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The telecommunications sector in the Pacific: a regulatory policy survey

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Is there cross-country policy convergence on telecommunications regulatory reform in Pacific island states? This paper analyses regulatory reforms in five Pacific island countries: Tonga, Fiji, Vanuatu, Samoa and Papua New Guinea. It finds that the countries with better telecommunications performance adopted similar regulatory policies, including those relating to privatisation, universal-service provision, competition, arbitration and consumer protection. The results confirm the significance of implementing key regulatory policies on the performance of the telecommunications sector in the context of small island developing states.

Government and joint government-private-sector monopolies have dominated telecommunications in the Pacific.¹ In the past decade, however, five Pacific island states have undergone some form of opening-up of their telecommunications sectors, with major reforms occurring in the past 12 months. The early outcomes confirm the findings in the literature on developing countries' telecommunications reforms that market opening leads to improved sector performance in terms of improved resource allocation, lower prices

and expanded network coverage (Ros 1999; Gasmi et al. 2000; Wallsten 2001; Madden et al. 2003; Fink et al. 2003; Varoudakis and Rossotto 2004; Painter and Wong 2007). Although there have been surveys of telecommunications regulatory policies in developing countries, little attention has been given to the Pacific islands. This paper attempts to fill that gap through a survey of the evolution of regulatory policy in the telecommunications sector in Tonga, Fiji, Samoa, Papua New Guinea and Vanuatu. The survey covers developments as recent as April 2008.

The paper makes three main contributions to the study of telecommunications policy in small island states. First, it provides a much-needed update of regulation of the telecommunications sector in the Pacific. Second, it explores a wide range of regulatory policy variables with potentially significant impacts on the performance of the telecommunications sector. Finally, the survey outlines the early expansion of the Irish-owned mobile operator Digicel Pacific Limited, which has been largely responsible for recent investments in mobile services in the five countries.

Regulatory reform policies in Pacific island states

Tonga

Tonga was the first Pacific island state to introduce competition into its telecommunications sector. The entry of a second mobile operator (TonFon) in 2002 led to a sharp reduction in mobile charges and an increase in total teledensity. TonFon had the lowest costs for peak mobile calls² in the Pacific region (World Bank 2006:83; AusAID 2008:46). Mobile phone ownership increased from 3.4 per cent in 2002 to 30 per cent in mid 2007 (AusAID 2008:43).

Regulatory policy. In an arrangement common to most Commonwealth countries in the Pacific and the Caribbean, Cable & Wireless (C&W) from the United Kingdom established the main telecommunications infrastructure for the island kingdom in 1978 under a joint-venture agreement with the Tongan government, which lasted 22 years. Under this arrangement, C&W provided all telecommunications services for inter-island and international communications.³

By 2000, the Tongan parliament had passed two pieces of legislation for the regulation of the sector. First, the *Communications Act* established the Department of Communications as the central regulatory body to regulate and maintain telecommunications. The minister responsible for communications, the Prime Minister, led the department. *The Communications Act* was the first piece of legislation to set out rules and procedures for consumer protection, tariffs for services, universal-service commitments, economic regulation, general competition practice and arbitration, among others. It was the first attempt by the Tongan government to comprehensively address the regulatory environment for telecommunications.

To date, however, the department has not issued any regulations for specific provisions (such as tariff management). The key principles of the *Communications Act 2000* are outlined briefly in Table 1.

The primary telecommunications legislation covers several important features for effective regulation such as consumer protection, tariff management, fixed licensing terms with opportunities for renewal, universal-service policy, anti-competitive policies and arbitration. Provisions were not made, however, for an independent regulator and for the funding of universal-service obligations.

The *Tonga Communications Corporation Act 2000* was passed to absorb the incumbent monopoly, C&W. After the joint venture with C&W expired in 2000, the government established a company under the *Companies Act 1995*, which was initially known as Tonga Telecommunications International Limited (TTIL). This company was used to carry on the telecommunications service after the expiry of the service franchise. From February 2001, TTIL was renamed the Tonga Communications Corporations (TCC), with all rights and obligations legally transferred, based on the *Tonga Communications Corporation Act 2000* (Tonga Department of Communications 2000:5).

In addition, a communications policy was drafted in 2000 (Tonga Department of Communications 2006:1). The policy set forth four key policy principles: nurturing a sustainable and financially viable communications sector; maximising infrastructure availability; supporting industry investment; and attracting and maximising strategic and economic benefits from communications assets (Soakai 2004:5). The new policy ensured that introduced competition would encourage growth in a universal manner. The competition would raise the infrastructure standard of telecommunications necessary for supporting economic development.

Table 1 *Tonga's Communications Act 2000*

Key sections	Key principles
1 Objectives	<ul style="list-style-type: none"> • To establish a communications licensing and regulation framework in support of national development policy objectives. • To establish the powers and functions of a Department of Communications from which regulation and policy control of the communications sector will be administered. • To promote fair and sustainable competition in the supply and provision of network facilities, network services and applications services. • To promote and protect the interests of customers.
2 Licensing	<ul style="list-style-type: none"> • The minister grants licences subject to approval of the chair of the Privy Council. The terms of licences should not exceed 10 years.
3 Consumer protection	<ul style="list-style-type: none"> • Establish consumer standards for licences issued on provision of information to consumers regarding services, tariffs and performance, handling of consumer complaints, protection of individual consumer information, advertising or representation of services, and consumer charging, billing, collection and credit practices.
4 Tariffs	<ul style="list-style-type: none"> • Licensees must provide the Department of Communications with a list of charges for their existing services or new services to be offered.
5 Universal-service system	<ul style="list-style-type: none"> • The minister may direct the department to determine a universal system to promote the widespread availability of services in Tonga. • The universal system may include the needs of under-served areas in Tonga or under-served groups within a particular community, measures to encourage the installation of network facilities and the provision of network services in those designated areas, and consideration for the affordability and costs of providing services to such areas.

Focus

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| 6 | Social regulation | <ul style="list-style-type: none"> • The minister may direct the department to set standards for content applications services, which should address unsuitable content, advertising content and representation of Tongan culture and national identity. • A licensee shall not supply any content that is indecent or obscene, displays excessive violence, is blasphemous, treasonous or seditious, or defamatory, or contravenes the laws of Tonga. • The minister may declare in writing a licensee to supply without charge divine worship content or other content of a religious nature. • The minister may determine the extent and manner in which a licensee may provide political or controversial content. |
| 7 | Economic regulation | <ul style="list-style-type: none"> • Prohibition of anti-competitive behaviour, collusive agreements and discrimination in services provided to consumers. |
| 8 | Arbitration | <ul style="list-style-type: none"> • Department to conduct arbitration on interconnection disputes between operators. Department to have final decision. |
| 9 | Inquiries and investigations | <ul style="list-style-type: none"> • The minister may direct the department to hold an inquiry on any aspects of the act. • The minister may direct the department to hold investigation into any civil or criminal offence committed under the act. |

Source: Government of Tonga, 2000a. Communications Act 2000, Act 22, Government of Tonga, Nuku'alofa.

Ownership. In 2000, Tonga essentially shifted from partial private ownership to near full nationalisation of the incumbent monopoly. The shift of rights and obligations to TCC granted the public corporation the authority to control its expenditure and to undertake 'business-like decisions' on investment and daily development without the need for formal approval from the government. TCC's daily operations were therefore left to its executive officer and

management team. This was considered important for maintaining a business-like management team to run the daily operations of the corporation rather than it being run by political leaders (Noll 2000:203).

Political sensitivities led the government to adopt a less drastic approach, yet it still undertook what was considered to be neo-liberal reform⁴ of its telecommunications sector. The ownership shares have remained

unchanged since 2000. Ten per cent of the shares were advertised to Tongan nationals under the 'Tongan Participation Scheme' as stipulated by Sections 13 and 14 of the *Tonga Communications Act 2000*. The government's rationale, as reflected in its communications policy, indicated a belief in widespread ownership of national carriers as set by global precedents. It was therefore important for Tongans to be given the opportunity to participate in the ownership of TCC. This was a political rather than an economic move—something that is seen as necessary to increase popular support for reform in developing countries (Noll 2000:203). Noll (2000) argues that 'selling shares in "atomized quantities" is uneconomical as the realized price of these shares is less than the price of shares sold to [a] controlling consortium because atomized sales have greater transactions costs and because the domestic capital market is underdeveloped'.

