

# Transitioning to fiscal self-reliance in the Autonomous Region of Bougainville<sup>1</sup>

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27 September, 2017

## Abstract

In a referendum to be held by or before mid-2020 the people of the Autonomous Region of Bougainville (ARB) will have an opportunity to vote for or against independence from Papua New Guinea. But independence has both political and economic dimensions. The latter includes a formal objective of fiscal self-reliance defined as “the first year in which the revenues from company tax, customs duties and 70% of value added tax collected in Bougainville are equal to the value of the recurrent grant on a sustainable basis ” (GoPNG, 2001; paragraph 137). The Autonomous Bougainville Government (ABG) raised 13 percent of its recurrent budget for 2017 from internal sources. The challenge for the ABG is in transitioning from the current position to fiscal self-reliance in the shortest time possible. My analysis shows that fiscal self-reliance is unlikely to be reached in time for the referendum. Large-scale mining provides a faster route to fiscal self-reliance, but this strategy has risks in entangling the ABG in redistribution of resource rents as against a policy of inclusive/broad-based growth of the economy. The policy conundrum for the ABG is in the use of resource rents over the short to medium terms to reach for fiscal self-reliance but then navigate to broad-based growth of GDP to maintain fiscal self-reliance over the long-term.

Paper presented as the keynote address at the *Bougainville Revenue and Tax Summit* held in Buka from 27 to 29 September 2017.

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<sup>1</sup> I am grateful to Ariff Ali, Anthony Regan, Michael O’Donnell, Mark Olsen, Thomas Webster, and Bob Wylie for helpful discussions on this paper but views expressed and remaining errors are those of the author alone.

## 1. Introduction

Transitioning to fiscal self-reliance in the Autonomous Region of Bougainville (ARB) is a pressing concern given the impending referendum. The ARB would be deemed to have achieved fiscal self-reliance in “the first year in which the revenues from company tax, customs duties and 70% of value added tax collected in Bougainville are equal to the value of the recurrent grant on a sustainable basis” (GoPNG, 2001; paragraph 137). The Peace Agreement that was signed on 30<sup>th</sup> August 2001 and the enabling *Organic Law on Peace-building in Bougainville Government and Bougainville Referendum 2002* (the Organic Law henceforth), the Bougainville Constitution, and amendments to the PNG National Constitution all refer to the above definition of fiscal self-reliance. The meaning of ‘sustainable basis’ has not been explained however. ARB, as explained in detail later, is well short of attaining such fiscal self-reliance. This paper is about how such a goal may be achieved in the near future. Particular focus is placed on the symbiotic evolution of state capacity, state strength, and the expansion of the economy (Besley & Persson, 2010).

State capacity includes the ability of the state to implement a suite of policies including the power to raise taxes, enforce law and order, underwrite contracts including the rights to property, and support the functioning of markets through supply of public infrastructure. Taxation and the enforcement of law and order are critical functions of a State with both of these functions delivered from the centre in a modern state. Both taxation and law enforcement draw on the coercive capacities of the state and their efficacy rests on voluntarily adherence by the majority of the population to the norms set by society. The legitimacy of a centralised state to pass laws and spend funds raised from the public is drawn from a representative parliament. States that fail to underwrite law and order within their jurisdiction also fail to protect the rights of individuals to property and person, and such failure on a systemic basis may be both a cause and consequence of a civil war. An initial widespread breakdown in law and order can lead to a spike in demand for widespread policing beyond the capacity of a weak state to provide. And abuse in the deployment of the coercive capacities of the state can erode state legitimacy, in turn simultaneously depleting state strength and legitimacy with adverse consequences for the economy. The loss in rights to property and the fears to personal safety may cause the population to withdraw from the formal economy with adverse consequences on the tax base.<sup>2</sup> In sum, the powers to tax is provided for under legislation, the legitimacy to tax is drawn from a representative parliament,<sup>3</sup> and the market economy provides the base for taxation (Herb, 2005). A breakdown in legal order and the collapse of the market economy render a tax system inoperable.

Bougainville illustrates the above-mentioned dynamics as it declined from being a well-functioning province of Papua New Guinea up until the beginning of the civil war in 1989 to a collapsed state by 1997 when nearly one third of the population were living in ‘care centres’ (Regan, 1998). Pre-conflict, Bougainville was a wealthy province with highly favourable socio-economic indicators relative to the rest of the nation. Per capita income at 1,973 kina in 1983 was the second highest of the 20 provinces of Papua New Guinea; surpassed only by

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<sup>2</sup> An excellent, albeit fictional, account of how an entire village decamped for the hills at the start of the conflict with devastating consequences for the villagers is provided by Toreas (2014).

<sup>3</sup> The principle of being represented in decision-making for paying taxes goes back to the Magna Carta.

the National Capital District (with per capita income of 2,115 kina) which hosts Port Moresby, the nation's capital (World Bank, 1988). At that time Bougainville contributed 14 per cent of national income and half of national exports while accounting for less than five per cent of the total population of Papua New Guinea. Bougainville had the highest life expectancy of any PNG province (59.6 years compared to the national average of 49.6 years); the lowest infant mortality (33 deaths per 1,000 live births compared to the national average of 72); and the second lowest proportion of the population without any schooling (at 50.1 per cent compared to the national average of 78.0 per cent) (ibid; vol. 1: 98). The signing of the peace agreement in 2001 led to a halt to fighting but the situation as of 2013 was very different to that prior to the conflict in that some 90 percent of the population depended on agriculture for sustenance while law and order problems, poor access to credit, and poor infrastructure remained major constraints to growth of private enterprise (GoPNG, 2013, p. 27). On all counts, Bougainville has yet to regain pre-conflict levels of development. But memories by older generations of pre-conflict prosperity can be an asset in the resuscitation of basic services in the ARB.

