The value and viability of sovereignty-conferred rights in MIRAB economies: the case of Tuvalu

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The MIRAB model has been put forward as a way to explain the economies of small island nations with little formal sector economic activity, explaining the development of these economies based on a mix of migration, remittances, aid and bureaucracy. Reinforcing these characteristics has been the generation of rental incomes from sovereignty-conferred rights. Adding to the debate over the sustainability of MIRAB countries, this article seeks to determine the magnitude, variability and sustainability of revenues from sovereignty-conferred rights in Tuvalu.

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The question of the sustainability of small island states arose as a result of the post World War II decolonisation process. In particular, the lack of formal-sector domestic economic activity in these diminutive countries presented a conceptual challenge to the conventional analysis of developing economies. As a consequence, the MIRAB model was put forward as an alternative explanation for these small nations; it attempted to explain the economic development of these islands based on a mix of migration (MI), remittances (R), aid (A) and bureaucracy (B). Reinforcing these characteristics has been the generation of rental incomes from sovereignty-conferred rights.

Tuvalu is a tiny island state in the Pacific Ocean that has been identified as a MIRAB economy. The Tuvaluan economy has survived largely by exploiting the elements of the MIRAB system since nationhood in 1978. However, Tuvalu did not necessarily
demonstrate all the characteristics of this kind of economic structure. Individual MIRAB ingredients have made differing contributions to the economy over time, with the system proving surprisingly viable to date. Indeed, Tuvalu appears to be a 'maturing' MIRAB economy since migration levels have increased, leading to the potential for stronger flows of remittances. Moreover, the government has managed to diversify its sources of aid using the leverage provided by its diplomatic relations, strategic value, and marine resources. It has also exploited its sovereignty-conferred resources to maximise rental incomes from various sources, such as fishing licence fees and intangible telecommunications assets, including country codes and internet top-level domains. This article seeks to estimate the value of the income streams generated for Tuvalu by sovereignty-conferred rights as well as evaluating their longer-term viability.

**Theoretical considerations**

The MIRAB model extends the development literature seeking to explain the existence of a small group of economies that do not seem to conform to conventional growth theories applied across most developing countries. Conventional accounts of the Pacific small island economies have been based on traditional growth models, like the neo-classical Solow growth model, which focus on capital, labour, and technological progress as the engines of economic growth. By contrast, the major components of the MIRAB system—migration, remittances, aid, and rents—are only considered in so much as they affect capital, labour, and technological progress.

The application of conventional analysis to Pacific small island states suggested that there has been little growth or development in these economies, as indicated by GDP data and other development indicators (World Bank 1991). The recommendations that flowed from this analysis maintained that reliance on aid and remittances was not sustainable in the long run and that growth and development could only be achieved through traditional export-led growth.

Bertram and Watters (1985) developed the MIRAB model from their close observation of the characteristics of five Pacific Island economies—Kiribati, Tuvalu, Cook Islands, Niue, and Tokelau. They suggested that remittances, aid and rents were the basic determinants of economic activity within these economies rather than simply components within a conventional growth model. The MIRAB model thus sought to explain why the small island economies did not necessarily respond to the policy prescriptions of conventional growth models, depicting these economies as potentially sustainable economic systems, albeit under unique circumstances (Bertram and Watters 1985).

Rental incomes represent an integral part of a MIRAB system. Indeed, Bertram and Watters (1985) considered aid to be a form of rent, but other sources of disposable national income generated by these nations, such as remittances and philatelic revenues, are also rents and thus intrinsically part of the MIRAB model. Moreover, this extends to rents generated by nationhood and the attendant sovereignty-conferred property rights. These rents can be generated through legally assigned property rights over national resources, both marine and terrestrial, as well as from sovereignty products, which are intangible assets of the nation and include ‘strategic denial’, the ability to issue stamps and coins, and telecommunications assets, such as international telephone country codes and internet top-level domains. The income from these rents acts analogously to aid and remittances and thereby accentuates the MIRAB characteristics of an economy.
A crucial aspect of the MIRAB model is that considerable income is generated from outside the borders of the country. The small size of these economies and their global insignificance mean they are especially susceptible to external influences. In relying so heavily on this ‘outside’ income by opening up, small island states thus effectively hand much of their economic destiny to global forces. However, while this could be seen as a threat to the long-term viability of these economies, their openness has, in contrast, often resulted in their ability to access a wide range of sovereignty-conferred benefits that have been converted into revenue streams for the governments. As demonstrated below, this is especially the case for Tuvalu.