The Tongan government, however, maintains a close affiliation through the board of directors to which the management of TCC is accountable. As stipulated by Part VI of the *Tonga Communications Corporation Act 2000*, there shall be not more than seven directors and not less than four at any one time. The Minister of Finance appoints directors, with the consent of cabinet. Cabinet ministers usually form a majority of the seven directors. This composition is due to change shortly, as the Minister of Public Enterprise announced in February 2008 that 'all Cabinet Ministers including Prime Ministers will relinquish their directorate positions by January 2009 to be filled by the private sector as part of [the] Government's public reform' (Matangi Tonga 2008b:1).

Market structure. In 2000, a licence for telephone and mobile service provision was granted to Shoreline Communications Incorporated⁵ to operate local services, domestic fixed and international fixed long-

distance lines, mobile services and internet services (ITU 2000:2). Other segments, such as data, DSL, leased lines and paging, were reserved for the incumbent operator. Operations of the mobile service segment began in 2002.

Shoreline Communications Inc. competed aggressively for mobile services in the first few years of operation. Competition in mobile services was intense as both providers attempted to improve service quality at a lower price. In less than two years, Shoreline Communications Inc. established a GSM network in collaboration with Globecom, a United States-based communications company,⁶ while TCC offered its GSM-900 network earlier, in 2001. In 2006, TCC, through collaboration with Alvarion,⁷ an Israeli communications company, further upgraded its GSM network with 'wimax technology' to offer broadband data services (Alvarion 2006:1).

The fixed-line segment continued to be served solely by TCC, although competition in internet services between the two companies was as active as for mobile services.

Although competition between the two telecommunications operators led to positive outcomes, the government planned the gradual introduction of 'sustainable' competition. The 2000 communications policy outlined the government's position for the adoption of a limited market entry model, which was deemed appropriate to address the unique set of challenges faced by the industry. It was also noted in the policy statement that these restrictions were necessary to avoid the dramatic erosion of revenue per subscriber and to avoid competition between operators being based on the cannibalisation and fragmentation of the existing customer base (Tonga Department of Communications 2000:4).

Irish-based company Digicel acquired Shoreline Communications Inc. in

November 2007 (Reuters 2007:1). Digicel has been granted a licence to operate in the fixed-line, mobile and internet segments, as well as in television cable services (Tonga Department of Communications 2008). Within six months, Digicel invested more than 20 million pa'anga (about US\$10 million) to build and upgrade its network in Tonga (Matangi Tonga 2008a:2). On 8 May 2008, the company opened its first office in Nuku'alofa, recruiting Tongans in professional positions, with a comprehensive plan to establish more than 12 branches throughout Tongatapu, the Vava'u Group, the Ha'apai Group and 'Eua Island (Matangi Tonga 2008a).

A third privately owned telecommunications company was established in 1988: Tongasat (Friendly Islands Satellite Communications Limited). Its main service is the leasing of satellite orbital slots to multinational telecommunications providers (Tongasat 2008). It currently has nine geostationary satellite orbital positions leased to international clients. It operates an ESIAFI-1 satellite, with a footprint covering southeastern Europe, North Africa and the Middle East (Tongasat 2008). No other telecommunications operator in the Pacific region provides this type of service.

Universal service. The *Communications Act 2000* contains general provisions for the universal-service system. The objective is to promote the widespread availability of services to under-served areas of the country. The universal-service system also promotes the establishment of appropriate infrastructure networks for under-served areas and consideration for the affordability of the services (Government of Tonga 2000:25). There are no specific financial requirements (such as a universal fund) for the providers within the act, although the Tongan Participation Scheme indirectly stipulates that revenue from sales of 10 per cent of shares be committed by TCC

for the 'development and improvement of communications network infrastructure'. The Tongan Participation Scheme is regulated under the *Tonga Communications Corporation Act 2000*. The Minister of Finance on behalf of the Tongan government is responsible for the scheme, which encourages private local ownership of TCC.

Although Shoreline Communications Inc. was granted a licence to operate within the fixed-line segment, it has never done so—probably because of the market power of the incumbent and the high initial sunk costs required for investment. In comparison, the fixed costs of building a wireless network are relatively low.

The entrance of Shoreline Communications Inc. has expanded the mobile market. Its chief executive officer, Soane Ramanlal, said in 2007 that the mobile market had about 30,000 mobile subscribers in aggregate and TonFon⁸ claimed about two-thirds of that (Matangi Tonga 2007:2). New providers were able to build wireless networks and attract a large number of customers relatively quickly (Wallsten 2004:306). The overall impact on the telecommunications market was that the total teledensity for mobile and fixed lines increased from 10.8 phones per 100 people in 2001 to 44 phones per 100 people in 2005 (Soakai 2006:1). The mobile segment covered areas that the incumbent's fixed-line network had not covered and therefore made a contribution to universal-service commitments.

Bilateral investment treaties. In London on 22 October 1997, the then Minister of Labour, Commerce and Industries, Dr Giulio M. Paunga, signed a bilateral investment treaty on behalf of the Tongan government between Tonga and the United Kingdom. The objective of the treaty was to promote and protect the investments of the two nations' nationals in the two countries. Treatment of investments by nationals was adopted in similar format

to the World Trade Organization's (WTO) 'national treatment and most-favoured-nation' provision. Three other important provisions of the treaty deemed relevant for this survey dealt with: expropriation risks; repatriation of investments and returns; and mechanisms for the settlement of disputes⁹ between investors and the host state and between contracting parties.

Multilateral commitments. Tonga negotiated offers on trade in services in its negotiations for accession to the WTO. Tonga committed to non-discriminatory treatment in basic telecommunications with sub-sectors covering voice telephone services (fixed-line and mobile segments) and value-added telecommunications services, including sub-sectors covering electronic mail, voice mail and online information and database retrieval (internet segment).¹⁰ The sixth ministerial meeting of the WTO's General Council in Hong Kong in 2005 approved these service offers. A transitional period was granted for the incumbent to adjust and, as of January 2008, mode-three (commercial presence) service delivery for these segments was committed for non-discrimination in terms of market access and national treatment.

In addition, Tonga adopted the *Telecommunications Reference Paper* as part of its commitments on telecommunications. The reference paper is a result of negotiations on basic telecommunications made by WTO members in 1996–97. The paper's main objective was to allow derogation from basic general agreement on trade in services (GATS) rules allowing domestic regulation to limit the delivery of basic telecommunications services for social or cultural reasons. The reference paper was also drafted to tackle anti-competitive use of market power by incumbent or powerful service providers entering the market, to promote competitive market practices and to ensure an independent regulator

made policy decisions that were non-discriminatory, transparent and objective. It also promotes universal-service obligations, although each member has the right to develop and define the scope of its universal coverage. Most of these commitments are reflected in Tonga's *Communications Act 2000*.

Fiji

The 'Radisson Accord' signed in November 2007 between Amalgamated Telecom Holdings Limited (ATH)—on behalf of the three telecommunications companies holding exclusive rights for local, international and mobile services—and the Fijian government ended the monopoly in the telecommunications sector in Fiji. The accord set October 2008 as the date for open competition and the granting of licences to any telecommunications service provider (Baselala 2007:1). Fiji's regulatory environment for telecommunications has evolved gradually in the past two decades. The discussion below attempts to capture the gradual but significant milestones in regulatory policy development.

Regulatory policy. The Department of Communications under the Ministry of Industry, Tourism, Trade and Communications, is responsible for the regulatory environment relating to the telecommunications sector. The Posts and Telecommunications Decree 1989 (PTD) continues to regulate the sector. Because the PTD was a cabinet decision,¹¹ it was instrumental in setting comprehensive rules for the telecommunications sector.¹² It covered rules on licensing, the telecommunications code and the role of the Communications Department, and granted 25-year exclusive rights for national telecommunications to Fiji Posts and Telecommunications Limited (FPTL) as the domestic operator, and for

international telecommunications to Fiji International Telecommunications, known as Fintel (ITU 2004:24).

After the 1989 decree, a comprehensive bill was drafted for the deregulation of the telecommunications sector: the Telecommunications Bill 2006. Key sections of the 2006 bill are outlined in Table 2.