The ARB is scheduled to have a referendum before 15th June 2020 where the people will have an option to vote for independence from Papua New Guinea. The requirement for a referendum including the option for independence is contained within the Peace Agreement (see paragraphs 309 to 324), and given legal effect via *The Organic Law*, Part XIV of the *PNG National Constitution*, and Section 193 of the *Bougainville Constitution*. The requirement for the referendum was legislated but little was prescribed in terms of the fiscal capacity of Bougainville in the lead-up to the referendum. All that the Peace Agreement stipulates is that the "National Government will support the autonomous Bougainville Government in moving towards the goal of fiscal-self-reliance" (BPA, paragraph 137). The National Government, however, is mandated to "make an unconditional grant to the Bougainville Government to meet the costs of functions – (a) for which the Bougainville Government is responsible" until such time as when fiscal self-reliance is reached (Organic Law, s.48). The National Constitution states that: "the Bougainville Government shall have sufficient revenue raising powers to enable it to reach fiscal self-reliance, and the National Government shall support the Bougainville Government in reaching fiscal self-reliance" (GoPNG, 1976; s.324(a)). Furthermore, 'Restoration and Development Grants' of a sum no less than appropriations for the 2001 Public Investment Program, and adjusted upwards with the National Public Investment Program on a five-year rolling pro rate basis, are to be provided for the transition to fiscal self-reliance (Organic Law s.49). The Bougainville Constitution states that that ABG "shall aim to achieve fiscal self-reliance as soon as possible" (GoPNG, 2004; s.153(a)). The two governments did not however draft a fiscal pact with clear milestones on progress in reaching fiscal self-reliance.

Fiscal self-reliance is not a legal prerequisite for the conduct of the referendum. However, is political autonomy - including independence – meaningful in the absence of fiscal self-reliance/autonomy? In other words, do the people of Bougainville have a real choice for independence when they lack the resources (financial and otherwise) to manage an independent nation state? These are pressing concerns given that internally generated revenues in Bougainville has been stagnant at approximately 10 percent of the total right up to the year 2016. The intelligentsia and local leaders have both argued for large scale mining as being the only practical way to achieve fiscal self-reliance (Regan, 2013, p. 437) with the

reopening of the Panguna copper mine being a medium to long-term option (GoPNG & ABG, 2013; paragraph 7.2.5).<sup>4</sup>

The issue of fiscal self-reliance has been on the ABG's policy agenda. A Taxation and Revenue summit was proposed for 2014 with the objectives of: (i) reaching consensus on the means of improving efficiency and efficacy of the tax system; and, (ii) developing strategies for reaching fiscal self-reliance as stipulated in the Peace Agreement and the National Constitution (GoPNG & ABG, 2013, p. 58). The date for the summit has slipped another three years. Here I consider the options available to the ABG in transitioning to fiscal self-reliance. The rest of the paper is structured as follows. Section 2 extends the discussion on the relationship between state capacity, state strength, and the economy. Section 3 provides the starting point for a deeper discussion on the quantum of resources that an autonomous region of Bougainville will need, while Section 4 considers options to raise government revenues. Conclusion follows.

## **2. State capacity, state strength, and the economy**

To facilitate discussion of the relationship between state characteristics and the economy I will begin by summarising salient aspects of the transition in state capacity over the past three decades in Bougainville.<sup>5</sup> The period from 1976 to November 1988 was relatively peaceful, with the North Solomons Provincial Government (NSPG) being able to underwrite law and order; ensure access to public goods such as basic healthcare, transportation infrastructure, and primary education for the majority of the population; and, markets supplied goods and services to and generated income for the majority of the population. This period of healthy state capacity and strength with functioning markets was followed by a repressive state that took hold in late 1988 when PNG police mobile squad and subsequently members of the PNG Defence Forces (PNGDF) were deployed to Bougainville from elsewhere in PNG, the suspension of the NSPG in June 1990, and the attempt to deploy mercenaries to end the rebellion (see Dorney, 1998). The violent dynamics of suppression and its counter-reaction led to a conflict that spiralled into a civil war with catastrophic consequences for the welfare of the public at large. State capacity and strength were sapped as the crisis deepened and the legitimacy of the local and national governments to restore order was dissipated. The departure of the PNGDF following the signing of the Peace Agreement led to a slow change from a repressive to a transitional administration before the election of the ABG in June 2005. The restoration of peace has led to an improvement in the capacity of the state to deliver basic services, enact laws and regulations for the people, and enforce law and order within the autonomous region, albeit from a low base.

Against the background of this stylised depiction of the transition in state strength and capacity in Bougainville, I now consider how investment in state capacity can simultaneously raise government revenues (i.e. strengthen fiscal capacity) and support markets (i.e. build legal capacity) through strategic deployment of revenue and tax policies.<sup>6</sup> Obviously the

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<sup>4</sup> The view that large scale mining will fund an independent Bougainville is shared widely amongst the Bougainville leadership and local intelligentsia. .

