PAPUA NEW GUINEA’S EXTRACTIVE RESOURCE SECTOR: TOWARDS A POLICY OF LEANER TAX INCENTIVES

Diane Kraal
Francis Odhuno
# Table of Contents

Abstract                                                                                       v
1. Introduction                                                                              1
2. Overview of Papua New Guinea’s Extractive Industry                                         3
   2.1 Oil                                                                                     3
   2.2 Natural gas and liquefied natural gas (LNG)                                              3
   2.3 Mining                                                                                  5
3. Tax incentives in practice                                                                  9
   3.1 Definitions                                                                             9
   3.2 Arguments for tax incentives                                                            9
   3.3 Arguments against tax incentives                                                        10
   3.4 Tax competition                                                                         11
4. PNG resource taxation and tax incentives                                                    13
   4.1 Taxes on oil and gas projects                                                           13
   4.2 Taxes on mining projects                                                                16
5. Methodology                                                                               19
6. Findings                                                                                  21
   6.1 Case studies of Australia, Malaysia and Indonesia                                       21
   6.2 PNG: FDI in the extractive industry                                                     24
   6.3 PNG tax expenditure data                                                               26
   6.4 PNG: Tax incentive provisions and ‘intent’ in legislation                               28
7. Analysis                                                                                  31
   7.1 Case studies                                                                            31
   7.2 FDI, tax expenditure and incentive provisions                                          32
8. Conclusions and Recommendations                                                           33
References                                                                                  35
Appendix A.  Australia: Extractive Industry Tax Incentives                                   41
List of Charts, Figures and Tables

List of Figure

Figure 1: PNG LNG project map 4
Figure 2: Current mining projects in PNG 6
Figure 3: Energy Justice: The triangle of energy law and policy 12
Figure 4: Petroleum Exploration Expenditure in PNG (PGK Million), 1986 to 2006 25
Figure 5: Mineral Exploration Expenditure in PNG: 2007 - 2012 25
Figure 6: Trends in PNG Tax Expenditure, 2005-2016 27
Figure 7: Share of Various Income Tax Incentives, 2005-2016 27

List of Tables

Table 1: Crude Oil Proven Reserves (billion barrels) 3
Table 2: Natural Gas Proven Reserves (trillion cubic feet) 4
Table 3: Mining Production in PNG, January–December 2015 7
Table 4: Total FDI in case-study countries in million US dollars 32
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>APEC</td>
<td>Asia-Pacific Economic Cooperation</td>
</tr>
<tr>
<td>APPEA</td>
<td>Australian Petroleum Production and Exploration Association</td>
</tr>
<tr>
<td>APT</td>
<td>Additional Profits Tax</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of South East Asian Nations</td>
</tr>
<tr>
<td>AUS/AUD</td>
<td>Australian Dollar</td>
</tr>
<tr>
<td>BP</td>
<td>British Petroleum</td>
</tr>
<tr>
<td>CIT</td>
<td>Corporate Income Tax</td>
</tr>
<tr>
<td>EITI</td>
<td>Extractive Industry Transparency Initiative</td>
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<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GST</td>
<td>Goods and Services Tax</td>
</tr>
<tr>
<td>ICMM</td>
<td>International Council on Mining Metals</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>IRC</td>
<td>Internal Revenue Commission</td>
</tr>
<tr>
<td>LNG</td>
<td>Liquified Natural Gas</td>
</tr>
<tr>
<td>MCA</td>
<td>Minerals Council of Australia</td>
</tr>
<tr>
<td>MCC</td>
<td>China Metallurgical Group Corporation</td>
</tr>
<tr>
<td>MIGA</td>
<td>Multilateral Investment Guarantee Agency</td>
</tr>
<tr>
<td>MRA</td>
<td>Mineral Resources Authority</td>
</tr>
<tr>
<td>NMP2</td>
<td>National Mineral Policy 2</td>
</tr>
<tr>
<td>NRGI</td>
<td>National Resource Governance Institute</td>
</tr>
<tr>
<td>OEDC</td>
<td>Organisation for Economic Cooperation and Development</td>
</tr>
<tr>
<td>PGK</td>
<td>Papua New Guinea Kina</td>
</tr>
<tr>
<td>PNG</td>
<td>Papua New Guinea</td>
</tr>
<tr>
<td>PRRT</td>
<td>Petroleum Resource Rent Tax</td>
</tr>
<tr>
<td>RDA</td>
<td>Resource Development Agreement</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>SLO</td>
<td>Social Licence to Operate</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>US$/USD</td>
<td>United States Dollar</td>
</tr>
<tr>
<td>VAT</td>
<td>Value Added Tax</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
</tbody>
</table>
Abstract

This paper reports on a review of tax incentives for the extractive resource sector in Papua New Guinea (PNG) to ascertain whether the incentives are economically beneficial for the country’s economy. A qualitative research approach was used that combined a triangulation of methods to compare tax incentive practices in PNG with that of Indonesia, Malaysia and Australia. A high level of discretion in providing tax incentives outside of legislation was evident in Indonesia and Malaysia, whereas legislated tax incentives for extractive industries are the norm in Australia. In contrast, the PNG government has, until now, provided ad hoc project-specific tax incentives to promote investment and distribute economic activity across the country. The country’s fiscal regime for the extractive sector is also not incorporated in general legislation. The paper explored whether tax incentives are linked to an increase in foreign direct investment (FDI), but no nexus was found between a high discretion for tax incentives and increased FDI. Due to the general lack of transparency in the PNG tax incentive system, it is not possible to ascertain the value of tax incentives. Indeed, given the absence of reliable reports of revenue loss on tax incentives, it is difficult to assess the merits of particular extractive sector tax incentives in the PNG context. PNG’s resource sector is the recipient of unnecessary additional tax incentives. Further support for this conclusion is the literature, which points to resource prospectivity, rather than tax incentives, as the primary motivator for FDI into the extractive industry. We recommend a policy program of leaner tax incentives for the extractive resource sector in PNG. An amendment to the *Fiscal Responsibility Act 2006* is necessary for tax expenditure statements to be prepared outside of the national budget.
Successive Papua New Guinean (PNG) governments have enacted legislation that allows taxpayers meeting certain criteria to reduce their taxes. Currently, tax incentives enjoyed by businesses in PNG depend on the industry and location of the business activity (Papua New Guinea Taxation Review Committee, 2015). The most conspicuous is the case of businesses engaged in oil, gas and mining activities. However, no PNG government has rigorously tested whether its tax incentives benefit the wider community. Moreover, the total value of tax breaks given by previous governments to attract and keep businesses in PNG is not known, giving no rebuttal to the argument that tax concessions and exemptions are not necessary to attract private sector investment. Yet such tax breaks are policy choices with significant implications. If a government does not base these types of tax decisions on evidence, it could result in less revenue to spend on public goods and services with no real benefit. By contrast, industry claims that if a government is not providing tax incentives, it could miss out on opportunities to create jobs for further economic growth (Papua New Guinea Taxation Review Committee. 2015).

Tax incentive issues in PNG were the subject of a special report by the PNG Taxation Review Committee (2014b). Indeed, the Taxation Review Committee’s final report (2015, p. 16) states that tax incentives in PNG have been overused and not been well targeted. It suggested that, compared to ad hoc tax concessions, strategies such as reducing the corporate tax rate, for example, would be more effective in encouraging investment in various sectors of the country’s economy.

The International Monetary Fund (IMF) 2016 Country Report for PNG (IMF, 2017b) refers to the PNG Tax Review Committee report of October 2015, and notes that fiscal revenues from the resource sector may not improve significantly unless the PNG government avoids granting tax holidays and concessions for future resource projects. The IMF states: “Measures drawn from the National Tax Review should be adopted going forward” (IMF, 2017b, pp. 9, 18).

Before advocating for the elimination of ineffective tax breaks in PNG, consideration needs to be given to the wider effect of tax incentives. The main research question of the study is whether tax incentives given to the extractive resource sector are economically beneficial for the PNG economy. A qualitative research approach is used to generate responses to the question. The ultimate aim is to provide policy recommendations on tax incentives to facilitate a beneficial and new approach.
2. Overview of Papua New Guinea’s extractive industry

PNG is situated in the Asia-Oceania region where competition for project capital is said to require governments to apply competitive fiscal arrangements within a predictable and stable tax regime to successfully compete for foreign direct investment (FDI). According to the IMF country report, (2017b, p. 30) the petroleum industry (oil and gas) now represents the bulk of PNG’s exports (58 percent), followed by mining at 22 percent. “Extractive industries account for an increasing share of exports and output”, to the extent of 23 percent of overall GDP (IMF, 2015a, p. 23).

The next sections first provide an overview of the regional and local oil and gas industry, followed by an overview of the mining sector.

2.1 Oil

Table 1 shows crude oil reserves in the Asia-Oceania region where it is evident that PNG is not a significant net exporter of crude oil, when compared to Australia, Indonesia and Malaysia. Crude oil production in PNG is from its mature fields of Kutubu, Gobe and Moran. Oil production in PNG is in decline (PNG Chamber of Mines and Petroleum, 2017). Thus, from a government perspective, oil revenue is minor, which is relevant in considering the future of policy on tax incentives for oil.

Table 1: Crude oil proven reserves (billion barrels)

<table>
<thead>
<tr>
<th>Net export countries of crude oil (Asia-Oceania)</th>
<th>2015</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>4.00</td>
<td>26</td>
</tr>
<tr>
<td>Brunei</td>
<td>1.10</td>
<td>39</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.60</td>
<td>28</td>
</tr>
<tr>
<td>Malaysia</td>
<td>3.60</td>
<td>27</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>0.20</td>
<td>59</td>
</tr>
<tr>
<td>Thailand</td>
<td>0.40</td>
<td>47</td>
</tr>
<tr>
<td>Vietnam</td>
<td>1.30</td>
<td>25</td>
</tr>
</tbody>
</table>


2.2 Natural gas and liquefied natural gas (LNG)

Table 2 shows that although PNG has proven reserves of natural gas, they are not as large as the reserves in other Asia-Oceania countries, such as Australia, Indonesia and Malaysia. The PNG Government is currently focusing on the need to attract further investment for natural gas production and liquefied natural gas (LNG) infrastructure. But what is the fiscal cost of making such small reserves attractive to investors?