Three characteristics of the bill are worth discussing. First, the bill envisaged a more predictable and transparent regulatory authority with the establishment of the Telecommunications Authority of Fiji (TAF). The statutory body comprised five board members, a chief executive officer and staff. Its duties under the bill included the right to grant licences and implement policy, the regulation of technical aspects of access and interconnection, management of the radio spectrum and frequencies and consumer protection (Parliament of Fiji 2006a:25). TAF's finances were to be in the form of annual appropriations approved by parliament. Second, the bill would dismantle monopoly rights granted by the 1989 decree by offering non-exclusive licences to any entity wishing to provide telecommunications services within Fiji. A licence would have a lifetime of 15 years subject to renewals. Third, universal service was included, with an advisory committee to develop 'economically feasible schemes' for implementation. In addition, consumer protection and a Telecommunications Appeal Tribunal were to be set up to ensure that the rights of consumers and providers were protected.

Ownership. The 1989 decree set guidelines for the acquisition and transfer of all public assets and liabilities on telecommunications and posts to a newly established private company called Fiji Posts and Telecommunications Limited (FPTL). In 1996, FPTL was renamed Telecom Fiji Limited (TFL) as a result of the separation of the telecommunications and posts sectors from the old FPTL.

Before 1998, the government owned 100 per cent of TFL. With the creation of ATH in 1998 and its subsequent partial sale to private interests, TFL changed from 100 per cent to 34.6 per cent public ownership (ITU 2004:24). The partial privatisation of ATH enabled Fiji's National Provident Fund (FNPF) to buy a 49 per cent share for US\$130 million. Later, an additional 2 per cent was purchased for F\$23 million to give ATH majority private ownership. The mobile service was provided through exclusive rights held by Vodafone Fiji. The company is 51 per cent owned by ATH and 49 per cent by C&W. Fintel provides the international service, with 51 per cent ownership by the government and 49 per cent by C&W. Fintel's exclusive rights will run until 2014 (ITU 2004:25).

Market structure. Under the 1989 decree, the market was dissected artificially through exclusive licences into three major segments—namely, international services, domestic services and mobile services. This artificial segmentation posed challenges for the main operators when deregulation talks intensified in 2007. Deregulation would open segments to competition from the other domestic players, effectively reducing each provider's market share. Discussions by Fintel and TFL to arrange a merger in order to share costs while 'protecting' each other's market segment began in 2007, but a merger did not materialise (Islands Business 2008).

Fintel has exclusive rights to provide international voice, data, internet and video services. All telephone calls, including mobile services, are routed through Fintel's network under a service interconnection arrangement with the domestic network operator, TFL. Internet services are leased directly from Fintel.

Vodafone Fiji operated in the mobile service segment; it did not hold a mobile licence but claimed exclusivity for mobile

Table 2 Fiji's Telecommunications Bill 2006^a

Key sections	Key principles
1 Management of telecommunications	<ul style="list-style-type: none"> • The minister will formulate, monitor and review telecommunications policy. • Establishment of the Telecommunications Authority of Fiji (TAF) with functions to implement telecommunications policy, mediate disputes, manage state assets, promote investor confidence and protect consumer interests. TAF also responsible for granting, suspending or revoking licences.
2 Regulation of telecommunications	<ul style="list-style-type: none"> • Term of a licence may not exceed 15 years.
3 Universal service	<ul style="list-style-type: none"> • Establishment of a universal-service advisory committee to advise TAF on matters relating to a universal scheme, its goals and implementation strategies. • Universal-service scheme to be economically reasonable and technically feasible to enable the people of Fiji access to telecommunications services. • Minister may declare universal-service areas. • A service operator may become subject to universal service subject to market power and application to the universal-service fund. • TAF must levy charges for universal services up to a maximum prescribed percentage of the licensee's gross revenue. Funds collected from this levy plus funds from other sources collected shall be deposited into a universal-service fund. The universal fund must be used only for the purpose of universal services.
4 Consumer protection and technical matters	<ul style="list-style-type: none"> • All service providers to provide consumers with all terms and conditions of services, charge consumers only for services and products ordered or used, keep information about consumers confidential and adopt a simple and transparent complaints-handling procedure for dealing with consumer complaints and disputes. • TAF may set technical rules and standards applicable to the importation, use, supply, installation or maintenance of telecommunications equipment.
5 Telecommunications Appeal Tribunal	<ul style="list-style-type: none"> • Establishment of a Telecommunications Appeal Tribunal to hear and determine any appeals against TAF determinations, including granting or revoking licences.

^a Bill introduced to parliament on 11 September 2006. Parliament has been suspended since the 5 December 2006 coup.

Source: Parliament of Fiji, 2006b. *Telecommunications Bill 2006*, Ministry of Information and Communications, Government of Fiji. Available from <http://www.parliament.gov.fj/legislative/bills.aspx?billID=318&viewtype=summary&billnav=bill> (accessed 26 March 2008).

services until 2014 through its association with ATH (ITU 2004:26). The very nature of market segmentation proved challenging for Vodafone Fiji due to landownership issues and because all long-distance transmissions went through TFL, effectively adding costs to a limited network capacity (ITU 2004:26).

Discussions between the government and incumbent telecommunications companies intensified in the past three years and, on 20 November 2007, the interim government endorsed the 'Radisson Telecom Accord', through cabinet (Fiji Government Online 2007). The main terms of the accord reflect the key characteristics of the proposed Telecommunications Bill 2006, including the liberalisation of the telecommunications sector and the granting of 15-year non-exclusive licences to all providers. Compensation for loss of exclusive rights came in the form of extended transitional periods. An 18-month transitional period from the date of the signing of the accord was granted to Fintel, with Telecom Fiji not to provide direct international service before that date (Islands Business 2008:1). Fintel was granted licences to provide services in all three segments, although its participation in the mobile sector was limited to the status of mobile virtual network operator only.

In February 2008, Digicel Fiji Limited won a bid to operate as the second mobile operator in Fiji, with an investment of US\$10.25 million. Digicel Pacific's chief executive officer, Vanessa Slowey, said that Fiji was a very important market and the company had big investment plans for Fiji (Reuters 2008). Digicel's financial strength allowed it to eliminate three other bidders by meeting four tender requirements: 1) bid submissions were to be from individual entities; 2) a F\$2 million non-refundable deposit was needed for bid validation; 3) bids must be higher than US \$5 million; and

4) there was a deadline for all submissions. A government press release stated that 'there was only one successful and compliant bid and that was the bid from Digicel' (Fiji Government Online 2008). The setting of such strict financial requirements could be seen as an anti-competitive measure to weed out smaller bidders; it could also, however, be seen as an appropriate policy to eliminate high-risk investors and ensure that potential investors had the financial and technological means to meet universal commitments and other economic policy requirements aligned with Fiji's developmental objectives.

Universal service. The Telecommunications Bill 2006 set criteria and responsibilities for the government to establish a Universal Service Advisory Committee to advise TAF on universal funding schemes and implementation strategies. Most importantly, the bill set guidelines for universal-service levies, with a set percentage of the licensee's gross revenue to be collected for the purpose of universal schemes. A universal-service fund was to be established to collect the government's subsidies, as well as loans on behalf of the sector, and the levies charged. The fund may be spent only on the installation of eligible networks and services, as outlined by the schemes developed.

Multilateral commitments and bilateral investment treaties. As of March 2008, Fiji had not made any offers to the WTO relating to the telecommunications sector. Fiji had also not signed any bilateral investment treaties—as reported by the UN Conference on Trade and Development (UNCTAD) in June 2007.

Vanuatu

Until very recently, the telecommunications sector in Vanuatu was a monopoly with even lower teledensity and quality service provision than most of its Pacific neighbours.

Attempts had been made in the past—either indirectly through the government¹³ or via the Judicial Court in 2007—to introduce competition to certain segments of the industry. Vanuatu has, however, pursued a telecommunications reform package in the past three years in collaboration with the World Bank, and, in 2007, the government granted a mobile service licence to Digicel.

Regulatory policy. The *Telecommunications Act 1982* (Government of Vanuatu 1982, 1986, 1988:Cap.153) was the first legislation to establish the legal provisions for the regulation of the telecommunications sector in Vanuatu. The Department of Telecommunications was created with power to establish, maintain and operate telecommunication services. The act granted rights for the department to enter into contracts with international telecommunications operators for the establishment of any international telephone service, the establishment of basic telecommunications infrastructure on private property and compensation (Government of Vanuatu 1988:4).