Much of the income from these external sources does not show up directly in macro-economic aggregates such as GDP but rather in the enhanced economic activity resulting from the inflow of these resources. While some of the impact of these aggregates will appear in GNP data, these statistics have generally not been calculated for Pacific small island state economies. This conclusion immediately raises a related dimension of the MIRAB system—that aid is provided in return for the export of ‘geostrategic service(s)’ (Poirine 1995). Poirine (1995) constructed a model of development with specific reference to the Pacific small island states because they have ‘high strategic value’ relative to their land area, primarily because of the large sea areas under their control. As a result, foreign powers that seek influence or control over their territorial zones will attempt to secure strategic services by means of substantial and ongoing aid.

During the initial debate over the MIRAB system in the mid 1980s, the then Soviet Union was attempting to extend access for its fishing fleets into the Pacific region. Because of Cold War tensions, aid was increased by regional powers, especially Australia and New Zealand, wishing to maintain their strategic influence in the region and thus exclude the Soviet Union.
With the conclusion of the Cold War, it seemed that the US-aligned freely associated states (FAS) in the North Pacific, such as the Marshall Islands and the Federated States of Micronesia, would have much less leverage in negotiations over renewed economic assistance at the end of the first 15 years of their compacts. However, with the emergence of China and its continuing tensions with Taiwan, together with fear of ‘rogue’ states in the Pacific Rim, particularly North Korea, the United States has funded substantial economic assistance packages for a further 20 years. Although this synoptic description oversimplifies a complex negotiation process, it nevertheless captures a significant theme in the process.

By the same token, Australia’s increasing presence in the Pacific in recent years, with interventions in the Solomon Islands and East Timor, reflects similar security concerns that Australia has over its immediate region. These Australian interventions have been accompanied by substantial increases in aid to the small island states. This further demonstrates how the value of strategic situation, and the aid forthcoming from aid-giving nations, will vary with changes in the global geopolitical situation.

The MIRAB system is often associated with the ‘Dutch Disease’ or booming sector phenomenon. The term ‘Dutch Disease’ derives from the experience of the Netherlands in the 1960s with its sudden inflow of large North Sea oil and natural gas revenues. The overall effect was that the booming sector (oil and natural gas) raised the value of the Dutch guilder, thereby making many of the non-oil exports of the Netherlands less competitive, with severe effects on the economy.

Corden and Neary (1984) sought to explain the impact of Dutch Disease by dividing an economy experiencing these inflows into three distinct sectors: the booming sector, the export and tradeable sector, and the non-traded sector. When a country experiences the Dutch Disease problem, the booming sector combined with the non-traded sector ‘crowds out’ the tradeable sector. In the case of a MIRAB economy, the ‘aid sector’ (for want of a better term) represents the booming sector. Where the country has its own currency, the growth of this sector raises the real value of the exchange rate, making tradeable goods uncompetitive. The resultant growth in the public sector leads to a growing non-tradeable sector (see, for example, Laplagne et al. 2001; Treadgold 1999).

The MIRAB model has generated considerable debate in relation to the appropriateness of the model and whether a MIRAB-type economy is sustainable over the long term. Among the arguments advanced by critics of the MIRAB model is the proposition that remittance flows are dependent on fickle altruistic motives and are thus unstable over the long term. In much the same vein, rents could decline through time and thus undermine the sustainability of small island states.

**Sources, magnitude and variability of Tuvalu rents**

Since independence, the Government of Tuvalu has sought to exploit its national sovereignty in terms of the rights this has conferred in order to generate revenues. Rents have varied in importance since independence but have nevertheless been substantial. Accordingly, sensible management of these income streams is crucial to Tuvalu’s long-term economic sustainability.