1The IMF 2015 report states that PNG’s agriculture, forestry and fisheries are the largest sectors, at 25 percent of GDP. More up to date source data remains a challenge, with significant gaps in extractive industry data.
Table 2: Natural gas proven reserves (trillion cubic feet)

<table>
<thead>
<tr>
<th>Selected countries (Asia-Oceania)</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>123.00</td>
</tr>
<tr>
<td>Brunei</td>
<td>9.70</td>
</tr>
<tr>
<td>Indonesia</td>
<td>100.80</td>
</tr>
<tr>
<td>Malaysia</td>
<td>41.30</td>
</tr>
<tr>
<td>Myanmar</td>
<td>18.70</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1.80</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>5.00</td>
</tr>
<tr>
<td>Thailand</td>
<td>12.08</td>
</tr>
</tbody>
</table>


ExxonMobil PNG Limited operates the mega PNG LNG gas project, which encompasses an integrated production and processing facility for the export of LNG, for which US$19 billion has been invested in infrastructure by industry.² Gas is extracted from PNG’s Hela, Southern Highlands and the Western Provinces gas fields. The production facilities are connected by over 700 kilometres of onshore and offshore pipelines and include a gas conditioning plant in Hides, in the Southern Highlands Province, as well as a liquefaction and storage facility near Port Moresby.³ Figure 1 shows the connection of gas pipelines from the gas fields to the new LNG plant located near Port Moresby. The first shipment (export) of LNG occurred in late May 2014. In 2017 the project produced 8.3 million tonnes of LNG.⁴ It is estimated that, over the next 30 years, the project will produce more than 11 trillion cubic feet of LNG (ExxonMobil, 2017).

Figure 1: PNG LNG project map

² All facts in this paragraph are from the ExxonMobil website, <https://pnglng.com/About/Project-overview>. The natural gas for the PNG LNG project is from the Hides, Angore and Juha fields.
³ See ExxonMobil website, <https://pnglng.com/About/Project-overview>.
⁴ See ExxonMobil website, <https://pnglng.com/About/Project-overview>.
The PNG LNG project has a number of joint venture partners. The tax arrangements for the project were settled in 2008 when the project participants formally signed a resource development agreement. This agreement established the fiscal regime and legal framework by which the project is regulated and set the terms for state equity participation in the project.

2.2.1 Potential gas projects

In early 2017, InterOil, which held potential condensate/LNG projects at the Elk and Antelope fields in PNG's Gulf Province as well as gas accumulation projects, was taken over by ExxonMobil. Similarly, Oil Search has an expansion strategy concerning gas reserves adjacent to the PNG LNG project as well as a focus on the untested gas reserves of the Gulf of Papua (PNG Chamber of Mines and Petroleum, 2017).

In a joint venture with Talisman Energy, Horizon Oil has a development concept, called the Stanley Condensate Project, in PNG’s Western Province. Condensate will be recovered and then exported. The second product from the process, natural gas, will be sold for domestic use, with unsold gas re-injected into a reservoir for later sale. The PNG Government and local landowners have the option to exercise their rights to take a 22.5 percent interest in this type of project (PNG Chamber of Mines and Petroleum, 2017).

As of March 2016, there were 123 active exploration licences and 68 exploration licences pending renewal in PNG (PNG Chamber of Mines and Petroleum, 2017). These licences cover most of the prospective petroleum areas, and there is a backlog of applications. The new Papua LNG project is the country’s largest undeveloped gas resource project. In April 2019, Total, the operator of the project, and its partners, ExxonMobil and Oil Search, signed a gas agreement with the PNG Government, defining the fiscal framework for the Papua LNG project.

2.3 Mining

The world-class mineral deposits of PNG mainly comprise gold, copper and zinc (Bourassa and Turner, 2013, p. 144). Mining activity in PNG centres on gold, silver and copper, although exploration for other minerals, in particular chromite, nickel, iron, platinum-group metals and industrial minerals, has become more widespread (Bourassa and Turner, 2013).

The copper and gold mines on PNG’s Bougainville Island were formerly operated by Bougainville Copper Ltd (a subsidiary of Rio Tinto). This company wants its production lease renewed and the mine, which has been idle since the Bougainville Crisis in 1989, reopened. At the 2017 Bougainville Copper Limited annual general meeting, the company’s chairman and board pledged to demonstrate project viability by funding a feasibility study in regard to obtaining mining permits and securing funding to reopen the mines (Bougainville Copper Ltd, 2017).

Currently, PNG hosts 8 operating mines; one a recently commissioned nickel mine, and the remainder being gold mines, with some copper and silver by-products. Current mining projects and locations in PNG are shown in Figure 2.
Figure 2: Current mining projects in PNG


2.3.1 Status of mining projects

A summary of mining production in 2015 in PNG is shown in Table 3. The Porgera mine, operated by Barrick Gold Corporation, has been a major contributor to PNG's economy (MRA 2016, p. 17). However, in 2016 the mine downscaled operations after a landslide and the sabotage of power transmission lines (World Bank, 2017, p. 146).

The Ok Tedi state-owned mine was reopened in March 2016 after the suspension of operations in August 2015. It now contributes about K121 million ($US40 million) in foreign exchange every month (MRA 2016, p. 13).

The smaller Tolukuma mine, in the Central Province, commenced production in 2017 under new management – Tokoloma Gold Mines Ltd, a subsidiary of Asidokona Mining Resources Ltd.

The Simberi mine, situated north in the New Ireland Province, is about 900 kilometres from Port Moresby. It is owned and operated by St. Barbara, an Australian company. Gold production is expected to be 100,000 ounces per year, and is ranked after Porgera, Ok Tedi and Lihir (MRA 2016, p. 21).
Table 3: Mining production in PNG, January–December 2015

<table>
<thead>
<tr>
<th>Main project</th>
<th>Leaseholder</th>
<th>Gold (ozs)</th>
<th>Silver (ozs)</th>
<th>Copper (t)</th>
<th>Cobalt (t)</th>
<th>Nickel (t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porgera</td>
<td>Barrick Gold</td>
<td>411.8</td>
<td>79.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ok Tedi</td>
<td>PNG State</td>
<td>264.8</td>
<td>654.7</td>
<td>75.9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tolukuma</td>
<td>Tolukuma Gold Mines Ltd</td>
<td>7.2</td>
<td>13.9</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sinivit</td>
<td>New Guinea Gold Corp</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Simberi</td>
<td>St Barbara</td>
<td>53.1</td>
<td>10.6</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lihir</td>
<td>Newcrest Mining Ltd</td>
<td>755.8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hidden Valley</td>
<td>Harmony Gold Ltd</td>
<td>206.7</td>
<td>1,951.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ramu</td>
<td>China Metallurgical Corp (MCC) 70% and others</td>
<td>-</td>
<td>-</td>
<td>1.8</td>
<td>-</td>
<td>17.7</td>
</tr>
<tr>
<td><strong>Total production</strong></td>
<td></td>
<td><strong>1,699.4</strong></td>
<td><strong>2,710.4</strong></td>
<td><strong>75.9</strong></td>
<td><strong>1.8</strong></td>
<td><strong>17.7</strong></td>
</tr>
</tbody>
</table>

Source: Mineral Resources Authority (MRA) of PNG, (2016).

The Lihir gold mine, operated by Newcrest Mining Ltd, is one of the world's largest. The June 2015 Newcrest Mining report states that gold production in the June quarter was 10 percent above the previous quarter, primarily as a result of a higher-grade product (MRA 2016, p. 15).

The Hidden Valley mine has an anticipated lifespan of 14 years during which it is expected to produce more than 250,000 ounces of gold and three million ounces of silver (MRA 2016, p. 19). The project was jointly funded by Australia's Newcrest Mining and South Africa's Harmony Gold mining companies and is operated through the Morobe Mining Joint Venture (MMJV). In October 2016, Harmony Gold announced its acquisition of the Newcrest share and it now holds 100 percent of the Hidden Valley project.

One of China's largest external investment projects, the Ramu nickel project near Madang, on the north coast of PNG, is operated by China Metallurgical Group Corporation (MCC). Since production started in 2012, nickel and cobalt have been exported to China (MRA 2016, p. 23). In the first few months of 2016, at the behest of the Mineral Resource Authority (MRA) of PNG, the mine was closed for non-compliance (World Bank, 2017, p. 146).

Projects not listed in Table 3 include the Nautilus Solwara 1 project, offshore from the New Ireland Province. It will be the world's first deep seabed mining project for copper, gold, zinc and silver. It is expected to start in the first quarter of 2019, but could be delayed.

The Wafi-Golpu project, near Lae, Morobe Province, purportedly has 4.8 million tonnes of copper and 11 million ounces of gold and is going through various stages of feasibility studies (IMF, 2017b, p. 20).

The Kainantu gold mine, located in the Eastern Highlands Province, is expected to start operations again under its new Canadian owner, K92.

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11 Pronounced as "Kay Nine two" not "Ninety two Kina".
The review below has been generally limited to the literature that covers tax incentive research from academia and relevant publications from the OECD, IMF and the World Bank.