Telecommunications regulations¹⁴ passed between 1983 and 1988 focused on regulating fees and charges for services. These fees were collected by the Government of Vanuatu and included service connection fees, annual fixed-line rentals, telephone instruments and domestic and international call charges.

In 1989, a new *Telecommunications Act*¹⁵ provided new regulations for the sector. The 1989 act established a Telecommunications Authority. This corporate body comprised five members, with the Prime Minister appointing all members, including a representative from the ministries of finance and telecommunications. The Telecommunications Authority was tasked with monitoring the provision of domestic and international telecommunications services. These tasks involved close monitoring of standards and the performance

of the service operator(s) and advising the minister responsible for telecommunications on granting licences. The funding of the operations was the responsibility of the Minister of Finance. Interestingly, an amendment to the 1989 *Telecommunications Act* made in 1993 dissolved the power and rights of the authority granted under the *Telecommunications Act 1989*, and there was a complete re-centralisation of powers back to the minister.

A significant provision introduced in the 1989 act was the power of ministers to grant licences to telecommunications operators—something that was missing in the 1982 act. Before 1993, the minister had the right to grant licences with the advice of the Telecommunications Authority and, afterwards, the minister alone had that right, with prior approval of the Council of Ministers. The act also defined a monopoly market structure for the sector.

In 2006, in collaboration with the World Bank, the Vanuatu government undertook a major reform of its infrastructure sector with telecommunications as a priority. The work-in-progress reform program involved development of new regulations for the sector, including establishment of an independent Utility Regulatory Authority, introducing competition to the market, non-discriminatory measures, technological neutrality and optimal use of scarce resources (Government of Vanuatu 2007 :5).

The *Utilities Regulatory Authority Act* (URA) was passed in 2007 with a start date of 11 February 2008. The act established an independent corporate body, comprising three commissioners to be appointed by the Minister of Finance. The main function of the authority is to act as an ‘independent advisory body’ to the government in matters relating to regulated services. The authority does, however, have authority to set safety, inspection and reliability standards as well

as setting maximum prices for the provision of utilities. Regulated services described by the *URA* include only electricity and water (Government of Vanuatu 2007c:4); there is no mention of telecommunications services.¹⁶

When the Minister for Infrastructure and Public Utilities announced the liberalisation of the sector on 14 March 2008, he appointed an independent telecommunications regulator (Vanuatu Ministry of Infrastructure and Public Utilities 2008:1). The legal capacity of the independent regulator is based on an amendment made in 2007 to the 1989 *Telecommunications Act*, which gives additional powers to the minister in the granting of licences and the delegation of his powers to an authorised officer. This amendment was a significant milestone in terms of the minister's delegation of power to an independent regulator.¹⁷ This remains the regulatory arrangement until the new Telecommunications Bill is passed.¹⁸ The key sections of the draft bill are outlined in Table 3.

The draft Telecommunications Bill 2007 is a major achievement in terms of pro-market reform principles. The bill covers essential policies on independent regulators, universal-service policies and obligations, arbitration mechanisms, tariffs, consumer protection and competition policies.

Ownership. Until recently, Telecom Vanuatu Limited (TVL) was the sole provider of telecommunications in Vanuatu. The ownership structure was partially private, being a joint venture between the Government of Vanuatu, C&W and France Cable and Radio, each of whom had equal shares in TVL. In March 2008, however, the Vanuatu government's shares were 'released' to C&W and France Telecom as compensation for prematurely breaking the exclusive rights agreement with TVL (Willie 2008:1).

Market structure. Although much of the reform program is still a work-in-

progress, certain milestones have been reached. These include the drafting of a national information and communications technology (ICT) policy, establishment of an independent regulator (the Utility Regulatory Authority, URA)¹⁹ and, most importantly, the introduction of competition to the mobile sector in March 2008 with the granting of a GSM mobile licence to Digicel (Digicel Vanuatu 2008:1). Amendments to laws and regulations to effect liberalisation are pending.

Universal service. There was no mention of universal-service provisions in either the *Telecommunications Act 1982* or the 1989 Act. Under the draft Telecommunications Bill 2007, however, a Universal Service Policy and the Telecommunications Development Fund (TDF) are to be developed to increase rural access to telecommunications services and to the internet (Government of Vanuatu 2007a:26–7). Providers of telecommunications services will be obligated to make a contribution of a percentage of their adjusted gross revenue to the TDF (Government of Vanuatu 2007b:13).

Although the regulatory reform process is continuing, one of the requirements of Digicel's GSM mobile licence is to launch its network within six months with 75 per cent population coverage—to be increased to 85 per cent coverage within 18 months (Vanuatu Ministry of Infrastructure and Public Utilities 2008:1).

Bilateral investment treaties. Vanuatu signed one bilateral investment treaty with the United Kingdom in December 2003, as notified by UNCTAD. The treaty for the promotion and protection of investment is not, however, in force yet, but the provisions within the treaty give priority to the protection and promotion of investment, with most-favoured-nation and national treatment provisions, protection against expropriation, free repatriation of capital and profits and an investor-to-host-state dispute mechanism.

Table 3 Vanuatu's Telecommunications Bill 2007^a

Key sections	Key principles
1 Preliminary	<ul style="list-style-type: none"> • The purpose of the act is to regulate the supply of telecommunications services for the long-term benefit of end users. • Objectives of the act are to establish an open, non-discriminatory, objective and transparent licensing regime for service providers; to define the institutional framework for policy development and regulation of the telecommunications sector; to promote universal service; encourage foreign and domestic investment; establish an anti-competitive framework; and protect consumer interests.
2 Management of telecommunications	<ul style="list-style-type: none"> • The minister's responsibility is to formulate, monitor and review policy for telecommunications following consultation with the Utility Regulatory Authority (URA). • The responsibility of the URA is to regulate the sector through implementation of the act, to grant licences, monitor and enforce compliance by licensees, resolve disputes between service providers and between customers and service providers, and maintain appropriate measures for the purpose of preventing dominant service providers from engaging in anti-competitive practices.
3 Licences	<ul style="list-style-type: none"> • The URA to grant licences. • Licensing procedures to be transparent. • The URA to establish conditions of licences. • Terms of licences are not stated and are open to respective licence application circumstances.
4 Universal service	<ul style="list-style-type: none"> • The URA to propose and the minister may approve a policy setting out objectives and related principles for universal access. • The Universal Service Policy shall consider development of the universal service, basic telecommunications services to be included, geographical areas for coverage, costs of universal service and any barriers to the use of available resources. • The minister may approve a regulation to establish a Telecommunications Development Fund to be used to subsidise the net costs of implementing the universal-service policy. • The fund will be administered by the URA.
5 Competition policy	<ul style="list-style-type: none"> • The URA to promote efficient and sustainable competition, establish an open and transparent regulatory framework, dispose of complaints and resolve disputes related to anti-competitive practices, and designate dominant service providers^b and appropriate measures to avoid taking advantage of dominance.

Focus

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| 6 | Interconnection | <ul style="list-style-type: none"> • The URA to promote adequate, efficient and cost-oriented interconnection of telecommunications networks. |
| 7 | Tariffs | <ul style="list-style-type: none"> • All service providers to file all tariffs with the URA. Additional responsibilities for dominant service providers to avoid abuse of market domination based on pricing. |
| 8 | Relations between service providers and customers | <ul style="list-style-type: none"> • Bill to regulate fair dealing practices for service providers, confidentiality of customer information, confidentiality of customer communications, protection of personal information and appropriate measures by service providers to address customer complaints. |
| 9 | Disputes, offences and enforcement | <ul style="list-style-type: none"> • The URA may assist in resolving any dispute between service providers or customers. The URA may refer such disputes to the Supreme Court or issue an order to resolve the dispute. Parties may agree to refer the dispute to private mediation or arbitration. |

^a Government of Vanuatu 2007a. *Telecommunications Act 2007—draft*, Ministry of Infrastructure and Public Utilities, MGFW draft 2.0 28.02.07, Government of Vanuatu, Port Vila.

^b Every service provider whose gross revenue in a specific telecommunications market constitutes 40 per cent or more of the total gross revenue of all service providers in that market will be designated a dominant service provider.

Source: Vanuatu Telecommunications Independent Regulator, 2007. *Telecommunications Bill 2007, Draft 2.0*, 28 February 2007, Port Vila.