<sup>5</sup> Detailed accounts of the conflict dynamics and the negotiations to peace are provided in Regan (1998).

<sup>6</sup> Besley and Persson (2010) model fiscal capacity and legal capacity as being complementary.

ABG enjoys access to a wider suite of policies than revenue and tax policies but a focus on these will serve to highlight the causal linkages involved. The success of revenue and tax policies would be marked by growth in the formal (i.e. monetised) economy that in turn would contribute to broadening of the tax base. I will compare the above to a situation where government revenue is generated through resource rents only.

An indication of state strength is its capacity to tax domestic production and support development (Acemoglu, 2005; Di John, 2010; North, 1989). Weak states fail to raise the requisite resources to fund public infrastructure such as roads and legal systems that are necessary for private enterprise. Low income countries typically raise anything between 10 and 20 percent of GDP in tax revenues but the limits to what may be generated by a state in revenues seldom depends on the administrative capacity of the State (Besley & Persson, 2014). Rather, it is the political compact between the government and the governed, and the development dividend that arise from economic activity that drive state finances. Political factors such as spatial, ethnic, and linguistic divisions diminish the sense of a common people, and a weak economy can stifle the collection of tax revenues. The people of Bougainville have claimed a separate identity and this was one of several reasons for the repeated attempts at secession from Papua New Guinea. The conflict with the police and then the PNGDF cemented ties between people across Bougainville, but the subsequent civil war fractured the communities deeply.

Noting the above, the ABG in designing its revenue and tax policies has the opportunity to:

- (i) improve service delivery;
- (ii) raise economic activity; and,
- (iii) strengthen ties across its peoples for nation-building.

With regards to the first of the above-enumerated opportunities, Bougainvilleans are fortunate in having some memories of a functioning state where basic services were readily available, security to person and property was widespread, and the markets functioned in providing goods, services, and income throughout the ARB. These memories can be a significant asset in resuscitating the economy and in restoration; the latter defined as “the time when Bougainville has returned to a standard of peace and development approximating to that of the remainder of Papua New Guinea” (GoPNG, 2002, p. 16).

Policymakers have a choice of implementing revenue and expenditure policies that support market activity throughout Bougainville, and without prejudice to any particular sector or community. I will, following Besley and Persson (2010), call this the ‘Common interest policy’, which is in contrast to a ‘Redistributive policy’ that gives priority to the development of large resource projects on land held by narrowly-delineated customary groups. The advantage of a ‘Common interest policy’ is that it spreads both the benefits of the state and the resource burden of state expenditure across the wider population. But a ‘Common interest policy’ incurs a cost in terms of the time it takes to attain fiscal self-reliance. The success of the ‘Common interest policy’ rests on broad-based growth of the cash economy that then provides the base for taxation.

The ‘Redistributive policy’ in contrast relies on specific sectors – large scale mining in the case of ARB – to provide rents to fund public enterprise. The ‘redistributive policy’ in the presence of large resource rents can lead to the attainment of fiscal self-reliance quickly, with many

caveats as explained later but redistribution by definition is discriminatory. Picking sectors such as mining to favour and redistributing rents (i.e. super normal profits) to selective communities such as the landowners who sit on the mineral deposits can be divisive and provide incentives for rent-seeking (Krueger, 1974). Consequently, a return to large-scale mining in the ARB can be a shortcut to fiscal self-reliance but runs the risk of a return to divisive politics. The conundrum for contemporary Bougainville is to how best to achieve fiscal self-reliance quickly whilst minimising the risks of being enmeshed in redistributive politics of the past. It is this policy conundrum that I turn to next.

There is considerable international evidence to suggest that the share of taxes in GDP rises with the level of development; that is, high tax states are part and parcel of development (Besley & Persson, 2010). Furthermore, the elasticity of tax collections to the rate of tax is particularly high in post-conflict economies (Besley & Persson, 2014). The tax mix also changes with the level of development: as income increase, the sources of government revenue shifts from trade taxes to income and indirect taxes. Hence the key challenge for developing nations seeking to raise revenues is that of broadening the tax-base rather than raising the tax rate given the significant latent capacity that exists within poor nations to shift economic activity from informal to formal sectors of the economy. The lesson for policymaking in contemporary Bougainville is simple: keep the tax rate low and target government expenditure at encouraging economic activity including enticing a shift from the informal to the formal sectors of the economy. It is also an argument for the decentralisation of the administration of taxation so that the legitimacy of the state is built through supply of public goods funded with taxes collected from the local population. The current arrangement of taxes being collected in a distant capital with some of the public goods delivered arm's length from the ABG erodes the compact between the taxpayers and the autonomous government. Practical means to achieving the above will be provided in the penultimate section.

My main proposition is that a revenue and tax strategy must aim to increase economic activity, with the beneficial effects on government revenues and in state building being secondary spinoffs. This is an argument for developmental taxation, in sharp contrast to a singular focus on revenues as the primary goal of tax policy. In my setup, the milestones of success of any revenue and tax strategy are the incremental gains to the level of marketed GDP. Raising economic activity in my setup builds the tax base and in doing so ensures that taxes help rather than hinder economic growth. Conversely, when revenue targets take precedence then taxing economic growth becomes a significant risk.