3.1 Definitions

Tax incentives are preferential tax treatments provided to particular groups of taxpayers and usually result in these taxpayers paying less tax or paying later than they otherwise would. (Chen 2015, p. 3). A traditional justification for using tax incentives is to mitigate free market failure (i.e. inefficient allocation of resources) associated with exogenous pressures. Tax incentives are often a result of ad hoc judgment by policy makers on the needs of their jurisdictions. These policy makers perceive certain groups of taxpayers as so crucial to national or regional economic growth that they deserve exclusive tax breaks (Chen, 2015). Tax incentives — also known as tax breaks, exemptions or concessions — can take many forms, as per the list below (James, 2013, p. 20):

- Exemptions: income is excluded from the tax base (for example, tax holidays).
- Allowances: amounts are deducted from gross taxable income (for example, investment allowances).
- Credits: amounts are deducted from tax liability (for example, investment tax credits).
- Rate relief: a reduced rate of tax applied to a class of taxpayers or activities (for example, employee taxes).
- Tax deferrals: relief that takes the form of a delay in paying tax (for example, accelerated depreciation that allows a faster schedule than is available to the rest of the economy).
- Duty exemptions: duty not collected on imports that in the usual course would be collected.
- GST exemptions and/or zero-rated items: GST not collected either on imports, mineral production or value added.
- Privilege zones and project-specific tax relief: for example, infrastructure credits for an industry's social and community infrastructure (ICMM, 2009, p. 44).

Tax expenditure represents the value of tax incentive provisions in the tax code that deviate from some benchmark tax system in a direction favourable to a particular taxpayer group. The concept of tax expenditure also extends to the transfer of resources through reducing tax obligations with respect to a benchmark tax, rather than by direct expenditure (Daly et al., 2009). As tax expenditures have an impact on the budget position, most OECD and European Union (EU) countries prepare annual tax expenditure statements (Astarita, et al., 2014; Manarik, 2010).

Tax incentives are an alternative to direct expenditure as a method of delivering government assistance to encourage preferred taxpayer activities and promote different economic objectives. One of the consequences of tax incentives is that taxes paid by individuals and businesses not benefiting from these concessions need to pay higher taxes to raise the same total revenue.

3.2 Arguments for tax incentives

Tax incentives, when coupled with good infrastructure and a skilled workforce, are said to provide a country with a positive competitive edge. Historically, advocates posit that tax incentives attract FDI (e.g. Holland and Vann, 1998). According to Luo and Yan (2010), international companies assert that tax incentives are an important indicator for assessing a country's investment environment. These researchers claim that the attractive fiscal terms of tax incentives have a fundamental effect on project feasibility and associated economic benefits. Others (e.g. Babajide et al., 2014) contend that a fiscal system should provide adequate compensation to the host government while also encouraging investors.

The PNG Tax Review Committee (2014b, p. 14) identifies economic benefits of tax incentives, such as increased competitiveness against neighbouring countries, and compensation for the cost of doing business in PNG, given
its poor infrastructure. The report also identifies social benefits, such as community training programs.

The research by Moolman and Van der Zwan (2016) concerning the underdeveloped oil and gas sector in South Africa, lead them to suggest that tax incentives may enable the luring of investment to the sector, but their theory remains untested. Kraal’s (2017b) research finds that resource prospectivity is the key concern to extractive industry investors and, while a jurisdiction’s tax incentives are important provisions, they are considered by investors as secondary.

3.3 Arguments against tax incentives

Easson (2001a, 2001b) and Easson and Zolt (2002) have argued that tax incentives for investment — in particular for FDI — are bad in theory and bad in practice. Easson (2001a) examines ways in which tax incentives can be made more effective and more efficient. He argues for targeted, direct expenditure that has less cost to tax revenues and recommends monitoring for tax system compliance and abuse. The PNG Tax Review Committee (2014b, p. 15) acknowledges the shortcomings of tax incentives as tools to achieve policy goals, making reference to the country’s costly and ill-targeted Research and Development (R&D) concessions. There are more effective approaches to fixing investment problems, such as direct grants.

In Zolt’s (2015) more recent research, he holds the view that tax incentives are bad in practice because they are often ineffective, harbour inherent inefficiencies that can erode the tax base, and are prone to abuse and corruption. Indeed, the globally expanding Extractive Industry Transparency Initiative (EITI) is addressing the single issue of corruption and accountability in the sector.12

Other authors support the claim that tax incentives distort investment decisions (e.g. Desai and Jarvis, 2012). James’ (2013, pp. 2, 40–46) research for the World Bank concludes that tax incentives for extractive activities are not necessary because such activities are location-based and the government should collect rents from such resources. Not only do tax incentives result in tax base erosion, ironically, they reward companies for investment decisions they may well have made anyway.

James (2013) concedes there is an argument for non-mining sector tax incentives to anchor investments that have linkages to a local economy, and suggests investment-linked incentives. To evaluate tax incentives, James provides a general framework that assumes an outcome of higher revenues and the consequent benefits that may lead to increased investment and new jobs, which are social gains. He notes that tax incentives also require tax expenditure reporting on their value and associated administrative costs.

Other institutions agree with this World Bank view that extractive industry investment decisions are undertaken without tax incentives as a prime consideration (e.g. IMF, OECD et al., 2015).

The recent update by the World Bank (2017, p. 48) is in support of PNG’s fiscal adjustment program, which targets the removal of tax incentives. The PNG program is projected to save on tax expenditure and lower the country’s deficit over time. The IMF (2017b, p. 35–36) made similar observations that governments should consider systematically reviewing existing tax incentives to determine which of them provide a net benefit to the economy. Good international practice includes evaluating the cost of tax incentives, with the estimates published as part of a government’s annual budget. This initiative improves tax code transparency.

Abimanyu’s (2016) research on Indonesia makes a number of findings about the shortcomings of tax incentives offered. He identifies the problem of reduced Corporate Income Tax (CIT) rates and tax incentives that are often not offset by tax broadening measures. Abimanyu points to investors’ use of transfer pricing to funnel profits to projects with tax holidays and claims that tax incentives are often provided with a lack of periodic review and with no-exit clauses that are often politically motivated. He also observes that tax incentives can be harmful when provided without regional cooperation.

The IMF’s report on Indonesia (2017a, p. 13) notes the need for emerging economies to attract FDI and offers some insights into their lack of success, pointing to mismatched imperatives:

The typical FDI analysis adopts the “push versus pull” framework. Push factors refer to the external supply factors, such as the supply of global liquidity and global risk aversion. Pull factors refer to domestic demand side factors that attract FDI, such as macroeconomic fundamentals, institutional framework and policies [that have not adjusted to push factors].

The IMF’s *World Economic Outlook* (2016) points out that both push and pull factors remain important for FDI, suggesting that source and recipient country policies play a role. The decline in FDI can generally be explained by the narrowing growth prospects between an emerging market and advanced economies. The IMF devoted an earlier *World Economic Outlook* (2015b) chapter to exploring the ‘narrowness’ aspects of the slowdown in FDI in emerging market economies.

The PNG Tax Committee Issues Paper on tax incentives (2014b, pp. 8, 10) identifies key points in relation to a successful tax incentive regime: stability, targeted incentives, taking account of administrative limitations, the exclusion of tax holidays, and using incentives that do not distort investment decisions and are World Trade Organization compliant.

The PNG Tax Committee (2014b, p. 27) goes on to call for a policy and legislative framework for tax incentives, an economic assessment of incentive effectiveness, a process for granting incentives, transparency in the management of incentives, detailed tax expenditure reports and fairness in awarding tax breaks (as incentives currently favour the extractive industry).

An eminent economist, Joseph Stiglitz (2017), calls for limiting tax breaks to rare exceptions, arguing that major institutions, such as the IMF, have put the interests of international businesses ahead of the developing nations they were supposedly helping.

### 3.4 Tax competition

In the economic literature, tax competition has been studied extensively, mainly out of a concern that countries may collectively lose revenues when they set their tax policies independently of each other — relative to setting them cooperatively. For instance, researchers from the IMF (Mansour and Swistak, 2017) consider the issue of tax competition and coordination specifically in the extractive industry, where appropriately designed taxation could be more efficient, given a number of similar sector-specific characteristics. They discuss the role of regional coordination in extractive industry taxation.

Researchers from the independent, non-profit Natural Resource Governance Institute (Bria et al., 2016, p. 20)13 concur that over the long term, reducing taxes is not necessarily the ideal way to increase competitiveness. In examining critical issues concerning Indonesia’s oil and gas legislation, they advocate reforming the nation’s business climate and increasing the efficiency and professionalism of its government institutions.

The literature reviewed above reflects the dominance of economics in the discourse on tax incentives, illustrated by terms such as ‘competitive edge’, ‘fiscal attractiveness’, ‘cost of incentives to tax base’, ‘FDI imperatives’ and ‘tax competition’. While acknowledging the close relationship between energy resource policy and economics, Heffron and McCauley (2017, p. 665) are part of a push to break new ground through the concept of energy justice (e.g. Marsden, 2017; Sovacool et al., 2016).

As a theory, energy (resource) justice provides a decision-support tool for policy makers to balance the energy trilemma of competing aims: economics (tax incentive cost), politics (energy security) and environment (climate change mitigation). It is illustrated in Figure 3.

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13 Natural Resource Governance Institute (NRGI), [<https://resourcegovernance.org/>].
Energy justice might be seen as a variation on the triple bottom line concept (political, social and environmental) advocated previously for mining projects (Kraal and Nash, 2010).

In applying energy justice theory to mining activities, Heffron and McCauley (2017, p. 661) refer to the 1990s precursor ‘Social Licence to Operate’ (SLO) that was developed around mining law and policy.14

Sovacool et al. (2016) take the energy justice concept and operationalise it through 8 core principles: availability, affordability, due process, transparency and accountability, sustainability, both intra- and inter-generational equity, and responsibility — all of which are relevant to the extractive resource sector.

Later in section 7, this paper adapts and applies the energy (resource) justice framework as a tool to analyse the costs and benefits of PNG’s tax incentives to both the petroleum and mining extractive industry sectors.

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4. PNG resource taxation and tax incentives

4.1 Taxes on oil and gas projects

The taxation of oil and natural gas in PNG is provided for in the general provisions of the *Income Tax Act 1959* (PNG). In addition, Division 10 of the Act contains specific provisions for petroleum and designated gas projects.\(^{15}\)

A petroleum project produces any naturally occurring hydrocarbon (or naturally occurring mixture of hydrocarbons) whether in gaseous, liquid or solid state. Designated gas projects are defined in the *Oil and Gas Act 1998* (PNG) which covers upstream activities, pipelines and processing facilities. It provides for the granting of licences for exploration, further assessment of discoveries, and the development of commercial projects, pipelines and processing facilities. The Act also distinguishes between oil fields and gas fields. This differentiation can give rise to different fiscal treatments, where an oil project is converted to a gas project. A gas field is defined as a petroleum field where oil recovery is not expected to be the primary object of petroleum development. A declining oil field may be converted to a gas field for the purposes of the Act. A designated project exists when an agreement has been signed with the Minister responsible for petroleum.