Multilateral commitments. Vanuatu is currently acceding to the WTO²⁰ but has not finalised any commitment on the telecommunications sector. Within its accession package, Vanuatu has offered to undertake commitments on trade in services and, in particular, the telecommunications sector. Based on draft services commitments offered in 2001, it has offered non-discriminatory treatment of foreign telecommunications providers (especially under mode three—commercial presence) conditional on the expiration of the monopoly rights held by TVL until 2012.²¹ This derogation measure could now be irrelevant given that TVL's exclusivity rights ended in 2007.

Samoa

Samoa is one of the success stories of the Pacific in terms of comprehensive regulatory reform of its telecommunications sector. With collaboration from the World Bank, Samoa successfully transformed its telecommunications sector with the introduction of competition to the mobile segment in 2006. Mobile teledensity increased from 1.5 per cent of the population in 2002 to 46 per cent in mid 2007 (AusAID 2008:43).

Regulatory policy. The *Telecommunications Act 2005* provided the key regulatory framework for the liberalisation of the telecommunications sector in Samoa. The key principles of the act are outlined briefly in Table 4.

The main task for the regulator is the provision of policy advice to the minister

responsible for telecommunications.²² The regulator has the power to grant licences to telecommunications service operators, set licence fees, resolve disputes between service providers and the government or between service operators, monitor and act on anti-competitive behaviour and investigate complaints against service operators. The act also covers other essential issues, such as consumer protection, tariff management, competition policies and arbitration mechanisms. There is, however, no fixed time limit for granting licences; this is subject to the discretion of the government and the independent regulator.

Ownership. The incumbent operator, Samoatel, is under joint private and public ownership: the government owns 40 per cent, Samoa's National Bank Provident Fund owns 27.5 per cent and the Bank of Samoa owns 22.5 per cent (both are government-owned entities), while Samoa Life Insurance owns 10 per cent (World Bank 2006:86).

Market structure. The *Telecommunications Act 2005* introduced competition to the mobile sector. Previously, Telecom Samoa Cellular (TSC) had exclusive rights to the mobile segment.²³ In 2006, the Samoan government issued two licences for mobile services: one to Digicel Samoa Limited (which acquired 90 per cent of TSC from Telecom New Zealand) and one to Samoatel (AusAID 2008:45).

Universal service. The *Telecommunications Act 2005* set guidelines for the development of a universal service policy. The regulator is responsible for advising the minister on universal-service policies. The prices for basic telecommunications services and network coverage are the two guiding universal policy principles outlined in the 2005 act. In addition, the 2005 act details the establishment of a universal-service fund, to which the minister may require all licensees to contribute.

Bilateral investment treaties. Samoa had not signed any bilateral investment treaties as of June 2007.

Multilateral commitments. Samoa is a member of the WTO. As of May 2008, it had not finalised any trade-in-services offers with the members of its working party.

Papua New Guinea

Regulatory reform in the telecommunications sector in Papua New Guinea was marked by the introduction of competition into the mobile segment in September 2006. The beginning of operations by Digicel Papua New Guinea Limited in March 2007 ended the exclusive rights for Telikom Papua New Guinea Limited. The early results indicate a sharp increase in coverage and a doubling of mobile phone subscribers (AusAID 2008:43). The PNG government has estimated that the expansion in mobile services contributed about 0.7 percentage points to gross domestic product (GDP) growth in 2007 (AusAID 2008:43).

Regulatory policy. The PNG government, via the direction of the National Executive Council (NEC), endorsed a National Policy on Information and Communication (NPIC) in 1994. This was the first policy paper on regulatory reform for telecommunications in Papua New Guinea. The policy paper briefly outlined seven objectives covering telecommunications services, including: the need for access for all users to telecommunications, including in rural and remote areas; the development of telecommunications through business efficiency, cost reductions and appropriate tariffs; appropriate policies to attract private investment; telecommunications regulations to be consistent with national objectives; and the privatisation of incumbent operators (Government of Papua New Guinea 1993:13–15). To varying degrees, these objectives

Focus

Table 4 Samoa's *Telecommunications Act 2005*

Key sections	Key principles
1 Objectives	<ul style="list-style-type: none"> • To facilitate the development of the telecommunications sector to promote social and economic development. • Promote universal access, reliable and efficient provision of services through competition and private-sector investment. • Encourage sustainable foreign and domestic investment. • Establish a framework for the control of anti-competitive behaviour. • Protect the interests of subscribers.
2 Independent regulator	<ul style="list-style-type: none"> • Establish an independent regulator with functions relating to advising the minister on telecommunications policy, implementing the act, issuing licences, resolving disputes between customers and operators or between operators and providing appropriate regulations to avoid anti-competitive behaviour on the part of the dominant operator. • The regulator is independent in its operations and policy decisions from any influences, including the government. • An appeal against the decision of the regulator can be made to the Supreme Court.
3 Licences	<ul style="list-style-type: none"> • The regulator will grant all licences. • All people providing telecommunications services must hold a licence to do so.
4 Universal-access policy and universal-access fund	<ul style="list-style-type: none"> • The regulator may propose to the minister a policy relating to the obligations of providing universal services. • The universal-service policy shall consider the inclusion of basic telephone services, the designated areas and the costs of such obligations. • The minister may establish a fund to subsidise the net costs of providing universal services.
5 Competition policy	<ul style="list-style-type: none"> • The regulator shall establish policies that will promote efficient and sustainable competition for the benefit of customers, provide an open and transparent regulatory framework that minimises regulatory barriers to entry of new operators, make orders designating dominant service providers,^a prevent anti-competitive behaviour by dominant service providers, dispose of complaints and resolve disputes.

Focus

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| 6 | Interconnection | <ul style="list-style-type: none"> • The regulator shall establish an open, non-discriminatory and commercially viable network for interconnection. • The regulator shall intervene to settle any interconnection disputes between providers. |
| 7 | Tariffs | <ul style="list-style-type: none"> • Dominant service providers shall file with and obtain approval from the regulator for all tariffs for services rendered. • Dominant service providers are required to publish their tariff schedules on their web sites for public information. |
| 8 | Consumer protection | <ul style="list-style-type: none"> • A service provider shall charge a customer only for the specific telecommunications service or equipment ordered. • A service provider shall not disclose any customer's information without the customer's written consent. • Service providers shall take all reasonable steps to ensure the confidentiality of customer communications. • A service provider shall identify a specific person to receive customer's complaints. • A dominant service provider shall offer all customers the same terms and quality of services including tariffs charged. |
| 9 | Dispute settlement | <ul style="list-style-type: none"> • In disputes between providers or between customers and providers, the regulator may assign a staff or consultant to mediate, or refer such disputes to the Supreme Court, or issue an order to settle the dispute. • Parties to a dispute may agree to refer disputes to private mediation or arbitration. |

^a Every service for which the gross revenue constitutes 40 per cent or more of the total gross revenue of all service providers in that market.

Source: Parliament of Samoa, 2005. *Telecommunications Act 2005*, Ministry of Communications and Information Technology, Parliament of Samoa, Apia. Available from http://www.parliament.gov.ws/documents/acts/TELECOMMUNICATIONS_ACT_2005-Eng.pdf (accessed 24 March 2008).

are reflected in the telecommunications legislation that governs the sector today.

The NEC and the national government have undertaken major revisions of the NPIC in the past four years. Three NEC (PNG NEC 2008) policy decisions in 2005, 2007 and 2008 had major implications for the regulatory framework. The 2005 decision introduced competition to the mobile segment by granting two mobile licences: to Digicel Papua New Guinea (effective from September 2006) and to Greencom (effective from October 2007). A controversial policy passed by the NEC in 2007²⁴ planned for the vertical separation of Telikom into NetCo (the network owner) and ServCo (the retail service provider). NetCo would retain indefinite monopoly rights over all network assets, including the infrastructure used by internet service providers (PNG ICCC 2008:3). This policy aroused fears of expropriation of multi-million-kina telecommunications investments. Pressure from the business community and the general public reversed this policy (Tabureguci 2008:1).

In February 2008, the government passed amendments to its ICT policy by confirming commitment to the 'staged' introduction of open competition in the telecommunications sector. Basically, the latest revision will allow the incumbent and competitors to operate on the basis of the 2005 ICT policy. The 2008 revision continued to reserve exclusive rights to Telikom for installing and operating international gateways. It also removed the controversial proposal for all facilities and networks to be owned by Telikom (PNG ICCC 2008:1).