Let me conclude this section with three specific examples to illustrate the use of tax policies to expand marketed GDP. Cocoa exports from Bougainville for 2014 amounted to a total of K68 million, produced by some 23,000 growers selling their produce to four major exporters. A tax of 1 percent on exports would raise K680,000. Spending this amount on addressing the impediments to further expansion of production would be a growth-enhancing strategy. The success of a growth-enhancing export tax would be judged by increments in the level of cocoa exports. Besides, the tax would provide an incentive for the growers (who are spread from Buka to Buin and from Torokina to Wakunai) to make a common endeavour of receiving the best value from their taxes. Similar arguments can be made for a tax on copra exports. The ABG would have to engage with the growers as a group, and in the process bring the government closer to the governed. Incidentally, the administrative burden of the tax would be low since it can be readily collected from the four local exporters. Most importantly, the

leaders would have to explain the rationale for the tax, its rate of one toea for every Kina of exports, and the fact that the sum collected would be spent to increase production. The above achieves three strategic functions of the tax policy: (a) it improves access to services; (b) it raises production; and, (c) it links people on the basis of an industry and possibly across space and language groups.

The second case is that of levying fee for registering property and using this to set municipal rates. An impediment to growth of private enterprise in Papua New Guinea has been the lack of access to credit from the formal sector, which in turn is due to the absence of collateral (Yala, 2010). A credible property registry that provides secure title to land and buildings located within the confines of the major urban centres has the potential to improve access to credit, raise private investments, and improve legal capacity of the state. A functioning property registry is an investment in the legal capacity of the ABG which has the potential to serve the urban population, and raise GDP.

The third example is that of the ABG negotiating short-term access to the labour markets of Australia and New Zealand, very much in the spirit of the recently announced [‘Closer governments and communities’](#) program by the Australian Prime Minister at the 2017-meeting of the Pacific Island Forum. Allowing community leaders from the villages to travel to and work in Australia as a group has the potential to foster community links within Bougainville, raise income of the recipients, and expose those recruited to a well-functioning state elsewhere. The focus for 2018 program is on ‘Bringing the Digital Revolution to the Pacific’, which has particular relevance for Bougainville. Digital technology has the potential to allow the ARB to leapfrog the use of existing communications technologies in the delivery of primary education, basic healthcare, and information services. There is a case for targeted assistance to community leaders from Bougainville as part of an Australian strategy for state building.

### **3. Revenue and Expenditure Options**

This section seeks to encourage a discussion on the revenue envelope that the autonomous region of Bougainville would need under the current arrangements before moving to a discussion on the resource requirements for an independent nation of Bougainville. The focus for the subsequent discussion is on the recurrent budget given that the restoration and development needs of the ARB are being met through national grants (including DSIP, PSIP, and the Special Intervention Fund) and through donor funding.

Achieving the goal of a balanced recurrent budget through revenues raised within Bougainville will take a decade even under the most optimistic scenario. The total recurrent expenditure for the ABG for 2017 as reported in the Budget was approximately K162 million, of which K21 million, that is 13 percent, has been raised internally.<sup>7</sup> At the current rate of collections, GDP would have to increase eightfold to provide revenues to meet all the recurrent expenditure of the ABG. While no official estimates on the level of GDP are available, even if the existing tax take were doubled, GDP would still need to quadruple that of the prevailing level to

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<sup>7</sup> These figures have been provided by Mark Olsen in separate Microsoft excel tables. The sum of K21 million raised internally does not include company taxes.

generate sufficient revenues to fund the 2017-level of recurrent expenditures.<sup>8</sup> Assuming an annual rate of economic growth of 5 percent per annum will lead to a quadrupling of GDP in 28 years, and even a world record annual rate of growth of 10 percent will achieve the quadrupling in 14 years!

Fiscal self-reliance as defined in the Organic Law is achieved when all of the company taxes and customs duties plus 70 percent of value-added taxes (VAT) attributable to the ARB sums up to the value of the recurrent grants from the national government. Data on company taxes, VAT collections, and Customs Duties are not available meaning that a clear assessment of the extent to which fiscal reliance has been reached cannot be ascertained. Total revenues collected from internal sources as reported in the ABG budget for 2017 was 21 million, or 13 percent of total recurrent expenditures. Revenues just from internal sources would have led to a balanced recurrent budget in 2017 if the economy grew annually at 10 percent since ABG took office in 2005. The same would have been realised if tax collections as a share of (the unofficial estimates of ) GDP rose to 20 percent. The current reality is that the ABG cannot achieve a balanced recurrent budget from internal sources under a business as usual scenario for at least two more decades meaning that alternative sources of government revenues will have to be sought if fiscal self-reliance is to be achieved at all.