Investor entities might enter into resource and development agreements (RDAs) with the Minister of Petroleum and Energy on behalf of the Independent State of PNG. An RDA can modify the operation of the general taxation legislation by containing negotiated, project-specific tax concessions. An RDA contains the terms for state equity participation and fiscal stabilisation concessions. It can be in conflict with existing laws and that may require amendment of those laws to make them consistent with the RDAs terms. Oil and gas RDAs also contain other fiscal arrangements, such as royalties and fees, as well as landowner equity entitlements and project benefits for local communities and local governments. While these RDAs are confidential, the completion in 2017 of a template for PNG gas agreements will ensure transparency and more consistency in negotiating these in the future (Deloitte, 2017).

4.1.1 Company income tax

After the PNG 2017 Budget, rates were amended to standardise the taxation treatment of resident company income tax to 30 percent across all sectors (PNG Department of Treasury, 2016). Thus, resident mining, gas, and some petroleum companies are subject to a 30 percent company income tax rate. This rate is considered an incentive, given some petroleum projects that began deriving assessable income before 2001 pay a higher, 50 percent, company income tax (PNG Tax Review, 2014a). Note that the PNG Tax Review Committee (2015) recommended that the corporate tax rate be reduced to 25 percent. Other *Income Tax Act 1959* (PNG) recommendations follow below.

**Infrastructure tax credit scheme**

Available to extractive companies, the aim of the infrastructure tax credit scheme is to encourage the provision of infrastructure to local communities where they operate (PNG Tax Review, 2015). Income tax liability is reduced by an expenditure credit for expenses incurred in the construction of public infrastructure. Expenditure on the prescribed infrastructure must be pre-approved by the Department of National Planning and Monitoring. Excess tax credits can be carried forward.\(^{16}\)

Companies may claim an extra 0.75 percent infrastructure tax credit against income tax liability, while petroleum companies working on the PNG LNG project can access a further 1.25 percent infrastructure tax credit. Another 1.25 percent tax credit can be claimed for expenditure incurred carrying out construction, upgrading or emergency repairs on PNG’s key arterial road, the Highlands Highway.

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Infrastructure tax credits are also available for construction and maintenance of roads in the gas project areas. A company is eligible for a tax credit equivalent to the lesser of 1.25 percent of assessable income or 50 percent of tax payable (PNG Internal Revenue Commission, 2013).\(^\text{17}\) The PNG Tax Review Committee (2015) recommended the temporary suspension of infrastructure tax credits until an audit is undertaken, but there has been no indication when this may occur.

**Fiscal stability clause**

Petroleum companies may apply for a ‘fiscal stability,’ clause in Resource Development Contracts with government, which, if granted, result in the addition of a two-percentage point premium to their company tax rate.\(^\text{18}\) Fiscal stability is designed to lock in existing fiscal arrangements. Ultimately, however, an existing parliament cannot legally bind future parliaments in this manner.

**Ring fencing**

Petroleum development and operating costs are deductible on a project basis rather than a company-wide basis. This ring fencing means that losses and operating costs incurred on one project cannot be offset against income from another project, although administration costs are apportioned across projects on a reasonable basis. Exceptions to ring fencing are the concessions for exploration costs, expenditure in relation to discontinued projects and losses from site restoration.

**Depreciation**

A depreciation allowance is available for capital assets for companies in all industries and sectors, including extractive companies.\(^\text{19}\) All are eligible for accelerated depreciation allowances at 1.5 times the capital cost, under the ordinary effective life of plant and equipment. An extra 20 percent of the cost price of eligible plant and equipment acquired in the year of income may also be deducted. Extractive companies can also elect to depreciate their plant and equipment with an effective life of less than 10 years under normal depreciation provisions. An additional investment allowance applies to LNG projects for ‘additional allowable capital expenditure’.\(^\text{20}\) Given the wide range of depreciation-based incentives, the PNG Tax Review Committee (2015) recommended the elimination of additional sector-specific depreciation allowances, as well as accelerated depreciation to simplify the depreciation regime, while noting that these depreciation provisions merely defer tax. The benefit to business, however, is that the payback period on the fixed asset is diminished, thereby reducing the interest payments on capital investments.

**Exploration**

Exploration costs can be entered into a general exploration pool. A petroleum company can claim 25 percent of the pooled exploration expenditure incurred outside the resource project, subject to not reducing income tax payable in that year by more than 10 percent.\(^\text{21}\)

### 4.1.2 Royalties

A royalty is applied at the rate of two percent of the wellhead value of petroleum or gas production. New petroleum and designated gas projects are also subject to a development levy, which is also applied at the rate of two percent of the wellhead value of production. Where both the royalty and development levy apply, the royalty may be claimed as a credit against income tax payable.

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\(^{17}\) Ibid.


\(^{19}\) Sections 73–78, Income Tax Act 1959 (PNG).


\(^{21}\) Section 155N, Income Tax Act 1959 (PNG).
4.1.3 Additional Profits Tax (APT)

Pre-Budget 2017

Additional Profits Tax (APT) was introduced in 2008 for designated gas projects, including the PNG LNG project. The APT becomes payable if and when the accumulated value of a project’s net cash receipts becomes positive.

The APT is a progressive-rate tax that comprises two rates involving two calculations. The first calculation is referred to as calculation X. Under this calculation the cumulative amount carried forward is uplifted using Accumulation Rate X. The second calculation is referred to as calculation Y. Under this calculation the cumulative amount carried forward is uplifted using Accumulation Rate Y.

Currently, accumulation Rate X is 17.5 percent and Accumulation Rate Y is 20 percent, unless the taxpayer has elected to adopt the alternate rates. Where such an election is made, the Accumulation Rate X is 14.5 percent plus the rate of inflation in the United States (as measured by the Producer Price Index) for the year of income. Accumulation Rate Y is 17 percent plus the rate of inflation in the United States (as measured by the Producer Price Index) for the year of income.

The APT rates are 7.5 percent of the amount of taxable additional profits determined under calculation X and 10 percent of the amount of taxable additional profits determined under calculation Y. Any payments of APT at the 7.5 percent tax rate are deductible for the purposes of calculating APT obligations at the 10 percent tax rate (Price Waterhouse Coopers, 2012).

Post-Budget 2017

The PNG Budget 2017 proposed that a revamped APT will apply to all resource projects. Effective from 1 January 2017 there is now a single accumulation rate of 15 percent and the tax rate is 30 percent, however there is an exception for projects with fiscal stability clauses (Deloitte, 2017).

4.1.4 Carry forward of losses

For petroleum and gas operations, taxpayers can carry forward losses indefinitely, compared to a 20-year limitation for other industries.

4.1.5 Withholding taxes

Previously, resource companies were exempt from interest withholding tax on loans used to finance their operations, while non-resource companies were required to withhold 15 percent tax on interest paid to their foreign lenders (PNG Internal Revenue Commission, 2013). The resource company exemption from interest withholding tax to foreign lenders was repealed, from 2017.

Prior to 1 January 2017, resource companies paid a 10 percent dividend withholding tax, while non-resource companies were required to withhold 17 percent for dividends. Dividend and interest withholding tax provisions have now been harmonised for the resource sector to 15 percent, so it is equal to the rate levied on non-resource sectors (PNG Department of Treasury, 2016). In removing the incentives, the aims were to simplify the tax administration, promote efficiency, and ensure fairness in the tax system.

4.1.6 Research and development concession

From 1 January 2014 expenditure on scientific research has been deductible on a 100 percent basis, even if such expenditure might otherwise be capital in nature. Prior to this, Research and Development (R&D) concessions were at the deduction rate of 150 percent.

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22 *Income Tax (2017 Budget) (Amendment) Act 2016* (PNG), point 15, concerns liability for APT. *This Income Tax Act 1959* (PNG) Section 159C, subsections (1) and (2) were repealed and amended with the new rates.

4.1.7 Indirect taxes

Indirect tax incentives provided to the resource sector exist in the form of exemptions from import duty, or reduced rates of import duty and Goods and Services Tax (GST). Outputs are zero-rated for GST purposes, and all inputs to resource projects are also zero-rated. Thus, there is no output GST and no credit needs to be claimed on inputs (PNG Tax Review Committee, 2015).

However, there is an inconsistent approach to import duties across the resource industry. For instance, duty-free importation of equipment and building materials is granted to the PNG LNG project. Other than the five-year import duty exemption for the Ramu nickel project that commenced in 2012, mining companies are generally subject to import duty (PNG Tax Review Committee, 2014a).

Extractive companies also enjoy stamp duty concessions upon transfer of information and exploration and development licences (PNG Internal Revenue Commission, 2013).

4.2 Taxes on mining projects

The taxation of mining in PNG is covered by the general provision of the **Income Tax Act 1959** (PNG) and specifically in Division 10. Provisions for mineral royalties and state equity participation are contained in the **Mining Act 1992** (PNG).

Mining entities might enter into a RDA with the Independent State of PNG. Such agreements have negotiated, project-specific, tax concessions that can modify the operation of general taxation, and contain the terms of any state equity participation and any fiscal stabilisation provisions. As RDAs can be in conflict with existing laws, it may require the amendment of those laws to make them consistent with the terms of an RDA. Resource development agreements also contain fiscal arrangements such as royalties and fees, landowner equity entitlements, and project benefits for local communities and local governments. They are strictly confidential.