Three pieces of legislation are considered to constitute the principal regulatory framework for the telecommunications industry in Papua New Guinea: the *Telecommunications Act 1996* (and amendments), the *Telecommunications Industry Act 2002* (and amendments) and the

Independent Consumer and Competition Act 2002. The *Telecommunications Act 1996* (and amendments) was the first major legislation implemented for the regulation of the telecommunications sector in Papua New Guinea. The key principles of the 1996 act are outlined briefly in Table 5.

The *Telecommunications Act* ensures that the sector is supplied as efficiently and economically as practicable by creating a regulatory environment that promotes fair and efficient market conduct.²⁵ The 1996 act also established the PNG Radio Communications and Telecommunications Technical Authority (Pangtel), which is responsible for providing technical inspections and setting technical standards and regulations for the telecommunications industry. Pangtel is required by law to consult with the government—and vice versa—on policy issues relating to telecommunications.

The granting of telecommunications licences is the responsibility of the Independent Consumer and Competition Commission (ICCC). The *Independent Consumer and Competition Commission Act 2002* established its legal authority to promote economic efficiency in the industry. The ICCC is tasked with access pricing, licensing and regulation in all sectors. It is also responsible for investigating complaints concerning market conduct and for reviewing the operation of regulated entities. Pangtel and the ICCC are required to cooperate in terms of policy issues relating to telecommunications. An appeal panel was established under the act to deal with any disputes.

Ownership. Telikom Papua New Guinea Limited (TPL), which has served Papua New Guinea for more than 55 years, is 100 per cent state-owned. TPL provides services in voice and data, including fixed-line and mobile segments and the internet.²⁶

Focus

Table 5 Papua New Guinea's *Telecommunications Act 1996 (and amendments)*

Key principles	Key sections
1 Objectives	<ul style="list-style-type: none"> • The Telecommunications Act to be consistent with Papua New Guinea's Constitution. • The act ensures that standard telephone services are supplied as efficiently and economically as practicable, carriers will achieve high levels of accountability, infrastructure development, fair and efficient market conduct, and will promote Papua New Guinea's telecommunications capabilities, industries and skills.
2 Independent regulator	<ul style="list-style-type: none"> • The commission (established under the Independent Consumer and Competition Commission Act 2002) is the principal regulator for telecommunications. • Pangtel (Papua New Guinea Radio Communications and Telecommunications Technical Authority) is responsible for the provision of technical standards only. • In the event of these two entities being unable to reach agreement in filling their respective duties, the commission's view shall prevail. • The commission shall provide economic monitoring, control, inspection and regulation of the sector, grant licences and consult with industry and consumers on matters relating to the supply of telecommunications.
3 Licences	<ul style="list-style-type: none"> • The commission shall grant licences. • The licensee is required to comply with regulations and conditions set out by the commission.
4 Consumer protection	<ul style="list-style-type: none"> • The dominant carrier^a will not discriminate between consumers of telecommunications services in relation to charges for services rendered or terms and conditions under which the services are supplied.
5 Tariffs	<ul style="list-style-type: none"> • Carriers to supply to the commission, in writing, tariffs or charges for each telecommunications service supplied. The commission may disallow any tariff that does not comply with the act.
6 Network access	<ul style="list-style-type: none"> • The carrier has the right to interconnect its facilities with the network of any other carrier. • The commission may participate in negotiations over network access between carriers if one carrier proposes its inclusion. • The commission shall act as arbitrator if two carriers cannot agree on the terms and conditions of an access agreement. The commission makes the final decision.

Focus

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| 7 | Rural development obligations and fund | <ul style="list-style-type: none"> • All carriers to fulfil rural development obligations in Papua New Guinea to ensure that the standard telephone service becomes reasonably accessible to all people in the country. • The minister may consult with Pangtel on policy directions relating to designated areas to be covered, set rules on how carriers may recover costs from such obligations and specify the method of disbursing the Rural Development Fund. • Pangtel may declare universal-service carriers and rural development service carriers. |
| 8 | Inquiries and investigations | <ul style="list-style-type: none"> • The commission may conduct an inquiry into any matter relating to the performance of any of the commission's functions and powers. • The commission may investigate the conduct of any carrier deemed to contravene the act. • A person may complain to the commission about matters relating to the act. • The commission may direct a carrier to remedy a breach of licence conditions. |

^a A dominant carrier is defined by the act by virtue of the terms of its licence, or by government policy, or by reason of its share of the market, or because of its access to technology, infrastructure or capital, which gives it a substantial degree of power in the market for the supply of a telecommunications service.

Source: Pangtel, 2008. *Telecommunications Act 1996*, Amendments, Pangtel. Available from <http://www.pangtel.gov.pg/Legislation/legislation.htm> (accessed 24 March 2008).

Market structure. Mobile service licences were granted to Digicel Papua New Guinea from September 2006 and to Greencom²⁷ from September 2007, effectively ending TPL's monopoly in the mobile sector. Presently, the mobile sector is being served by TPL's wholly owned mobile subsidiary, Pacific Mobile Communications Limited, and by Digicel Papua New Guinea. Greencom (Dawamiba Papua New Guinea) has not yet begun operations (World Bank 2008:13).

Universal services. One of the key objectives of the NPIC (and subsequent revisions) was the need for access for all users to telecommunications, with particular emphasis on the rural population. Strategy guidelines were set, including the provision of funding for rural

telecommunications and encouraging local and provincial governments to improve access to telecommunications for all PNG citizens (PNG Ministry of Information and Communication Services 1993:13).

The rural development obligations and the Rural Development Fund in the *Telecommunications Act 1996* focused on basic telephony becoming 'reasonably' accessible to all. Consultation between the minister and Pangtel declares specific areas for rural development obligations. Operators declared by Pangtel to be universal-service carriers may access the Rural Development Fund to pursue infrastructural developments which was drafted with a view to gradually introducing competition and privatisation.

Table 6 summarises key regulatory policies across the reforming Pacific island states for the purpose of comparison. The motives behind the declared areas. Funding is sourced from levies paid by operators and interest from the fund's investments.

Multilateral commitments. In its WTO accession agreement, Papua New Guinea made commitments for basic and added-value services, including basic telephony, the mobile phone sector and the internet. Under service delivery mode one (cross-border supply), Papua New Guinea scheduled for basic telephony that all international services must go through TPL's gateway network. Additional derogation on commercial presence was for the protection of the monopoly rights of TPL for all services subject to five-year exclusivity (1997–2002)—an irrelevant commitment since the end of the monopoly in 2006.

Bilateral investment treaties. Papua New Guinea has signed bilateral investment treaties with Australia (in 1990), China (1991), Germany (1980), Malaysia (1992) and the United Kingdom (1981), although the treaty with Malaysia has not been ratified (UNCTAD 2000). The treaties have similar characteristics in terms of promotion and protection of investments—in particular, the equal treatment of investment returns for domestic and foreign investors. Expropriation measures were also restricted, although in the treaty between Papua New Guinea and Australia, an exception was included to allow expropriation on the grounds of national interest. Independent arbitration is to be established in the case of investor-to-state or investor-to-investor disputes. Dispute cases are allowed to be referred to the International Centre for Settlement of Investment Disputes or other relevant international bodies.

Cross-country reflections: telecommunications regulatory policies

Unlike its comparator, the Caribbean, the Pacific region is a late reformer of regulatory policies in the telecommunications sector. In contrast, the Caribbean began major reforms in 1998, in Dominica, St Kitts and Nevis, Grenada, St Lucia and St Vincent, with the financial assistance of the World Bank. The project was aimed at improving regulatory frameworks for telecommunications,²⁸ eliminating exclusivity of telecommunications monopolies, harmonisation of regional rules on telecommunications and the establishment of an independent regional regulator.

While variations in the regulatory policies of the reformed Pacific states can be found, the convergence of several policies is worth mentioning. With the exception of Tonga, which introduced competition in 2002, and Samoa, which introduced competition in 2006, other Pacific island states began to introduce competition only in the past 12 months. All reforming Pacific island states drafted and implemented comprehensive telecommunications legislation for the regulation of the sector, which was drafted with a view to gradually introducing competition and privatisation. Table 6 summarises key regulatory policies across the reforming Pacific island states for the purpose of comparison.