What then are the options to raise revenues for the ABG? In answering this question lets start with the proposition that a good tax system is both efficient and equitable. Here “efficiency” implies that taxes distort economic behaviour to the minimum and incur the least administrative burden for a given amount of revenue raised. “Equity” implies that the burden of the tax is shared fairly such that individuals in similar circumstances have the same liability while those having the greater income bear a larger burden of the tax. Furthermore, taxes must apply to all, stimulate savings and investment, and be transparent such that it promotes confidence in the bureaucracy. The large subsistence sector in the ARB provides much room for economic activity to move between the formal and informal sectors. In these circumstances, taxes can change the mix between these two sectors and thus create inefficiency. Furthermore, the low literacy rates in the population will create problems with tax compliance unless taxes are kept simple. This argues for an ARB of a tax system that has low rates and is administratively simple to implement. The longer-term focus for revenue and tax policy, as argued in Section 2, are to raise marketed economic output. While this strategic goal has to be kept in mind, the options for raising revenues in the short to medium-term are limited to personal income taxes, trade taxes, property levies, and resource rents. Each of the above is explained in some detail next.

(i) Income taxes – current laws allow the ABG to collect tax on personal income generated in Bougainville, which is paid into a trust account by the PNG Internal Revenue Commission (IRC) and then distributed to the ABG (Organic Law, s.41). All company taxes, customs duties collected in Bougainville, and 70 percent of value-added tax receipts are also placed in a trust account created by the National Minister responsible for internal revenues and credited

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<sup>8</sup> One estimate puts GDP for Bougainville in 2014 at K1 billion: constituting government consumption of K92.7 million, government investment of K209 million, private investment of between K60m and K100m, exports at K182 million with estimates for imports unavailable, and the balance of some 70 percent of GDP being private consumption (email communication with James Lloyd of 11 September 2017). Tax collections amount to 2 percent of this particular estimate of GDP. My own estimate for urban Bougainville for 2011 was a per capita GDP of K3,795 (Chand, 2011; page 10).



against the annual recurrent unconditional grants given by the national government to the ABG until such time as fiscal self-reliance is attained (see Organic Law; s.39).

The Organic Law provides for the ABG “to impose, set rates of and collect personal income taxes in Bougainville” (GoPNG, 2002, p. s.41(45)); and to set company tax rates that are within 5 percentage points of the national rate but only after having attained fiscal self-reliance (ibid, s.43). The ABG in the interim is also empowered to set excise taxes and licence fee, property taxes, motor vehicle registration charges, road user fees, and “such other taxes as ever have been available to a Provincial Government under the Organic Law” (ibid, s.44). The collection of taxes is left to the IRC until such time when the ABG has established its own tax office (ibid, s.45).

(ii) Trade taxes can be imposed given that the bulk of cargo is channelled via the three major ports (i.e. Buka, Kieta, and Buin) and is therefore administratively simple to collect. The case of cocoa exports has already been explained with the caveat that the rate would have to be low with demonstrable benefits to the taxpayers, and the explicit goal of raising production. Similarly, rates of tariff and customs duties would have to be aligned with those for PNG such that the value raised will depend on the level of trade between Bougainville and the rest of the World, excluding the rest of PNG.

(iii) Property taxes – registered property may form part of the tax base but this will be confined to urban real estate only. The proceeds may be used to fund public infrastructure, which in turn is necessary for private enterprise. Such investments will also benefit the owners by raising property values. Decentralised property taxes are relatively simple to administer, and the taxes are progressive in that it is paid by the relatively rich in the community. Investments into the necessary infrastructure to collect property taxes strengthens the state bureaucracy and provides the information for urban planning.

Property taxes can be developmental. An efficient property registry housing cadastral surveys that is able to provide title to urban land can facilitate private enterprise through improved access to credit from the formal sector. Privately owned property enables households to save and invest in residential developments. Arawa and Buka both have small real estate sectors and both these urban centres have the potential for further expansion. Having a transparent process for registering property that in turn provides trustworthy titles is a service that the community would value but a secondary benefit of the above would be a tax base for generating government revenues. Such a registry would also create demand for a legal system that undergirds record keeping with benefits to the community at large by reducing levels of dispute. Incentives may be created for the local level governments such as municipal authorities in Arawa, Buka and Buin to raise revenues from registered property (Khan, Khwaja, & Olken, 2015), and the major urban centres allowed to compete on this basis to attract private enterprise (Petmesidou, 1996). While such investments are critical to growth of GDP, the rates of tax must be kept low to provide incentives for owners to register their properties in the first place and thus this is likely to be a minor source of revenue for the ABG. And at least in the initial phase, the registries are likely to have a role only in the urban centres of Buka, Arawa, Kieta, and Buin given that the remainder of Bougainville has most of its land held under customary tenure.

(iv) Resource rents tax including fees for licenses issued to distant water fishing nations and mineral rents (including alluvial mining) provide an immediate promise for an early return to

fiscal self-reliance. The Peace Agreement states that fishing revenues generated from the of Bougainville will be distributed to the ABG on an agreed formula (BPA; s.86(a)). Preliminary estimates are that the ABG is owed US\$30 million from the national government in the form of fisheries rent.<sup>9</sup> Mineral rents have greater prospects as a source of revenues for the ABG. There has been a long held belief in the utility of mineral rents in funding an autonomous and even an independent government in Bougainville. While such a ‘short-cut’ is a promising route to fiscal-self-reliance, the risks of such a strategy in stifling economic growth are significant. The risks to an economy and a government reliant on mineral rents to fund public goods are many including: (i) the shift in priorities for redistribution rather than that for inclusive growth; (ii) the potential for Dutch disease effects; and, (iii) the vulnerability to sharp movements in global commodity prices. Readily available mineral rents can also crowd out other forms of taxes leaving government finances dependent on a single source of income. The risks of redistribution in the ARB from the recommencement of large-scale mining, as alluded to in Section 2, is significant. A full coverage of the risks from Dutch disease effects and that relating to volatile commodity prices are beyond the purview of this paper but are part of ongoing research.