4.2.1 Company income tax

Reduced company income tax rates are available for mining companies. Non-resident mining companies pay 40 percent company income tax, while other non-resident companies pay 48 percent. Resident mining companies are subject to the standard 30 percent company income tax rate. The one major exception is the Ramu nickel mine, which from 2012 has been enjoying a 10-year tax holiday from income tax, dividend and interest withholding tax, as well as an exemption from import duties (PNG Tax Review, 2014a).

The infrastructure tax credit scheme and accelerated depreciation allowances are available to companies in mining operations. Both are described above at 5.1.2. The R&D concession is described above at 5.1.7.

‘Fiscal stability’ contract clauses in RDAs are available to mining companies. If granted, these clauses result in the addition of a two-percentage point premium to the company tax rate. Fiscal stability clauses are designed to ‘lock-in’ existing tax legislation and override subsequent fiscal legislation.

Capital and operating costs for mining activities are respectively depreciable and deductible on a project, rather than company-wide, basis since projects are considered independent business units and each project is therefore ring-fenced for tax purposes. Thus, outgoings incurred on one project cannot be offset against income from another project. Operating costs that are attributable to more than one project, such as administration, are apportioned to each project on a reasonable basis.

A mining company can also claim 25 percent of the pooled exploration expenditure incurred outside the resource project. Further, exploration expenditure incurred after 1 January 2003 is eligible for a double deduction.

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24 **Goods and Services Tax Act 2003** (PNG), sections 7(f) and 20(d).
25 **Customs Tariff Act 1990** (PNG), section 9B.
27 **Section 156D, Income Tax Act 1959** (PNG).
28 **Section 156E, Income Tax Act 1959** (PNG).
concession is only provided to mining companies. The 2017 Budget proposed the abolition of the exploration expenditure double deduction to increase the tax base, simplify tax administration and align provisions. This concession has now been repealed.

### 4.2.2 Royalties

A royalty is applied at the rate of two percent of the gross value of mining production (PNG Tax Review Committee 2014a).

### 4.2.3 Additional Profits Tax (APT)

The Additional Profits Tax (APT) has a single accumulation rate of 15 percent and the tax rate is 30 percent. Effective from 1 January 2017, the APT now covers mining projects;\(^29\) however there is an exception for projects with fiscal stability clauses (Deloitte, 2017).

### 4.2.4 Carry forward of losses

For mining operations, taxpayers can carry forward losses indefinitely, compared with a 20-year limitation for non-extractive industries.\(^30\)

### 4.2.5 Withholding taxes and indirect taxes

For interest withholding tax and dividend withholding tax changes, see 5.1.6. For GST, see section 5.1.8.

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\(^{29}\) *Income Tax (2017 Budget) (Amendment) Act 2016* (PNG), point 15, concerns liability for APT. Thus *Income Tax Act 1959* (PNG) Section 159C, subsections (1) and (2) were repealed and amended with the new rates.

5. Methodology

To answer the main research question about whether tax incentives given to the extractive resource sector are economically beneficial for the PNG economy, a qualitative research approach is used in this study. The research uses a triangulation of data gathering methods that include:

1. Case studies of tax incentive practices across selected jurisdictions in the Asia-Pacific region to compare trends with PNG;
2. Ascertaining levels of FDI for exploration and development expenditure in the PNG extractive industry to determine any nexus with tax incentives; and
3. Textual analysis of PNG legislative provisions, tax incentive provisions, or memoranda for the extractive industry to understand the original intention of the legislators.

Case studies of the Asia-Pacific countries of Australia, Malaysia and Indonesia are prepared to enable a comparison of tax incentive trends. These three countries were selected as direct competitors to the PNG extractive industry, in terms of exports to customers in Asia, such as Japan, Korea and China.

Previously, case studies of eight African countries’ tax incentives have been considered by the PNG Tax Review Committee (2014b, pp. 76–77). The African case studies indicated a lack of effectiveness, non-transparency and complexity in their tax incentive systems. The conclusion for these cases pointed to the need for simplification, a reduction in the different types of tax incentives, and removing inequities regarding the beneficiaries of tax incentives.

To establish whether there are any links between an announcement of a tax incentive policy and increased exploration and development, we examine publicly available data sources in regard to levels of FDI for exploration and development expenditure in PNG’s extractive activities. Tax expenditure data for the extractive industry is also gathered.

The third method we use is textual analysis, involving reading and reviewing PNG legislative provisions, tax incentive provisions or memoranda for the extractive industry. This analysis is designed to elicit the original intentions of the legislators to help ascertain whether policy has been effective. For clarification of any ambiguous issues, consultations with key stakeholders in PNG have been undertaken by the PNG-based researcher/author.

The findings generated by the above methods are analysed in section 7 through the tool of energy (resource) justice. It considers the competing economic, political and environmental aims inherent in any resource policy, through the principles of availability, affordability, due process, transparency and accountability, sustainability, responsibility, and intra- and inter-generational equity.
6. Findings

6.1 Case studies of Australia, Malaysia and Indonesia

This section presents our findings from examining three different Asia-Pacific jurisdictions’ approaches to attracting FDI for petroleum and mineral resource extraction through the provision of tax incentives.

6.1.1 Australia: equity and tax incentives

The current tax incentive debate in Australia for the oil and gas industry centres on the equity of the concessionary nature of its profit-based resource rent tax, known as the Petroleum Resource Rent Tax (PRRT).31 The PRRT was introduced in 1987 to attract FDI for petroleum exploration and development, and raise tax revenue (Kraal, 2016, 2017a). Although Australia makes its annual tax expenditure statements publicly available, it does not include a value for the concessions in the PRRT (Australian Government the Treasury, 2017). The PRRT has a range of concessionary design elements that are controversial due to recent revelations about low tax revenues derived by government (Australian Taxation Office, 2017).

In 2017 the Australian Government held two reviews of petroleum rent taxation. First there was the former Turnbull Government-initiated PRRT review, independently chaired by distinguished economist Mike Callaghan (Callaghan, 2017). Concurrently, a Senate inquiry was held into corporate tax avoidance, which included questions about tax incentives provided to the mining and offshore oil and gas industries.33

One of the aims of the Callaghan PRRT Review was to determine whether the tax, with its concessionary design elements, was providing an equitable return to the Australian community. The review received 68 public submissions. The 22 submissions from industry were unanimously against any change to tax concessions in PRRT legislation (e.g. APPEA, 2017). The Northern Territory Government (2017) submission urged the PRRT Review to consider the views of industry’s call for no change to the tax system for petroleum, but this submission gave no explanation for its support of the PRRT. Given the petroleum industry is active in the Northern Territory (onshore and offshore) there is conjecture that the government might have concluded that FDI and tax concessions are positively connected.

By contrast, the submission from the Australian Taxation Office (2017) to the Callaghan PRRT Review noted the decline in PRRT revenues to government since 2003, and isolated the cause as the PRRT’s concessionary design.

Further, the Holden et al. (2017) and Kraal (2017c) submissions to the Review were part of a wider push for the addition of a royalty on offshore petroleum resources, as their empirical research evidenced the concessionary nature of the PRRT as overly generous and a cause of tax base erosion.

The 2017 Australian Senate inquiry into corporate tax avoidance and the offshore petroleum industry attracted 127 public submissions. Again, industry was ‘in solidarity’ against any change to tax concessions in the PRRT design (e.g. Santos, 2017), while opposing voices, in the form of community advocates, called for more transparency and a less concessionary PRRT (e.g. Tax Justice Network, 2017).

The mining industry was also called to the Senate inquiry into corporate tax avoidance over the period 2015–2016.34 Industry submissions to the Senate rejected the assertion that tax concessions and government subsidies are inequitably used by mining companies to ‘help minimise their tax payments’ (e.g. MCA, 2015, p. 14).

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Davidson’s (2012) analysis for the Minerals Council of Australia showed that the mining industry is not in receipt of substantial government subsidies. The latest Productivity Commission report (2015) shows that the main form of tax incentives for large, foreign-owned mining companies is the research and development tax concession.35 Further, critics of mining concessions argue that industry infrastructure assistance is not included in the public tax expenditure statements, thus any conclusions about ‘low levels’ of tax incentives are unreliable (Green and Toner, 2014). The Australia Institute (2013) wrote that it appears counter-intuitive that the government should be subsidising the mining industry at all. The Institute asserted that tax incentives represent a transfer of funds from taxpayers to mainly foreign-owned extractive companies operating in Australia.

Older research by De Zilva (2004) considers the argument for tax incentives as attracting large corporations to establish their operational headquarters in a country. He evaluated Australia’s tax incentives for mining investment positively against competitor countries in Asia, such as Malaysia. De Silva claimed that such incentives improve the commercial attractiveness of a country. Others support the claim that the tax environment is important to the mining industry when choosing where to invest (e.g. Blanc and Parsons, 2003). However, environmentalists have always argued against government support for resource extraction and tax incentives for fossil fuels. They warn that such investments put pressure on the Australian environment (e.g. Wroe, 2012).

The United States is the dominant source of FDI into Australia. Committed expenditure in 2015 totalled AU$200 billion for LNG projects alone.36 The question is whether high levels of FDI in the petroleum sector would have occurred anyway, without Australia’s highly concessional PRRT.

6.1.2 Malaysia: marginal petroleum fields imperative

Since 2011, the Malaysian Government has been changing some oil and gas fiscal arrangements from production sharing contracts to risk service contracts to attract inward investment and develop marginal petroleum fields. Current contracts are tailored to the profitability potential of the resource development.

Recent incentives designed to attract industry investors to Malaysia include investment allowances, reduced CIT rates, accelerated depreciation of up to five years, the transfer of exploration costs between projects and a waiver of export duty on oil from marginal fields (Ernst & Young, 2016, p. 359). These changes are the latest in a series of tax incentives to encourage FDI since the 1974 establishment of Malaysia’s national oil company, Petronas. However, the electorally popular energy subsidy for domestic business and consumers has been gradually removed as oil prices have fallen (Kraal et al., 2017).