This paper attempts to determine the government revenues generated from licensing of fishing vessels from distant-water fishing nations; the leasing and marketing of Tuvalu’s top-level domain of ‘.tv’; philatelic sales; the leasing of blocks of
excess telephone numbers; and passport sales. Because the public sector is so dominant, the use of these revenues plays a pivotal role in determining how the economy operates. It follows that their expenditure could reinforce or reduce the MIRAB characteristics of the economy.

Fisheries

Tuvalu’s only significant natural endowment is the marine resources contained within the nation’s 200-mile exclusive economic zone, the delineation and exploitation of which was legally established by the 1982 UN Convention on the Law of the Sea (Aqorau 2000:37), ratified by Tuvalu on 9 December 2002. The Convention gives a coastal state ‘the right to exploit, develop, manage and conserve all resources—fish or oil, gas or gravel, nodules or sulphur—to be found in the waters, on the ocean floor and in the subsoil of an area extending 200 miles from its shore’ (United Nations 1998). The Forum Fisheries Agency (FFA) estimates that Tuvalu’s exclusive economic zone covers an area of 737,000 square kilometres.

While there may be many resources in the exclusive economic zone, the only one commercially exploited is the fisheries resource. Tuvalu receives fishing licence fees from various sources through licensing distant-water fishing nations’ vessels, mainly the Multilateral Treaty on Fisheries concluded between certain Pacific island states and the United States. This treaty allows tuna fishing vessels operated by US companies access to the exclusive economic zone of each Pacific country that is party to the treaty. Tuvalu also enters into bilateral treaties with Japan, the Republic of China, and the Republic of Korea. These treaties are less open to scrutiny than the US Multilateral Treaty and must be considered vis-à-vis the aid programs provided by these nations.

The US Multilateral Treaty provides an annual global payment for the region that is divided largely according to the location of the fish catch. Given that the tuna stock is a migratory species, moving between the exclusive economic zones of different nations and international waters, the revenues for any treaty signatory will fluctuate according to where the fish are caught.

In general terms, Tuvalu normally charges an access fee of 5 per cent of the value of the fish catch, or a minimum of US$10,000. This rate is based on rates charged by other regional countries, which coordinate their efforts to extract royalties from distant-water fishing nations. On an individual country basis, only the United States and Japan paid more than US$10,000 to Tuvalu in 2001.

Tuvalu has received substantial revenues from its accession to the US and other bilateral treaties. The value of these revenues has varied substantially, largely due to the migratory nature of tuna fish stocks. Figure 1 provides a graphical representation of the revenues received by the Tuvalu government budget since 1980. These revenues grew substantially in the early 1990s as the US Multilateral Fishing Treaty began to yield significant revenues. For instance, when the fishing licence revenues peaked at US$11.8 million in 2001, the US treaty was responsible for US$9.7 million (or 82 per cent) of the total.

Internet top-level domain—‘.tv’

In the early 1980s, the Internet Assigned Numbers Authority allocated each nation a country-code top-level domain for internet websites, similar to the international telephone country codes. Tuvalu was assigned the country-code top-level domain of ‘.tv’. With the rapid expansion of the internet in the early 1990s and the longer-term potential for video streaming over the Internet, the ‘.tv’ country-code top-level domain became a very attractive option for media and other companies looking for readily memorised web addresses.

In the mid 1990s, the government received enquiries from various entities
interested in managing and marketing the country-code top-level domain in recognition of the potential of the '.tv' domain. In order to maximise its revenue from this source, the government sought technical advice on how best to exploit this resource and entered into a tender process to secure the best deal.

A Canadian company (known as Information.ca) won the tender in 1998 and began to market '.tv', with the government holding high expectations of large and sustained revenue flows, given the promise of an initial US$50 million payment followed by ongoing licensing revenues (Computing Canada, 28 May 1999:4).