The motives behind the push by Pacific island states for reform of their telecommunications sectors vary case by case, and to explore in depth the individual cases falls outside the scope of this paper. Two factors common to all Pacific island states are their isolation and smallness. Island states push for policy reforms to promote infrastructural development, particularly in telecommunications, as a

means of promoting economic development and connecting isolated islands. The use of ICT as a mode of service delivery for education by the University of the South Pacific is a good example of telecommunications impacting on distance and isolation (World Bank 2008:193-211).

The experience of telecommunications reforms in developing countries points to a positive relationship between that reform (via competition and privatisation) and improvement in their telecommunications services (Noll 2000; Wallsten 2001; Fink et al. 2003; Varoudakis and Rossotto 2004). The type of policy measures small island states implement in their telecommunications regulatory reform significantly determines the performance of the sector. The policy reforms can provide credible regulatory environments, which minimises the risks of policy reversal and improves the sector's performance.

Reflecting across countries, the important role of telecommunications policy statements in anchoring all subsequent telecommunications legislation is apparent in those island states that had such statements: Tonga, Papua New Guinea and Vanuatu. Governments often refer back to their own communications policy in setting key criteria for regulatory reform. Papua New Guinea's Information and Communications Minister, Patrick Tammur, said that 'his department took the first step to install a National ICT Policy endorsed by [the] Government which sets the direction for the department to develop and benefit from the advances in ICT technology, trends and practices' (Joku 2008:2). The revision of the telecommunications policy in April 2008 granted TPL the exclusive rights to operate an international gateway (Digicel Papua New Guinea n.d.). In response to the outcry from competitors and the business community, the PNG government argued that granting a monopoly over the

international gateway was necessary for Papua New Guinea's social and economic development (Joku 2008:2).

Similarly, Tonga's Communications Policy 2000 was the pivotal policy guideline for regulatory reform in its telecommunications sector. In 2006, the Department of Communication's *Annual Report* outlined the progress achieved, including the limited²⁹ competition allowed in the mobile and internet sectors and plans for liberalising customer telecommunications equipment services. Other issues included the establishment of a Communications Consultative Committee to consult with relevant stakeholders on certain policy issues, and consumer and pricing policy protection through mandatory requirements for operators to 'seek the approval of the Department to change the tariffs or condition of existing services' (Tonga Department of Communications 2006:14).

Fiji, Papua New Guinea and Vanuatu have appeals tribunals specific to the telecommunications sector embedded in their telecommunications legislation; they also have bilateral investment treaties with major industrial-country trading partners, with specific provisions for *ad hoc* domestic or international tribunals for settling investor-to-state or investor-to-investor disputes. Tonga and Papua New Guinea made multilateral commitments on telecommunications at the WTO for non-discriminatory treatment of foreign investment, while Vanuatu and Samoa might undertake telecommunications commitments as part of their WTO accession packages. These multilateral commitments are legally binding and follow the WTO's trading principles that assure private investors that telecommunications policies in these states have minimal risk of going against investors' interests.

Universal-service commitments are common in the legislation of all the

Table 6 Telecommunications regulatory framework of reforming Pacific island states (May 2008)

	Tonga	Fiji	Samoa	Papua New Guinea	Vanuatu
Principal telecommunications legislation/bills	1. <i>Communications Act 2000</i> 2. <i>Tonga Corporation Act 2000</i>	1. Posts and Telecommunications Decree 1989 2. Telecommunications Bill 2006	1. <i>Telecommunications Act 1982</i> 2. <i>Telecommunications Act 1989</i> 3. <i>Telecommunications Act 2005</i>	1. <i>Telecommunications Act 1996</i> (and subsidiary amendments) 2. <i>Independent Consumer and Competition Commission Act 2002</i> 3. <i>Telikom PNG Ltd Act 1996</i>	1. <i>Telecommunications Act 1982</i> 2. <i>Telecommunications Act 1989^a</i> 3. <i>Utility Regulatory Authority Act 2007</i> 4. Telecommunications Bill 2007 (draft form)
Telecommunications policy statement/ICT policy	Communications Policy 2000			National Policy on Information and Communications of Papua New Guinea 1994 and Revisions (2007 and 2008)	Telecommunications Policy Statement 2007
Telecommunications appeal tribunal	None	Yes, under the <i>Telecommunications Bill 2006</i> .	None	Yes, under the Independent Consumer and Competition Commission Act 2002.	None
Consumer protection	Yes, under the <i>Communications Act 2000</i> .	Yes, under the <i>Telecommunications Bill 2006</i> .	Yes, under the <i>Telecommunications Act 2005</i> .	Yes, under the <i>Independent Consumer and Competition Commission Act 2002</i> .	Yes, under the <i>Utility Regulatory Authority Act 2007</i> and the Telecommunications Bill 2007 (draft form).
Independent regulator	No. Department of Communications is part of the Prime Minister's Office; accountable to the prime minister; annual budget approved by parliament.	Yes, the new Telecommunications Authority of Fiji (TAF) will be a statutory board independent of government.	Yes, under the <i>Telecommunications Act 2005</i> . Budget is to be approved by parliament.	Yes, the Papua New Guinea Radio Communications and Telecommunications Technical Authority (Pangtel) is responsible for technical standards for the telecommunications sector, as prescribed by relevant sections of the <i>Telecommunications Act 1996</i> and subsequent amendments.	Yes, an amendment to the 1989 <i>Telecommunications Act</i> in 2007 provides the legal capacity for the minister to delegate power to an independent regulator.

The *Utilities Regulatory Authority Act 2007* also established the Utilities Regulatory Authority to act 'independently' in regulating and monitoring regulated services.¹

The draft *Telecommunications Bill 2007* also states the role of the Utilities Regulatory Authority in granting licences and advising the minister on policies concerning telecommunications.

The Independent Consumer and Competition Commission is a second independent body that has authority over telecommunications including licences, dispute settlement, consumer protection and a regulated market. The commission is granted rights under the *Independent Consumer and Competition Commission Act 2002*.

Independent regulator (continued)

Privatisation/ corporatisation program

Corporatised

Corporatised

Privatised

Corporatised

Privatised

Market structure

As of March 2008:

- 5. Domestic fixed long distance: competition^a
- 6. International gateway: competition^a
- 7. competition^a
- 8. Mobile services: competition^a
- 9. Internet services: competition^a

As of March 2008:

- 1. Domestic fixed long distance: monopoly^c
- 2. International gateway: monopoly^c
- 3. Mobile services: competition^b
- 1. Internet services: monopoly^c

As of May 2008:

- 1. Domestic fixed long distance: monopoly
- 2. International gateway: competition
- 3. Mobile services: competition
- 4. Internet services: competition

As of May 2008:

- 1. Domestic fixed long distance: monopoly
- 2. International gateway: monopoly
- 3. Mobile services: competition
- 4. Internet services: competition

As of March 2008:

- 1. Domestic fixed long distance: monopoly
- 2. International gateway: monopoly
- 3. Mobile services: competition
- Internet services: monopoly

Ownership of main domestic fixed-line operators

As of March 2008:

Tonga Communications Corporation (90% government ownership, 10% Tongan nationals)^b

As of March 2008:

Telecom Fiji Limited (34.6% government ownership, 58.2% National Provident Fund of Fiji, 7.2% others)^d

As of May 2008:

Samoatel (40% government ownership, 27.5% National Provident Fund, 22.5% Bank of Samoa, 10% Samoa Life Insurance)^e

As of May 2008:

Telikom PNG Ltd (100% government ownership)

As of 14 April 2008:

Telecom Vanuatu Limited (TVL) 50% C&W and 50% France Cable and Radio

Anti-competitive/ competition provisions specific in telecommunications legislation	Yes, under the <i>Communications Act 2000</i> .	None	Yes, under the <i>Telecommunications Act 2005</i> .	None	Yes, Competition Policy under the <i>Telecommunications Act 2007</i> .
Universal service	Yes, under the <i>Communications Act 2000</i> .	Yes, under the <i>Telecommunications Bill 2006</i> .	Yes, under the <i>Telecommunications Act 2005</i> .	Yes, under the <i>Telecommunications Act 1996</i> and subsequent amendments.	Yes, under the draft <i>Telecommunications Act 2007</i> .
Universal-service funds	None	Yes, under the <i>Telecommunications Bill 2006</i> .	Yes, under the <i>Telecommunications Act 2005</i> .	Yes, under the <i>Telecommunications Act 1996</i> and subsequent amendments.	Yes, under the draft <i>Telecommunications Act 2007</i> .
Multilateral (WTO) commitments on telecommunications services (either through current accession or de facto membership)	Yes	None	None ⁱ	Yes	None ⁱ
Bilateral investment treaty signatory	Yes, with United Kingdom in 1997.	None	None	Yes, with Germany in 1980, the United Kingdom in 1981, Germany and Australia in 1990. All treaties have been ratified and enforced.	Yes, ^f with the United Kingdom in 2003.