The specific challenge of reopening the Panguna mine are resolving the pre-existing conflict on compensation to the landowners including those adversely affected by the tailings. Negotiations for the reopening of the mine will bring back to prominence the actors and the issues that led to the conflict, with the potential to draw the ABG and the elite into contests over and dissipation of mineral rents (Kurrild-Klitgaard & Svendsen, 2003; Olson, 1993). There are reports of the representatives of the landowners negotiating independently of the government to access mineral deposits by international prospectors. The impending referendum and the uncertainty in terms of the outcome will raise the risk premium to any investment in the ARB. Investors contemplating a large resource project in the ARB will factor in sovereign risk when considering the viability of their investment meaning that the valuation attached to a project before the referendum is likely to be lower than that after the outcome is known. For its part, the ABG’s negotiating position is likely to be weakened by limited information on the value of the resource, uncertainties regarding the outcome of the referendum, and its well-known desire for fiscal self-reliance. Thus the task for the ABG in getting maximum value from an investor in large scale mining in the ARB is challenging to say the least.

The risks in tapping into mineral rents for fiscal self-reliance can be managed through early decisive actions on the part of the ABG. The government may consider taking the following steps towards maximising the proceeds from the recommencement of large-scale mining. The first would be to put in place laws that provide certainty regarding the security of investments following the referendum. The government may for example legislate that the conditions entered into with an investor prior to the referendum will remain in place regardless of the outcome of the referendum. Second, an international financial institution such as the Asian Development Bank (ADB), the Asian Infrastructure Investment Bank (AIIB), or the World Bank could be engaged to intermeditate between the ABG and the investor into a mine to facilitate the design of regulatory infrastructure and competition for access to the resource that is necessary to maximise the proceeds to the government. International financial institutions have the knowledge to intermeditate between the public and

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<sup>9</sup> The estimate of US\$30 million has been provided by Mark Olsen (email communication of 21/09/2017).

private sectors of the economy and a reputation to protect in delivering value for the people of the developing world. Third, the people have to be engaged on the issue of mining so that they come to an agreement whereby the ABG is lent the sole authority to negotiate access to mineral resources in the ARB. A detailed consideration on each of the above points is beyond the purview of this paper and left as part of future work.

(v) Revenue needs of an independent nation of Bougainville. Finally, consideration has to be given to the question of the resource requirements for an independent nation of Bougainville. There is not another independent Bougainville thus I have looked at four Melanesian nations; namely, PNG, Fiji, the Solomon Islands, and Vanuatu to hazard an answer to the above question. Table 1 provides some basic facts on the ARB and her Melanesian neighbours. ARB is part of PNG with a land area roughly 2 percent and a population roughly 4 percent of the national total. But compared to the remaining Melanesian nation states, the ARB has nearly half the total land mass of Fiji and a third of its population, nearly a third the land mass of the Solomon Islands and half its population, nearly three-quarters of the land mass of Vanuatu and a population that is 10 percent larger. Thus at least on these measures, an independent Bougainville will not be the smallest Melanesian nation and definitely not the smallest Pacific Island nation. A politically independent Bougainville will however be the poorest Melanesian state in terms of both aggregate and per capita GDP and possibly with respect to each of the social indicators of development listed in Table 1.

A rough guess on the resource needs of an independent Bougainville based on the facts presented in Table 1 are that this will range from a level of 50 percent of the Solomon Islands to 110 percent for Vanuatu. The ARB constitutes 4 percent of total population of PNG and should this share of the national total expenditure of K14.762 billion be apportioned to an independent Bougainville then it will amount to K590 million, or 3.6 times the recurrent budget of K162 million or twice the total budget of K286 million for the ARB in 2017. Similarly, using population as the weight in computing the size of the budget for an independent Bougainville by drawing on the budgets of Vanuatu and the Solomon Islands gives K923 million and K836 million, respectively, on the basis of the official exchange rate as of 14<sup>th</sup> September 2017. These rough ballpark estimates show that the resource cost of political independence are likely to be anything between 4 to 6 times the recurrent (or 2 to 3 times the total) budget of the ARB for 2017.

Bougainville bears the smallest cost of sovereignty when being part of PNG when compared to the cost of sovereignty for the Solomon Islands and Vanuatu. This difference is due to the economies of scale in the provision of sovereign services such as defence, national regulation, currency, and foreign affairs. These plus many other overhead costs of governments are indivisible and, hence, cannot be scaled down with the population. Bougainville in being part of PNG also benefits from free trade and commerce with the rest of the nation. An independent Bougainville will be a lot more dependent on international trade given the narrow range of commodity export income that the new nation will depend upon to fund imports of food, manufactures, and services.

The sectoral composition of expenditure for the four Melanesian nations shown in Table 1 also allows comparisons on expenditure priorities in the ABG Budget for 2017. The top five items of expenditure in the budget (and their shares in total outlays) are:

- Education – accounting for 39.9% of the total recurrent budget;

- Personal Management and Administrative Services – accounting for 18.8%;
- Police, Corrective services, and Justice – 6.5%;
- Parliamentary Services – 5.6%; and,
- Community Government – 3.4%.