The initial arrangement with Information.ca subsequently collapsed and the .tv Corporation arose out of its ashes. The .tv Corporation was later subsumed into the Idealab! Internet Incubator based in Silicon Valley in California. In terms of this contract, Tuvalu was to receive a 20 per cent share in the new company and minimum revenues of US$50 million over 12.5 years. This revenue would be provided at the rate of US$1.0 million per quarter. As part of this process, Tuvalu received an additional one-off payment of US$12.5 million in 2000.

This arrangement was concluded at the height of the 'dotcom' boom, and there were plans for an initial public offering of .tv Corporation. With the collapse of the dotcom market in 2000, plans for an initial public offering were shelved and the ambitious revenue forecasts were severely downgraded. This led to the eventual sale of the .tv Corporation to Verisign Corporation, the company that controls the marketing of the best known top-level domains such as '.com', '.net' and '.org'.

During this process Tuvalu received an additional US$10 million in revenue as part of the proceeds from the sale. Under the new arrangement, the government was guaranteed

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**Figure 1** Fishing licence revenues, 1980–2004 (A$ '000)

US$2.2 million per annum plus 5 per cent of all annual revenues from the sale of .tv domain names exceeding US$20 million. Verisign retained the rights to market the .tv country-code top-level domain until 2016. However, there is ongoing concern that Verisign will reduce emphasis on the .tv country-code top-level domain in favour of its better-known top-level domains and new top-level domains such as .biz and .info. Despite this concern, a number of high-profile websites are now promoting their .tv web addresses, such as Major League Baseball (mlb.tv) and the National Football League (nfl.tv).

Revenues from the marketing of Tuvalu’s country-code top-level domain have fluctuated substantially in the short time since this income stream became available to the government (as shown in Figure 2). These fluctuations largely resulted from the two payments of US$12.5 million in 2000 and the US$10.0 million payment in 2002 and not from fluctuations in .tv top-level domain sales. Moreover, the ‘windfalls’ of 2000 and 2002 are unlikely to be repeated. Nonetheless, in terms of the new arrangements entered into with the Verisign Corporation in 2002, revenues from .tv are likely to become more predictable. However, some variability in revenues will result from fluctuations in the US$/A$ exchange rate and the ability of Verisign to generate .tv domain sales in excess of US$20 million. In this context, it should be noted that the windfalls in 2000 and 2002 were inflated by the weakness of the Australian dollar at the time the payments were made.

In nominal terms, the revenues generated from .tv country-code top-level domain since 1998 are comparable to the total automatic distributions from the Tuvalu Trust Fund since its inception in 1987. Moreover, there seems to be potential for .tv income to exceed the trust-fund revenues and become a more consistent revenue earner for the government than the fund. The Tuvalu Trust Fund Advisory Committee (2005) acknowledges that the windfalls received in 2000 and 2002 will not be repeated but that the.tv contract should provide steady income of A$3–4 million over the next 10–12 years.

Figure 2  Revenues from marketing of .tv internet domain, 1998–2004 (A$ ’000)

Philatelic sales

At independence in 1978, philatelic sales were expected to be one of the most important revenue sources for Tuvalu. The government’s (then) main revenue source was import duties, but philatelic sales were also a crucial component of fiscal policy. During the pre-independence period, Gilbert and Ellice Islands Colony stamps were highly sought after by collectors. With the separation of Tuvalu from Kiribati in 1975, and the creation of the new nation of Tuvalu after independence, stamps issued by Tuvalu also became highly desired by collectors.

Recognising the importance of this resource, the government created the Tuvalu Philatelic Bureau in 1978 to manage the production and sale of stamps. The high quality and singular attraction of the stamps produced by the Tuvalu Philatelic Bureau led to philatelic sales becoming the major foreign exchange earner in the late 1970s and early 1980s (Figure 3). The importance of the Bureau was reinforced by the fact that in the early 1980s it was the third largest employer, after the public service and the Tuvalu Cooperative Society.