Telecommunications policy/framework for policy dialogue with stakeholders	Yes, a public–private consultative committee is currently developing specific policies for telecommunications.	Yes	Yes, facilitated by the independent regulator.	Yes, facilitated by the independent regulator.	Yes, facilitated by the independent regulator.
Digicel Pacific	Yes, granted full licence in November 2007. Began operation on 8 May 2008. Acquired 100% ownership of domestic mobile operator (TonFon).	Yes, successfully bid to operate mobile service in February 2008, licensed to operate by October 2008.	Yes, granted licence to operate in October 2006. Acquired Telecom New Zealand's 90% share of domestic mobile operator Telecom Samoa Cellular (TSC).	Yes, granted licence for mobile service in September 2006; operations began in March 2007.	Yes, granted a GSM mobile licence on 14 April 2008.

^a duopoly

^b duopoly when second operator's licence is effective from October 2008

^c until September 2008; afterwards competition allowed

^d 2004 ownership status reported by ITU

^e World Bank, 2006. *The Pacific Infrastructure Challenge: a review of obstacles and opportunities for improving performance in the Pacific islands*, Pacific Islands Country Management Unit, East Asia and Pacific Region, World Bank, Washington, DC.

^f signed in 2003, although it has not been ratified yet

^g Tonga Department of Communications, 2008. Department of Communications web site, Government of Tonga. Available from http://www.pmo.gov.to/artman/publish/printer_105.shtml (accessed 14 March 2008).

^h a new Telecommunications Bill is currently in the drafting stage and might cover some of the variables missing from the 1989 act

ⁱ acceding WTO members. Vanuatu made an offer on telecommunications in 2001 although it is not yet finalised. Samoa is currently negotiating its services offer.

^j The *Utilities Regulatory Authority Act 2007* does not cover the telecommunications sector. The definition of 'regulated service' covered under the *URA Act* mentions only electricity and water.

Sources: Consolidation by author of information from telecommunications operators, government telecommunications reports, telecommunications legislation, media reports; World Bank, 2006. *The Pacific Infrastructure Challenge: a review of obstacles and opportunities for improving performance in the Pacific islands*, Pacific Islands Country Management Unit, East Asia and Pacific Region, World Bank, Washington, DC; World Bank, 2008. *Telecommunications in the Pacific—background paper for the Pacific Economic Survey 2008*, World Bank, Jakarta; and International Telecommunications Union (ITU), 2004. *Bula Internet: Fiji ICT case study*, International Telecommunications Union, Geneva, Switzerland.

reforming Pacific island states, while dedicated universal-service funds can be found in four (the exception being Tonga). Protection of consumer rights is also covered by all telecommunications legislation. Regulations to ensure competition by telecommunications operators can be found in legislation in Tonga, Samoa and Vanuatu. Several regulatory policies grant rights and opportunities to interest groups to influence policymaking; these include provisions on policies that provide appeals tribunals in the cases of Fiji and Papua New Guinea. Privatisation and/or corporatisation programs, competition, consumer protection measures and universal-service commitments exist in all cases. Independent regulators are legislated for in Samoa, Papua New Guinea and Vanuatu, while anti-competitive measures have been implemented in Tonga, Samoa and Vanuatu.

The early outcomes of the regulatory reforms in the five Pacific states can be measured roughly through the depth and coverage of private investment. Digicel has been granted a licence to operate GSM mobile services in all five countries. Foreign direct investment has been in the form of the acquisition of domestic mobile operators (in Tonga and Samoa) and foreign direct investment (in Papua New Guinea). Digicel was reported to have acquired majority ownership of Telecom Samoa Cellular for NZ\$29 million (Islands Business 2008 :1). Digicel also invested more than US\$10 million to upgrade the mobile network in Tonga (Matangi Tonga 2008a:2), while it was reported to have invested US\$35 million to build an extensive, state-of-the-art GSM network in Vanuatu (Pacific Magazine 2008:1).

Conclusions

The experiences of the Pacific cases point to three main lessons. First, competition and privatisation, coupled with a credible regulatory environment for investment, improves performance in the telecommunications sector. Second, while it is important for telecommunications legislation to cover key issues that are essential for the growth of telecommunications—an independent regulator, competition policy, consumer protection, arbitration and universal service—the capacity of Pacific governments, in terms of the financial and technical expertise to implement these comprehensive regulations, is equally important for the effectiveness of the institutional framework. The difficulty of hiring an independent regulator in Samoa and the lack of specific regulation in Tonga regarding universal service are cases in point. Third, the development of the telecommunications sector is essential for the growth of other sectors, particularly for the financial sector and other industries that use telecommunications intensively.

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Notes

¹ The Pacific region in this discussion refers to the Pacific Islands Forum countries in the 'Group of 14' Pacific island states.

² About US\$0.50 per minute.

³ Between the main island, Tongatapu, and 'Eua Island, and the other three island groups: Vava'u, Ha'apai and the Niuaus.

⁴ See Noll (2000) for a discussion of neo-liberal reform of telecommunications in developing countries.

⁵ Shoreline Communications Inc. is the parent company of TonFon, the domestic branch that dealt with mobile services. These two names are used interchangeably and refer to only one company.

⁶ Visit <http://www.globecommsystems.com/rs/home.aspx> for more information on Globecomm and the Tongan case.

⁷ See <http://www.alvarion.com/> for further company details and the technology produced.

⁸ TonFon is Shoreline Communication's branch that deals with telecommunications and cable services.

⁹ The settlement of disputes between investors and the host state can be submitted to international arbitration in the International Centre for the Settlement of Investment Disputes or the Court of Arbitration of the International Chamber of Commerce, or an international arbitrator under the Arbitration Rules of the UN Commission on International Trade Law.

¹⁰ See WTO (2005) and subsequent updates for full service commitments.

¹¹ There were no parliamentary sessions during the period 1987–1992.

¹² Posts and Telecommunications Decree No.37 of 1989 contained nine parts and four schedules, with 168 sections.

¹³ In 2001, one of the hotly debated issues between WTO members and the Government of Vanuatu during its WTO accession negotiations was the request from WTO members to liberalise the telecommunications sector as of the date of accession rather than the expiry period of the exclusive monopoly rights in 2012.

- ¹⁴ Order 19 of 1983, Order 65 of 1983, Order 11 of 1985 and Order 14 of 1988. See Government of Vanuatu (1988).
- ¹⁵ Subsequent amendments: No.24 (1989), No.18 (1993) and No.15 (2007).
- ¹⁶ Although it is likely that the URA Act may be amended to cover telecommunications in the future.
- ¹⁷ With the exception of the power to grant a licence.
- ¹⁸ The timing for implementation of the new Telecommunications Bill is unclear as national elections are to be held soon.
- ¹⁹ See Footnote 26.
- ²⁰ See WTO web site (http://www.wto.org/English/thewto_e/acc_e/a1_vanuatu_e.htm) for detailed information on Vanuatu's accession.
- ²¹ See Draft Schedule WT/ACC/VUT/13/Add.2, 16 October 2001.
- ²² Minister of Communications and Information Technology.
- ²³ TSC is 10 per cent government owned; the other 90 per cent is owned by Telecom New Zealand.
- ²⁴ Several months after the ICCC granted mobile service licences to Digicel Papua New Guinea and Greencom Papua New Guinea based on the 2005 ICT Policy.
- ²⁵ See Section 2—General Objectives of the Act, Telecommunications Act 1996, No.57.
- ²⁶ See <http://www.telikompng.com.pg> for more information.
- ²⁷ Greencom is a telecommunications engineering and construction company from Indonesia, which joined a local family business to form Dawamiba Papua New Guinea. See Radio New Zealand International (2006).
- ²⁸ By establishing a common regulatory framework for these countries, thereby ensuring predictability, consistency and transparency of the regulatory environments of the five island states.
- ²⁹ Duopoly market structure with potential new entrants subject to 'national interests'.