The allocation to education in the ARB-Budget is comparable to that of Vanuatu, but twice that of PNG as a whole. Such allocation may be justified on the grounds of a large youth population and the fact that many children missed out on schooling altogether during the crisis – the so called ‘missing generation’ (GoPNG, 2013). My analysis of 2011 based on survey data shows that the probability of a six-year-old ready to enter school in Arawa completing secondary education by age 18 was just 11 per cent (Chand, 2011). That is, just one in nine children that entered Grade 1 in Arawa made it to Year 12 suggesting that there is considerable latent demand for school education. Similarly, the allocation in the budget to Health is one-fourteenth that of Vanuatu and one-ninth that of PNG as a whole. Part of this difference may be due to the fact that some of the health and education services are funded at the national level, and therefore remain ‘off-budget’ for the ABG. Furthermore, churches and other non-governmental organisations also provide these public services. If indeed the case then total input to health needs to be accurately estimated. Furthermore, estimates on the effectiveness with which inputs into education and health sectors are translated into social outcomes has to be established to ensure the best return on public investments. As an example, there is an urgent need to estimate the effectiveness of inputs into education in raising educational outcomes for the population of the ARB as a whole. Similarly, the effectiveness of health outlays in reducing maternal and infant mortality needs to be estimated.

The budget provides an opportunity to build a consensus on taxation and supply of public goods between the governed and the government – it is in this particular sense the linchpin of the state (Ghani, Lockhart, Nehan, & Massoud, 2007). The formulation of the budget and the setting of priorities therein provides an opportunity for public engagement. The ABG parliament is a forum for the setting of such priorities, but the wider public may be invited to contribute to the prioritisation process to build empathy for higher taxes in return for better public services. The current government in Fiji for example solicits input from the public via the media in the formulation of the budget and then holds summits to explain the priorities in all major urban centres after the budget has been passed by parliament. The print and voice media are both used to communicate the priorities of the government and to gather information on the effectiveness of past expenditure. The ABG may want to draw lessons from the above in bringing government closer to the people and in building a more politically engaged public.

To summarise, this section has been devoted to some simple arithmetic on the resource needs and revenue raising capacities of an autonomous as against an independent nation of Bougainville. My preliminary estimates suggest that: (a) Bougainville is well short of reaching fiscal self-reliance; (b) the resource needs of an independent nation of Bougainville is several fold that of the current level of expenditure; and , (c) that the recommencement of mining provides the shortest route to fiscal self-reliance but one fraught with risks. Resumption of large scale mining has major risks in terms of tying the ABG into policies of redistribution and conflict mediation rather than having a policy-focus on growing the revenue base for the region as a whole. As to whether the risks are worth the rewards is a decision that only the people of the ARB can make.

## Conclusions

The Autonomous Region of Bougainville (ARB) is due to hold a referendum before mid-2020 where the people will have an option to vote for independence from Papua New Guinea. Internally generated revenues as of the 2017 Budget in the ARB amounted to 13 percent of the recurrent budget. The question addressed here is as to how best to transition the ARB to fiscal self-reliance which is defined in the legislation as having being achieved in “the first year in which the revenues from company tax, customs duties and 70% of value added tax collected in Bougainville are equal to the value of the recurrent grant on a sustainable basis” (GoPNG, 2001; 2002, p. s.2). The analysis in this paper reveals that the ARB will not reach fiscal self-reliance, as defined above, by the due date for the referendum. A politically independent Bougainville will need resources that are 2 to 3 times the prevailing level of total expenditure. These considerations raise questions as to whether a vote for independence from Papua New Guinea is moot absent fiscal-self-reliance. The referendum will raise awareness of a Bougainvillean identity, and remind many in the ARB of the civil war fought with identity politics at the very centre. While the memories of war remains a trauma to many, wars in general lend the opportunity to raise taxes as part of state-building (Feldman & Slemrod, 2009).

I have argued for a two-pronged approach to transitioning the ARB onto a path to fiscal self-reliance. Resource rents provide a short-term opportunity to raise revenues for the government, but this option is fraught with danger. There is the risk from the recommencement of large scale mining that the ABG will be caught in redistribution of mineral rents at the neglect of broad-based growth of the economy. Besides, the uncertainty regarding the outcome of the impending referendum will raise sovereign risk that will reduce the value of mineral rents available to the Autonomous Bougainville Government (ABG). And an ABG negotiating for access to the natural resources for fiscal self-reliance in the lead up to the referendum will be in a weak bargaining position with a large (international) investor. An option worthy of detailed consideration is to engage an international financial institution that would be able to intermediate between several international investors and the ABG so as to secure the maximum possible rents for the people of Bougainville.

The second prong is a long-term focus on expanding the monetary economy. I have argued for revenue and tax policies to be used to expand production. Tax collections can be raised by raising the level of economic activity, and through the widening of the tax base. On the former, revenue and tax policies need to be judged on their effectiveness in supporting economic activity rather than by the quantum of funds they deliver to the government. On the latter, a rise in the rate of taxes dampens incentives to engage in economic activity, and if so then it pushes such activity into the informal economy. The capacity of a weak administration to enforce compliance with taxes are limited thus ratcheting tax rates to raise revenues can be counterproductive. And doing so can raise deadweight losses from high rates of taxes.