Dividends from the Tuvalu Philatelic Bureau were a major contributor to government revenues in the early years after independence. At their peak in 1980–81—partly a result of increased sales generated by the royal wedding of Prince Charles and Lady Diana Spencer—dividends accounted for over 20 per cent of the government’s recurrent revenues, which made them the second largest source after the budget support provided by the United Kingdom.

The rapid fall in Tuvalu Philatelic Bureau revenues towards the mid 1980s resulted from a self-inflicted change in fortunes. As British budget support was phased out, the Tuvalu authorities sought...
ways of generating revenues in other areas. Attention fell on the Tuvalu Philatelic Bureau revenues and how best to increase them. Against the advice of Bureau management, the government released the ‘Leaders of the World’ series of stamps. These new releases served to increase the number and frequency of stamp issues on subjects such as ‘world’ trains, cars, soccer players, and other diverse subjects. The attempt did not receive market acceptance. Collectors around the world terminated subscriptions, leading to a rapid fall in revenues and loss of a lucrative market position that has never been regained (Asian Development Bank 2002).

The Tuvalu Philatelic Bureau continues to produce high quality stamps and, although it is now operating at a minimal operating profit level, its accumulated losses are still being repaid. As a result, its dividends have made no contribution to government revenues since 1992.

‘Phone sex’ revenues

Another significant source of revenues in recent years has been the leasing of unused blocks of telephone numbers for ‘dial-up’ services. This enterprise has become notorious as the ‘phone sex’ industry because of the use of many of these telephone numbers for providing telephonic sex services. Indeed, the Lonely Planet website on Tuvalu (http://www.lonelyplanet.com) lists ‘phone sex’ as one of Tuvalu’s main industries. In fact, telephone calls are diverted to other countries where they are handled.

This enterprise developed after Hong Kong’s Asia Pacific Telecom initiated discussions to lease unused telephone numbers using Tuvalu’s country code of ‘688’. Because Tuvalu has 5-digit telephone numbers, allowing 100,000 potential numbers, but a population of only approximately 10,000, it is unlikely ever to use the vast majority of its potential telephone numbers domestically, leaving a surplus of numbers available for use by ‘dial-up’ services. The arrangement began providing revenues to the government in 1996 and contributed almost 20 per cent of government revenues in 1996 and 1997, peaking at A$2.8 million in 1997 (Figure 4). The share of revenue provided to the government fell quickly as other revenues sources grew (for example, Tuvalu Trust Fund distributions, fish licences, and ‘.tv’) and as the taint of the ‘phone sex’ revenues became less palatable politically in Tuvalu, a deeply religious nation. The renegotiation of the agreement in 1999 excluded the use of telephone lines for ‘phone sex’ services and the revenues collapsed thereafter.

Sale of passports

Several Pacific countries have sold passports and citizenship as a way of raising revenues. Tonga and the Marshall Islands have been most notable among the Pacific islands in exploiting this aspect of their sovereignty. The sale of passports and citizenship is subject to serious concerns domestically in most affected countries. Concerns exist regarding the potential for this activity to devalue citizenship, increase pressure on land access, and lead to overcrowding. There are also concerns about the impact that selling passports may have on the acceptance by other nations of passports as travel documents.

Tuvalu launched a Business Investment Scheme in 1997, anticipating that the sale of passports would provide huge windfalls for the government. Largely based on expected demand from China and Hong Kong, it was projected that the sale of passports would deliver A$7.3 million annually within two years. However, the reality was somewhat different. The passport scheme not only failed to generate significant revenues but also suffered from considerable opposition within Tuvalu. The national budget recorded
passport revenues of A$300,000 in 1999 and A$200,000 in 2000, at which point the scheme was discontinued.

Other possibilities

Given the success Tuvalu has had in generating revenues from its sovereignty, it is somewhat surprising that greater efforts have not been directed to this area. Nonetheless, there continue to be sporadic efforts to expand these revenue sources. For instance, there was a program to generate revenue from coin sales—both for tender and as commemorative items—although the revenues appear to have been minimal since they have not even shown up in official budget estimates. Investigations continue into other areas, such as the possibility of leasing out satellite space, as Tonga has done, or to secure revenue from the use of Tuvalu’s air space by commercial airlines. The air space issue is being investigated through the Pacific Islands Forum.