In regard to the mining sector, the Government of Malaysia implemented the 2009 National Mineral Policy (NMP2) to encourage more FDI in the globalised market by promoting the systematic and sustainable development of the nation’s mineral resource potential (Goh and Effendi, 2017). The NMP2 and its regulatory framework focuses on creating a more conducive, transparent and environmental approach. It operates in tandem with tax concessions and exemptions.

The principal tax and financial incentives for mineral investments can be found in legislation such as the Promotion of Investments Act 1986 (Malaysia) and the Income Tax Act 1967 (Malaysia). These incentives include partial exemption from CIT, export incentives and double deductions for expenses for the promotion of exports. Exemptions from import duty and GST are allowed for machinery and equipment used directly in the production process. To further broaden the scope of the fiscal attractiveness for potential FDI in the mineral resources industry, the government initiated internal discussions to modify and expand existing incentives and tax impositions (Goh and Effendi, 2017, pp. 4–5).

Malaysia does not publish a tax expenditure statement so the cost of its tax incentives cannot be ascertained.  

35 See Appendix A. Australia: Extractive Industry Tax Incentives, for a table of Federal Government incentives from 2009 to 2015.
While Malaysia’s budget generally has a ‘statement of purpose’ for tax incentives and intended beneficiaries, it lacks other elements, such as an estimate of revenues foregone.\footnote{See the Open Budget Survey (OBS) for Malaysia, \url{http://www.internationalbudget.org/wp-content/uploads/OBS2015-Questionnaire-Malaysia.pdf}. Email from Sally Torbert, OBS, 19 September 2017.}

In 1992, FDI in Malaysia began to decline and private investment overall started to slide in 1997, following the Asian financial crisis. In 2015, FDI further slowed to US$117 billion, despite the increase in tax incentives. Malaysia’s performance in attracting investment relative to the rest of the Association of Southeast Asian Nations (ASEAN) remains at low levels as a percentage of its GDP.\footnote{US Department of State, Investment Climate Statement 2017 for Malaysia, \url{http://www.state.gov/e/eb/tis/othr/ics/investmentclimatestatements/index.htm?year=2017&dlid=269830}. Also, United Nations Conference on Trade and Development, \textit{World Investment Report} 2017, p. 52.}

\subsection*{6.1.3 Indonesia: resource nationalism}

In Indonesia, factors such as a decentralised decision-making process, legal uncertainty, economic nationalism, and powerful domestic vested interests create a complex and difficult investment climate. Petroleum and mining companies/operations still face significant foreign investment barriers, despite the offering of tax holidays and other tax concessions.

Indonesia’s petroleum fiscal regime consists of production sharing contracts between contractors and an executive body (on behalf of the Indonesian Government). The principal features for the oil and gas fiscal regime includes a 25 percent CIT, although that tax rate can vary, depending on the production sharing contract negotiation. A branch profits tax imposes a 20 percent tax rate, and there are various withholding taxes, as well as standard capital allowances based on declining-balance depreciation. Indonesian resource projects are subject to a tax ring fencing rule (Ernst & Young, 2016, p. 261).

The Indonesian Government provides specific tax incentives to the petroleum sector to attract FDI. Incentives include investment credits, interest recovery, indefinite carry forward of prior year unrecovered costs and exemptions from import tax and duties on certain plants and equipment. The provision of tax incentives depends on an entity’s confidential agreement with the Indonesian Government (Ernst & Young, 2016).

Indonesia’s oil reserves and production are declining and are correlated to population growth and increased car use. Thus, since 2005 Indonesia has been a net oil importer. The government aims to re-incentivise investment in the oil and gas industry, which is experiencing low prices and competition for FDI. In 2016 it announced possible fiscal reforms to attract FDI, including a higher share of production for contractors in new production-sharing contracts (Ashurst, 2017).

Another reform for the upstream oil and gas industries is a reduction in fiscal payments due during the exploration period (Bria et al., 2016, p. 18). Government Regulation No. 79/2010 mandates that businesses should pay relevant taxes prior to the commencement of any production activities. Under the revision, tax exemptions for petroleum apply to customs duties and income tax for imports, and the reduction of cost-sharing expenses (domestic) as well as for the value added tax (Sekretariat Kabinet Indonesia, 2016). In June 2017, a revision of Government Regulation No. 79/2010 means that contractors are required to bring capital and technology, and bear the risks in relation to their oil operations.\footnote{Hukom online.com. (2017, 3 February). Revision of Govt. Regulation 79/2010 expected to offer tax facilities for upstream oil-and-gas exploration. \url{http://en.hukumonline.com/pages/h5893f3dc927ba/revision-of-govt-regulation-79-2010-expected-to-offer-tax-facilities-for-upstream-oil-and-gas-exploration}. Gresnews. (2017, 6 July). Jokowi revises regulation on operational costs for oil and gas activities \url{http://gres/news/news/events/114465-jokowi-revises-regulation-on-operational-costs-for-oil-and-gas-activities/0/}.}

Mining in Indonesia can only be conducted in areas designated by the central government. Tax incentives are available for basic iron and steel manufacturing, gold and silver processing and refining; certain brass, iron ore, uranium, thorium, tin, lead, copper, aluminium and zinc, manganese and nickel processing and refining activities; coal gasification and the use of coal for energy liquefaction.

According to PricewaterhouseCoopers (2016), tax incentives for the Indonesian mining sector consist of a
reduction in net taxable income of up to 30 percent of the amount invested in the form of qualifying fixed assets (including land), prorated at five percent for six years; accelerated depreciation and amortisation; a low 10 percent for dividend withholding tax; and a loss carry forward period of up to 10 years. A tax holiday is available for the upstream metal industry. This concession is in the form of a CIT reduction from 10 percent up to 100 percent of CIT due for five to 15 years from the start of commercial production. There is a Value Added Tax (VAT) exemption on supplies of gold bars, coal and natural resources taken directly from source. Imports of capital equipment for commercial production are also VAT-exempt.

Contract-based tax concessions for new mining projects are no longer available. Mining Law 2009 (Indonesia) now provides that exploration and exploitation rights be separated, meaning that the right to develop a deposit is not automatically granted to the exploring entity. Further, Mining Law 2009 no longer protects companies from changes in royalty rates (Dutu, 2015, p. 31) and foreign investors are required to divest their shares to the state five years after commencing mining production (Junita, 2015, p. 4). As a result of the above-mentioned changes to the tax code, the pejorative term ‘resource nationalism’ has been used to describe Indonesia’s fiscal regime for mining. Inconsistent implementation and poor enforcement of the mining industry regulation in Mining Law 2009 are claimed to further increase the risk and challenge to be faced by investors (Bria et al., 2016; Dutu, 2015; Junita, 2015).

Indonesia’s tax incentives are of uncertain value, given that there is no data available on cost-benefit analyses, nor estimates of tax expenditures (IMF, 2017a, p. 35). In 2015, FDI was US$218 billion, a decrease compared with the 2014 FDI of US$230 billion.  

6.2 PNG: FDI in the extractive industry

This sub-section covers FDI for exploration and development expenditure in the PNG extractive industry. While we found that public data is not available on FDI for either exploration or development, we have used exploration expenditure as an indicative factor or proxy for FDI in the resource sector.

In PNG, there are several mining and petroleum projects that are at various stages of exploration. The expenditure profile for petroleum (oil and gas) projects is fundamentally different from mining projects. The former has high exploration costs, while the latter has high infrastructure development costs. Petroleum exploration expenditure trends from 1986 to 2006 in PNG are shown in Figure 4 (Kawagle, 2007).  

Exploration expenditure to 1990 resulted in discoveries and production of oil in PNG from 1992 (Kraal, 2017b, p. 369). In the early 1990s petroleum exploration expenditure dropped, due in part to low oil prices, but also due to relatively low exploration success ratios, suggesting a decline in exploration interest (PNG Chamber of Mines and Petroleum, 2014).

The 2003 reduction in the corporate tax rate from 45 percent to 30 percent for new petroleum projects may have triggered the increase in exploration expenditure in 2003. More recently, the relative success of the PNG LNG project arrangements, settled in 2008, may explain the renewed interest of foreign investors in PNG’s oil and gas sector, resulting in the current high levels of exploration activities across PNG (PNG Chamber of Mines and Petroleum, 2014).

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41 Note that petroleum exploration data is frequently withheld from publication (often for confidentiality reasons). Hence, the more recent levels of petroleum exploration expenditure are unknown.
The PNG mining exploration expenditure trends from 2007 to 2012 are shown in Figure 5 (PNG Chamber of Mines and Petroleum, 2014). Double deduction of the mining exploration expenditure could have facilitated the increased expenditure. In 2017 the concession was repealed.

After the peak of 2011, the mineral exploration expenditure decreased in 2012, with a significant drop to less than half on the previous year (Patjole, 2017). This decline is thought to have been in response to commodity price shocks and increases in exploration costs, which forced exploration companies to reassess their PNG tenements (PNG Chamber of Mines and Petroleum, 2014). More recent data are not available. However, according to Patjole (2017) anecdotal evidence suggests that current mineral exploration expenditure is confined to a small number of advanced tenements, and a significant drop in expenditure from K595 million in 2013 to around K350 million for the next three years. Such a fall could be the result of the downturn in commodity prices, and is evidenced by a steady fall in the number of exploration licences.

Figure 5: Mineral exploration expenditure in PNG: 2007–2012

Source: Kawagle (2007), Table 2. Data has been converted to PGK

The downturn in the PNG mining sector is expected to continue, with preliminary surveys suggesting that mineral expenditure may have dropped to K170 million in 2016 (Patjole, 2017).

The PNG Department of Mineral Policy and Geohazard Management (2014) called for the repeal of the double deduction of mining exploration expenditure. The 2017 Budget proposed the repeal of the double deduction provision with the aim of increasing the tax base and aligning the industry's tax treatment with the treatment of the petroleum projects, where 25 percent of the exploration expenditure is amortised over the project life (PNG Department of Treasury, 2016). The PNG Chamber of Mines and Petroleum (2014) called for caution in making changes to the tax regime, so as not to hinder the country's competitiveness in attracting FDI in the resource sector. The Chamber did not lobby against the exploration double deduction and its eventual repeal in 2017.

