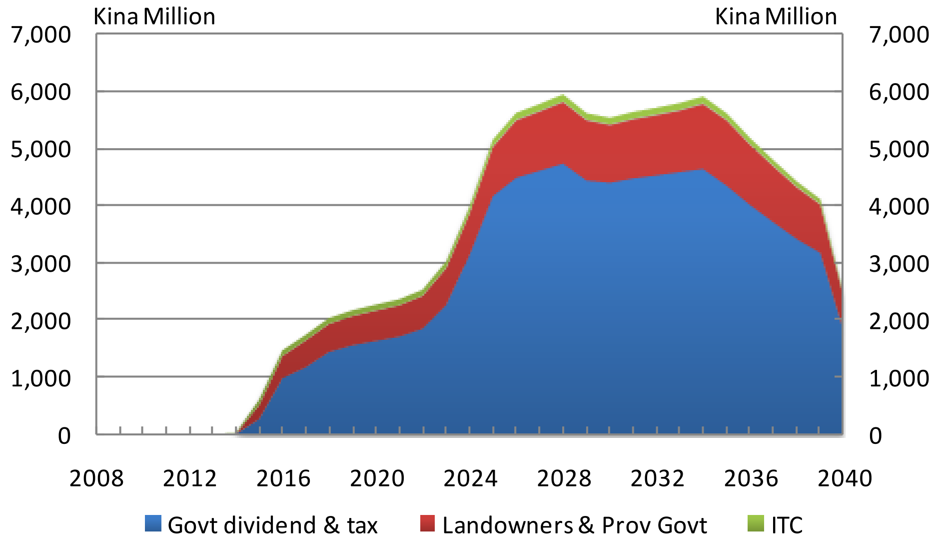
However, under current accounting rules, there will also be significant income outflows in the form of interest expenses, dividend payments and reinvested income (if the profits are not paid out as dividends).[11] This will result in a large income deficit, which will initially offset the trade surplus coming from LNG exports, before declining once taxable depreciation write offs and elevated interest expense end approximately 12 years after production begins.

11.5 REVENUE IMPACT AND DISTRIBUTION OF BENEFITS

The major benefit of the PNG LNG project to the National Government, provincial governments and landowners is from distributions of company tax (reported as mining and petroleum tax revenue or MPT), mining royalties (including the development levy) and dividends on equity. A small portion of company tax will be paid indirectly through the Infrastructure Tax Credit Scheme.

Treasury has made its own assumptions in estimating the flow of revenue receipts. As such, this analysis should be regarded as providing indicative estimates only. The most significant of these assumptions relate to LNG pricing and PNG LNG's dividend policy (which is assumed to distribute all of its annual after-tax profit to shareholders with a six month lag). Estimates are also based on the assumption that landowners take up their full entitlement to purchase additional equity in the project of 4.1 per cent. It has been assumed that the major equity partners (Exxon Mobil and Oil Search etc) are non-resident entities and hence the associated dividends are paid offshore.

Figure 43: Distribution of Annual Revenue within PNG



Source: Department of Treasury

Figure 43 shows the estimated annual distribution of revenue to the National Government from MPT and dividends and to provincial governments and landowners (from mining royalties and dividends). It also shows annual non-cash payments through the infrastructure tax credit program. Of the revenue paid to the National Government, around three-quarters

[11] The balance of payment accounting treatment is based on the framework set out by the IMF, and may not necessarily be consistent with the cash flow treatment.

is paid as MPT revenue over the life of the project, with the remainder paid as dividends to Kroton No. 2 and Petromin.

Government revenue is expected to increase rapidly during the first 10 years of production, as the benefits of accelerated depreciation (a form of tax concession) are gradually exhausted. Lower tax payments in the first ten years provide the project with additional retained earnings, which are assumed to repay project debt (this assumption also contributes to greater dividend stability). Revenue is then expected to be relatively stable until production starts to decline later in the life of the project.

Total National Government revenue to 2040 is estimated at about US$31 billion, which is 64 per cent higher than the 2009 Budget estimate of US$19 billion over the same period, largely due to higher price assumptions compared to the earlier analysis.

Based on Treasury assumptions, total receipts from PNG LNG (received between 2014 and 2040) are distributed as follows. Around one-third is paid overseas in costs (particularly capital costs and interest payments), around one-third is paid overseas as dividends, and around one-third remains in PNG. Of the amount of revenue that remains in PNG, the vast majority is paid as tax revenue, dividends, royalties and infrastructure tax credits to the National Government, provincial governments and landowners, with around 10 per cent paid as operational costs.

This analysis reflects the current status of the PNG LNG project. Accordingly, it does not account for the possibility of an additional LNG train for the PNG LNG project, which is being contemplated. In addition, it does not capture the economic and fiscal impact of the prospective second LNG project in PNG led by InterOil, which would also be significant.