Opportunities for exploiting revenues can develop at short notice, for example, from changes in international law or developments in technology. Accordingly, it is uncertain where future revenue opportunities might arise. However, past experience suggests that, when sovereignty related opportunities beckon, small nations can react rapidly and generate significant national income.

Concluding remarks

Figure 5 shows the total of the rent revenues since 1979. The most notable feature of Figure 5 is the growth in these revenues in recent years, boosted by the ‘.tv’ revenues in 2000 and 2002 and the growth in revenues from fishing licences. However, the variability of these revenues is a major concern when considering the sustainability of the MIRAB system in Tuvalu. The variability is compounded by the fact that these fluctuations are beyond government control, which presents substantial challenges to the Tuvalu government’s management of fiscal policy.

Figure 6 highlights the importance of these revenues to government revenue. The heavy reliance of Tuvalu’s public finances
Figure 5  **Rental revenues 1979–2003 (A$ ’000)**


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Figure 6  **Rent revenue and total revenue, 1979–2004 (A$ ’000)**

on a few key revenue sources has become even more obvious with the fall in rent revenues in 2003 and 2004, and this dependency is reflected in the bureaucracy and domestic wage levels.

What are the ramifications of these rental incomes from the perspective of the long-run sustainability of Tuvalu as a ‘maturing’ MIRAB economy? The inflows from sovereignty-conferring rental incomes, augmented by trust-fund revenues, have allowed the authorities to fund capital developments previously underwritten by foreign aid. Although this suggests that Tuvalu is becoming less dependent on aid, donor programs are nonetheless still critical to funding investments in education, training, and health, as well as infrastructure development.

Growth in the trust-fund and rental incomes, especially from fishing licences and ‘.tv’ revenues, has corresponded with substantial growth in the public sector since 1997 (Figure 7). This growth has been facilitated by the fact that these revenues accrue directly to the central Treasury, allowing government to redirect these revenues to areas largely determined by political considerations. Indeed, GDP data show that the proportion of public administration to GDP, after falling below 20 per cent for the first time in 1997, exceeded 25 per cent in subsequent years (Central Statistics Division and Lewington 2004).

Coinciding with this, government recurrent expenditure was consistently above 60 per cent of GDP during these years (Asian Development Bank 2004; Central Statistics Division and Lewington 2004). Moreover, the large spike in government expenditure in recent years, to a peak of 159 per cent of GDP in 2000, coincides with the stellar performance of rental incomes, most notably ‘.tv’ revenues (Boland 2005). The fall

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**Figure 7**  Government recurrent expenditure versus rents and Tuvalu Trust Fund income, 1980–2004 (A$ ‘000)

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in revenues in 2003 and 2004 reflects the potential instability in these revenue streams, driven as they are by fishing licence and ‘.tv’ revenues.

The instability of rental revenues raises two important questions: how likely are the revenues to continue; and what is the best way to manage these revenues? The first question can only be answered by the passage of time. Changes in technology and international law have dealt Tuvalu a good hand so far but could easily move in less favourable directions. The Tuvalu Trust Fund has provided a vehicle for the sustainable investment of these proceeds and is an obvious vehicle for use of the windfall gains in ways that contribute to the economy’s long-term viability. This is a potential topic for further research.

Notes

1 However, GNP can be readily calculated using net income estimates from the balance of payments on the current account.

2 The MIRAB model has also been referred to as the MIRAGE model, where GE refers to ‘government expenditure’. The MIRAGE acronym clearly alludes to these economies’ perceived lack of sustainability.

3 See Poirine (1998) for an excellent survey of this debate.

4 The Tuvalu Trust Fund is a fiscal stabilisation trust fund established by the Government of Tuvalu and the governments of New Zealand, the United Kingdom, and Australia. The real earnings of this fund, which is invested in a diversified portfolio of shares and bonds, are used to fund the government’s structural fiscal deficit.

References


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