6.3 PNG tax expenditure data

This sub-section covers the findings for tax expenditure (see definition in section 4.1). PNG tax legislation provides for tax incentives that lessen the tax burden on some individuals and businesses. However, as discussed in the literature review, direct grants of funds are an alternative to tax incentives as a method of delivering government assistance to encourage preferred taxpayer activities and promote different economic objectives.

The total value of tax incentives (as measured by tax expenditure) in PNG is unknown. However, some forecast tax expenditure data for income tax incentives, which is not disaggregated by sector, has been published in the annual PNG Government budget since 2015. Figure 6 shows the trend from 2005 to 2016 in tax expenditure from tax incentives, which resulted in a permanent loss of revenue (PNG Department of Treasury, 2016). The value of tax expenditure for 2005 was estimated at K36 million. Five years later, in 2010, tax expenditure was estimated at only K8 million. In 2015, the estimated value of tax expenditure increased to K282 million, an upward trend that continued to 2016, reaching K296 million. While tax incentives are generally recognised to be a significant component of fiscal policy in many jurisdictions, it should be noted that the budget data for PNG is likely to underestimate the value of tax incentives as the PNG Internal Revenue Commission has neither consistently nor comprehensively extracted tax incentive data from taxpayers’ annual returns.42

While it is possible that low values of forecast tax expenditure between 2007 and 2011 were because of the global financial crisis, it is difficult to explain the sudden increase in tax expenditure from K0.185 million in 2014 to K282 million in 2015, as depicted in Figure 6.

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42 Francis Odhuno and Stephanie Trinci, personal communication, 22 October 2014.
Figure 6: Trends in PNG tax expenditure, 2005–2016

Source: Department of Treasury, 2016. PNG 2017 Budget, Volume 1, page 78, Table 1.2

Figure 7: Share of various income tax incentives, 2005–2016

Source: Department of Treasury, 2016. PNG 2017 Budget, Volume 1, p. 78, Table 1.2. Note: Some bars not showing due to rounding.
Due to the paucity of data, the reasons for the high values of tax expenditure for 2015 and 2016 are not clear. However, the cost of tax incentives can be seen more clearly if the data is disaggregated according to the type of incentive over the same period, as shown in Figure 7 (PNG Department of Treasury, 2016). The breakdown of income tax allowance claims from 2005 to 2016 reveals a predominance of exempt interest [withholding tax] (40 percent), followed by export sales tax exemptions (20 percent), and the research and development concession (10 percent). Note that the research and development concession of 150 percent was reduced to 100 percent from 1 January 2014 (see section 5.1.7). The next most significant tax incentive share, as seen in Figure 7, is the double deduction of training expenditure for tourism, and then for other miscellaneous claims (five percent). All other tax expenditures together constituted less than 20 percent of tax incentives over this period.

Figure 7 also shows that in 2015, exempt interest [withholding tax] represented over 80 percent of total income tax allowances, but only 26 percent of the total tax claims in 2016. With the repeal, from 1 January 2017, of the exemption from interest withholding tax for foreign lenders to resource companies, interest withholding has been harmonised to 15 percent (see 5.1.6).

The allowance for export sales was also significant, accounting for eight percent in 2015 and increasing its share to 26 percent in 2016. As export sales tax exemptions are only available for the sale of goods wholly manufactured in PNG, it is not relevant to this research.

6.4 PNG: Tax incentive provisions and ‘intent’ in legislation

The Investment Promotion Authority of PNG offers a range of direct and indirect taxation-based incentives. For instance, section 37 of the Investment Promotion Act 1992, guarantees that the property of a foreign investor shall not be nationalised or expropriated except in accordance with law, for a public purpose defined by law and in payment of compensation as defined by law. Further, section 39 seeks to encourage greater flows of international investment by providing facilities for the conciliation and arbitration of disputes between government and foreign investors through the International Centre for Settlement of Investment Disputes.

Separate bilateral investment protection agreements have been entered into with several individual countries, notably Australia and Malaysia (PNG Investment Promotion Authority, 2017). The responsibilities of the Multilateral Investment Guarantee Agency (MIGA) include guarantees to foreign investors against losses caused by non-commercial risks. PNG is a member of the Asia-Pacific Economic Cooperation (APEC) and the World Trade Organization (WTO), that both have a number of agreements that relate to trade and investment liberalisation.


Using United Nations Conference on Trade and Development (UNCTAD, 2000) classifications, most of the tax incentives from the Income Tax Act 1959 (PNG) targeting resource companies in PNG can be categorised into three themes, with the majority intended to encourage economic activities in the country. The (now repealed) double deduction of exploration expenditure, for example, was to encourage the exploration and prospecting of mineral resources across the country. Besides influencing the spatial distribution of economic activities in PNG, the incentive was also intended to promote an increase in investment in the mining and petroleum sector. Other (also now repealed) tax exemptions for economic development included a reduced rate of dividend withholding tax and the exemption of interest income from withholding tax altogether. These were aimed to encourage investment in the mining sector.

The second group of economic development tax incentives from the Income Tax Act 1959 (PNG) available to mining, oil and gas operators in PNG are those intended to reduce the tax burden and enhance business performance. The Ramu nickel project’s 10-year tax holiday (from income tax, and both interest and dividend withholding taxes) was probably introduced to encourage the expansion and promotion of the project.43

43 Section 6C, Income Tax Act 1959,
Both the Ramu nickel project and the PNG LNG project were granted a series of exemptions from import duty to facilitate the completion of the construction phase of these projects, considered crucial for the country’s development (Papua New Guinea Tax Review Committee, 2014c). It is most likely that the intention of the accelerated deduction of capital expenditure was to reduce the tax burden on this phase of the projects, with the expectation that such savings would be invested and reinvested in PNG and increase the local capital of the businesses.

The third group of incentives may, like the investment tax credits, be thought of as compensating investors for the costs of constructing shared/public infrastructure (UNCTAD, 2000). Indirectly, however, the objective of infrastructure tax credit is based on the rationale that the government is unable to provide and maintain adequate infrastructure in the remote areas where mining and petroleum projects are located. Consequently, infrastructure tax credits are intended first to assist the PNG Government to provide infrastructure, and then as compensation for the higher cost of doing business in rural and remote locations with their competitive disadvantages for enterprises, when compared to other locations.

44 Section 9B, Customs Tariff Act 1990.
46 Sections 219C and 219C (7, 9), Income Tax Act.
7. Analysis

7.1 Case studies

Three countries that can be seen as in fairly direct competition with PNG for FDI for extractive industries were examined to provide comparison and possible models for PNG.

Australia provides expenditure-based tax incentives for mining and petroleum entities, which align with the practice of other high income countries (IMF et al., 2015, p. 8). Also there are profit-based incentives, for example, legislated R&D tax offsets. Small businesses are targeted with specific profit-based incentives that include a capital gains tax discount and exemptions, an entrepreneur tax offset and a lower CIT rate.

Australia has a resource rent tax (much like PNG’s APT), which taxes above-normal profits from oil and gas projects. In the context of the high FDI-driven expectations of large tax collections, the former Turnbull Government-initiated review of the PRRT, chaired by Mike Callghan (Callaghan, 2017), and the separate Senate (2018) enquiry into corporate tax avoidance and the oil and gas industry, have provided final reports that include impact on equity to the community. Both reports recommended a reduction in the concessionary design of the PRRT with, inter alia, its high accumulation rate of 15 percent for exploration. This feature is a form of tax incentive, but the incentive’s value is not included in Australia’s published tax expenditure statements. Thus, while some incentives are measured, not all values of tax incentives that are measured are captured in the tax expenditure statements. Government has accepted various recommendations for change to the PRRT accumulation rates and other administrative matters, and legislation takes effect on 1 July 2019.47

Although there has been significant FDI into Australia, research has found that extractive industry investment occurs as a result of prospectivity, rather than tax incentives (James, 2013). The focus in Australia has been on minimising the number of tax incentives, albeit at election time tax concessions, such as lower tax rates and accelerated depreciation, which are typical inducements of a political nature.

Malaysia exercises a high level of discretion in providing tax incentives outside of legislation, a feature that aligns with other countries in the upper-middle income bracket (IMF et al., 2015, p. 25). For example, Malaysia’s extractive contracts target the profitability potential of developing a specific resource. Malaysia also provides mining and petroleum entities with expenditure-based tax incentives that can be found in legislation such as the Promotion of Investments Act 1986 (Malaysia). Such legislation is claimed to enable the evaluation of the costs and benefits of tax incentives, noting that a tax expenditure statement is not publicly available. Tax incentive policies do not appear to have significantly increased FDI in Malaysia.

Indonesia is a lower-middle income country.48 It is similar to Malaysia in that it exercises a high level of discretion in providing tax incentives outside of legislation. For instance, the availability of tax incentives to a petroleum entity depends on a confidential agreement with the Indonesian Government. However, since the enactment of Mining Law 2009 (Indonesia), contract-based tax concessions are no longer available to new mining projects. Nonetheless the government still provides a tax holiday for the upstream metal industry. Indonesia does not make tax expenditure statements available for public scrutiny. It has been found that perceptions of economic nationalism have led to lowering levels of FDI.

Table 4 provides the FDI case study summary which, for Australia, can be interpreted as reflective of a high income/low tax incentive country, compared with the lower FDI of the middle-income countries Malaysia and Indonesia — the result of their discretionary tax incentive regimes and lack of transparency, as no tax expenditure statements are available.


Table 4: Total FDI in case-study countries in million US dollars

<table>
<thead>
<tr>
<th>Country</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>564,606</td>
<td>735,500</td>
</tr>
<tr>
<td>Malaysia</td>
<td>133,767</td>
<td>117,644</td>
</tr>
<tr>
<td>Indonesia</td>
<td>230,439</td>
<td>218,4554</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>


It is evident from the literature that tax incentives are typically evaluated on the basis of economic benefit. However, in recent years politics (energy security) and the environment (climate change mitigation) are acknowledged as pressures that pull policy in different directions. When we apply the eight energy [resource] justice operational principles: availability, affordability, due process, transparency and accountability, sustainability, intra- and inter-generational equity, and responsibility — the case for reform or minimisation of tax incentives becomes apparent. Given the case study countries, all have negative resource affordability issues in their home country, as well as human rights complexities in the extraction of resources (e.g. Ballard, 2001; Graham et al., 2017; Nicholas, 2000).