Taxes can be used to support economic growth. Three specific examples have been used to illustrate the above; namely: (i) a one percent tax on cocoa exports with the proceeds being used to expand production; (ii) a property registry to provide the legal infrastructure for growth of private enterprise; and, (iii) a labour export scheme that allows people form the

ARB to seek temporary employment in and exposure to government services in Australia. These are specific examples of policies to improve service delivery, cement ties between the government and the governed, and broaden the tax base. The success of these policies are to be judged in terms of incremental gains to GDP.

Helman and Ratner (1992) argue that: “[t]he world’s changing political, economic, and cultural configurations are testing the unity—and borders—of many other countries. It is impossible to be certain that the political boundaries created under colonialism will, in the end, prove sustainable” (page 5). This question is under debate in Bougainville and the debate on sovereignty for Bougainville will reach fever pitch as the date for the referendum is approached. The question posed in this paper is on how best to position Bougainville on to a path to fiscal self-reliance given the impending referendum.

The challenge for contemporary Bougainville is that of achieving a balance between the needs for local autonomy in the supply of public goods in an increasingly inter-dependent world. Political independence is an extreme position on the continuum to the current autonomous arrangement. If fiscal self-reliance is the price to be paid for autonomy/independence then it is best that the population is aware of this in the lead up to the referendum. The people will decide at the referendum on the level of autonomy desired but this decision is best made with information on fiscal self-reliance and the path to achieving this.

The current Revenue and Tax Summit is at least 15 years overdue. It can nonetheless begin a discussion on fiscal self-reliance, and the price the community must pay for varying levels of autonomy including that of political independence from Papua New Guinea. The ABG can begin this discussion by drafting tax laws which are then publicly debated before enactment. If enough individuals believe that paying taxes is a civic duty and a price worth paying for peace, prosperity, and access to public goods then taxes and government revenues will grow with time (Allingham & Sandmo, 1972; Myles & Naylor, 1996). This above will seed a culture of compliance where individual (and firms) pay their taxes voluntarily rather than through fear of legal sanction with beneficial effects on government revenues (Benabou & Tirole, 2011). There is evidence to suggest persistence in social norms including those for tax compliance (Bobek, Roberts, & Sweeney, 2007; Onu & Oats, 2014), and that the level of tax compliance is positively associated with perceptions of the fairness of the tax system and effectiveness of the government in meeting community expectations (Posner, 2000, p. 1806). A marker of success for this Revenue and Tax Summit will be in the design of a tax system that delivers an increase over time in internally generated revenues both in Kina value and as a share of Bougainvillean-GDP.

**Table 1:** Revenue and Expenditure data for Bougainville (ARB), PNG, Fiji, the Solomon Islands, and Vanuatu

	ARB	PNG	Fiji	Solomon Islands	Vanuatu
<i>Basic facts (figures for 2016)</i>					
Land Area (sq. km)	8,990	452,860	18,270	27,990	12,190
Population ( thousands)	≈300	8,084	899	599	270
Population ages 0-14 (% of total)	>34	37	29	39	37
Urban population (% of total)	..	13	54	23	26
GDP per capita, PPP (US\$)	..	2,761	8,800	2,129	3,047
<i>Social indicators (2015, latest available)</i>					
Life expectancy at birth, total (years)	..	63	70	68	72
Maternal mortality ratio (modelled estimate, per 100,000 live births)	..	215	30	114	78
Mortality rate, under-5 (per 1,000 live births)	..	45	19	24	23
Literacy rate, adult total (% of people ages 15 and above)	..	63	..	..	85
<i>Recurrent Government Expenditure (2016)</i>					
Total (% of GDP)		27	37	43	17
Education (% of total expenditure)	34	7	13	10	34
Health (% of total)	1	9	7	4	14
Police/Law and Order (% of total)	6	7	4	3	8
<i>Revenues and Taxes</i>					
Net ODA received (% of GNI; 2014)	..	3.5	2.2	18.1	12.3
Revenue (% of GDP; 2016)	..	23	32	43	18
Direct and Indirect taxes in total Revenue (%; 2016)	7	79	86	81	79
Direct and Indirect taxes in Recurrent Expenditure (%; 2016)	13	68	78	70	80

Notes: Data on ‘Basic Facts’ and ‘Social Indicators’ are for the most recent period available from the World Development (online) database accessed on 7 September 2017 with the exception for ARB where data on population is from Regan (2014) and Population less than 14 years of age is for the urban population (from Chand, 2011). Data on ‘Recurrent Government Expenditure’ and ‘Revenues and Taxes’ are from the national budgets of the respective countries, accessed online on 8<sup>th</sup> September 2017; ‘..’ indicates that no data is available, and, exercise caution in interpreting these figures as they have been drawn from disparate sources with each lacking precision. The figure for nominal GDP for the Solomon Islands (to calculate the ratios) is from the CBSI (online); recurrent expenditure on Education in PNG includes that for the Department of Higher Education, that for Health includes Hospital Management Services – which is provided in ARB plus all provinces, and for Law

and Order includes all Law and Order agencies. Recurrent revenues and expenditures for the Autonomous Region of Bougainville (ARB) is from the 2017 Budget kindly supplied by Mark Olsen.



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