Further, neither Malaysia nor Indonesia have tax expenditure statements, indicating a lack of transparency and accountability, while Australia's tax transparency could be improved.

Finally, in all the case study countries, resource-related sustainability and intra-generational and inter-generational equity are all low on their political agendas (e.g. Halpern et al., 2013; Kendig et al., 2017; Sovacool and Bulan, 2013). To take a one-dimensional approach by only evaluating the benefits of tax incentives on the basis of economics is a partial outcome at best.

### 7.2 FDI, tax expenditure and incentive provisions

Tax incentives enjoyed by businesses in PNG depend on the industry and location of the activity. The most conspicuous is the case of businesses engaged in mining and petroleum that enjoy a range of tax concessions and exemptions. However, public data on FDI is not available, while the PNG Government's tax expenditure statements in relation to mining and petroleum activities are seen as incomplete. And the country's tax incentive provisions lack explicitly stated objectives.

The provision of tax incentives in confidential project-specific agreements and the paucity of public data, makes evaluating the effectiveness of PNG tax incentives difficult. Nevertheless, indirect inferences can be made about the policy goals that the PNG Government wishes to fulfil via its tax incentive provisions. The relationship between the role of tax incentives in promoting FDI in the mining and petroleum sector can only be discerned from the type and number of tax incentive provisions and increased exploration expenditure (see Figures 4 and 5). For example, in 2003 the reduction of the CIT rate from 45 percent to 30 percent for new petroleum companies may have triggered the increase in exploration expenditure. Also, it can only be speculated that the increase in mining exploration expenditure that peaked in 2011 could have been linked to mining companies expecting to benefit from the double deduction for exploration expenditure provision. These inferences should be interpreted with caution as there are no strong cause and effect relationships evident.

In summary, while PNG governments have routinely utilised tax incentive programs, credits and exemptions to attract economic development, there is no evidence that such incentives work or have worked. Indeed, in the absence of publicly accessible data, the total value of the tax breaks given by the government to attract and keep mining and petroleum businesses in PNG is unknown. There is no comprehensive tax expenditure statement in annual PNG government budgets to identify revenue forgone due to incentive provisions in the tax legislation, as compared with direct budgetary expenditures.
8. Conclusions and recommendations

The main research question was whether tax incentives given to the extractive resource sector are economically beneficial for the PNG economy.

We found for the case study countries of Indonesia and Malaysia, a high level of discretion in providing tax incentives outside of legislation was evident, a feature that aligns with other countries in a similar lower-middle income bracket. No nexus was found between high discretion for tax incentives and increased FDI. For Australia, legislated tax incentives for extractive industries are the norm, which is a feature that aligns with other high-income countries. Further, resource prospectivity, rather than tax incentives, is the primary motivator for FDI into the extractive industry.

We found that, generally, the international trend is to move away from tax incentives. Indeed, there is a consistent call for limiting tax breaks to rare exceptions. There is general agreement that for the petroleum and mining sector, investment incentives are unnecessary because extraction activities are location based, and a government should collect rents from its country’s natural resources. Government needs to look beyond a singular economic evaluation of tax incentives and consider political, social and environmental realities.

In Port Moresby on 27 November 2017, a draft version of this paper was presented to a stakeholder meeting comprising industry as well as PNG government officials. The authors explained to delegates about the literature, methodology, findings, analysis and the seven recommendations. The recommendation to repeal the infrastructure tax credit scheme was the most debated one. Comments came from both industry and government. The authors stand by this recommendation on the basis that industry should not be involved in major decisions on social projects, as it is the responsibility of government. Those against the recommendation cited the government’s weak record on governance. In future research the infrastructure tax credit incentive could be subject to further unpacking on the detail on the item’s value, which is currently not disclosed in the budget (see Figure 7). Types of infrastructure projects and community beneficiaries are also, not publicly available data, which further research could reveal. A point of comparison could be infrastructure arrangements that extractive companies have with local communities for projects in remote areas of Australia.

The recommendations that follow below call for a policy program of leaner tax incentives for the petroleum (oil and gas) and mining sector in PNG, and we urge that they be given due consideration by PNG authorities.

1. The infrastructure tax credit scheme should be repealed. The repeal should include the ‘emergency repairs for the Highlands Highway’ tax credit scheme. The tax credit scheme also covers industry expenditure on items such as water and sewerage plants and community health facilities. The alternative of direct government grants should be considered for public infrastructure, roads construction and maintenance — for all communities across PNG — not just for those who live in close proximity to extractive project areas.

2. The fiscal regime for the extractive sector should be incorporated in general legislation. Resource development agreements should be confined to non-fiscal arrangements and matters such as revenue sharing with local governments and landholders. The Resource Contracts Fiscal Stabilization Act 2000 (PNG) should be repealed.

3. Given the wide range of depreciation-based incentives, eliminating sector-specific allowances and accelerated depreciation is recommended, to simplify the regime.

4. The Ramu nickel project’s 10-year tax holiday is due to expire in 2022. No tax holidays should be provided to the extractive industry in the future.

5. Import duty exemptions, such as those for the Ramu nickel and PNG LNG projects, should not be

provided in the future.

6. It is not sufficient that PNG already publishes an annual tax expenditure statement as part of the national budget. Greater prominence should be given to reporting outside of the annual budget. Tax expenditure statements should be compiled from the annual tax income returns and statistical information obtained from GST returns submitted to the IRC and PNG Customs Service, in addition to information obtained from specific taxpayers, and be made publicly available.

7. An amendment to the Fiscal Responsibility Act 2006 (PNG) is required for a separate tax expenditure statement, which should be prepared by an independent (statutory) institution.
Council of Australia.


## Appendix A. Australia: Extractive Industry Tax Incentives

### Budgery tax concessions for Mining and Petroleum, coal, chemical and rubber products industry groupings, by program, 2009-10 to 2014-15

$million (nominal)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Mining</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital expenditure deduction for mining, quarrying and petroleum operations</td>
<td>10.0</td>
<td>7.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>TRADEEX</td>
<td>0.5</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Premium tax concession</td>
<td>129.9</td>
<td>111.7</td>
<td>88.8</td>
<td>24.2</td>
<td>10.1</td>
<td></td>
</tr>
<tr>
<td>R&amp;D tax concession</td>
<td>222.6</td>
<td>222.6</td>
<td>252.5</td>
<td>112.7</td>
<td>38.3</td>
<td>6.8</td>
</tr>
<tr>
<td>R&amp;D tax Incentive - exemption of refundable tax offset</td>
<td></td>
<td></td>
<td></td>
<td>-29.9</td>
<td>-39.2</td>
<td></td>
</tr>
<tr>
<td>R&amp;D tax Incentive - non-refundable tax offset</td>
<td></td>
<td></td>
<td></td>
<td>176.5</td>
<td>179.1</td>
<td>317.1</td>
</tr>
<tr>
<td>Samall business CGT rollover deferral</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Small Business and General Business Tax Break</td>
<td>109.5</td>
<td>625.8</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Samall business - Simplified depreciation rules</td>
<td>0.3</td>
<td>0.5</td>
<td>0.0</td>
<td>-0.2</td>
<td>0.8</td>
<td>-0.6</td>
</tr>
<tr>
<td>Samall business CGT 15-year asset exemption</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Samall business CGT retirement exemption</td>
<td>0.9</td>
<td>0.8</td>
<td>0.9</td>
<td>0.9</td>
<td>1.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Samall business CGT 50 percent reduction</td>
<td>2.1</td>
<td>1.3</td>
<td>2.6</td>
<td>2.7</td>
<td>2.7</td>
<td>0.7</td>
</tr>
<tr>
<td>25 percent entrepreneurs’ tax offset</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Mining</strong></td>
<td>475.8</td>
<td>970.2</td>
<td>347.5</td>
<td>319.5</td>
<td>204.4</td>
<td>288.3</td>
</tr>
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<table>
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<tbody>
<tr>
<td>TRADEEX</td>
<td>2.0</td>
<td>1.3</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Premium tax concession</td>
<td>13.2</td>
<td>11.3</td>
<td>14.2</td>
<td>3.9</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>R&amp;D tax concession</td>
<td>38.6</td>
<td>38.6</td>
<td>40.6</td>
<td>18.1</td>
<td>6.2</td>
<td>1.1</td>
</tr>
<tr>
<td>R&amp;D tax Incentive - exemption of refundable tax offset</td>
<td></td>
<td></td>
<td></td>
<td>-9.1</td>
<td>-12.0</td>
<td></td>
</tr>
<tr>
<td>R&amp;D tax Incentive - non-refundable tax offset</td>
<td></td>
<td></td>
<td></td>
<td>41.2</td>
<td>39.8</td>
<td>31.7</td>
</tr>
<tr>
<td>The Small Business and General Business Tax Break</td>
<td>12.5</td>
<td>66.2</td>
<td>1.7</td>
<td>0.6</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Samall business - Simplified depreciation rules</td>
<td>0.2</td>
<td>0.3</td>
<td>0.0</td>
<td>-0.1</td>
<td>0.5</td>
<td>-0.4</td>
</tr>
<tr>
<td>Samall business CGT 50 percent reduction</td>
<td>0.7</td>
<td>0.9</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>0.7</td>
</tr>
<tr>
<td>25 percent entrepreneurs’ tax offset</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Petroleum, Coal, Chemical and Rubber Products</strong></td>
<td>67.2</td>
<td>118.8</td>
<td>59.0</td>
<td>66.5</td>
<td>41.4</td>
<td>22.7</td>
</tr>
</tbody>
</table>
