THE UNIVERSITY OF THE SOUTH PACIFIC

SCHOOL OF ECONOMICS

WORKING PAPER

Role of Offshore Financial Center Institutions in Vanuatu

T. K. Jayaraman
School of Economics
Faculty of Business and Economics
The University of the South Pacific
Fiji Islands

Chee-Keong Choong
Centre for Economic Studies
Faculty of Business and Finance
Universiti Tunku Abdul Rahman (Perak Campus)
Malaysia

No. 2010/05 **May, 2010**

This paper presents work in progress in the School of Economics at USP. Comments, criticisms and enquiries should be addressed to the corresponding author.

Role of Offshore Financial Center Institutions in Vanuatu

T.K. Jayaraman
School of Economics
Faculty of Business and Economics
University of the South Pacific
Suva, Fiji Islands

Chee-Keong Choong
Faculty of Business and Finance
University of Tunku Abdul Rahman (Perak campus)
Malaysia

ABSTRACT

Vanuatu is a pure tax haven. Freedom of movement of capital and absence of direct taxation of any kind on citizens and resident expatriates alike made Vanuatu an attractive offshore financial center (OFC) in the Pacific. Vanuatu for its budgetary needs has therefore, been depending on indirect taxes, especially import and export taxes. As Vanuatu would soon become part of a free trade area with the signing of Pacific Island Countries Trade Agreement and Pacific Agreement on Closer Economic Relations with Australia and New Zealand, policy makers are now aware of the need for finding new sources of tax revenue. However, a strong commitment to continue the current pure tax haven status has come in the way of introducing direct taxation. A review of contribution of OFC institutions to Vanuatu's growth and economic development would therefore be useful. Accordingly, this paper seeks to evaluate the role of OFC in Vanuatu.

I. INTRODUCTION

In the context of the ongoing world recession following the financial crisis in 2008, world leaders have been focusing on banking sector reforms including better supervision and regulation. One of the areas for attention is transparency of cross border transactions by removing secrecy provisions pursued by some countries, to protect their bank depositors. Further, advanced countries have also been keeping a watch on offshore financial centers (OFCs) in various countries in the Caribbean and in the South Pacific region, which are referred to as tax havens[1]. They were suspected of gun-running and money laundering activities since the late 1990s[2]. The situation became more serious after the terror attacks of 9/11 on the United States of America.

.

The OFCs in the Pacific island countries (PICs), namely Cook Islands, Samoa, Vanuatu and Nauru, which were established in 1981, 1988, 1971 and 1972 respectively, have not been doing uniformly well since 2000. While OFCs in the Cook Islands and Vanuatu have held steady since 2000, Samoa's offshore centre has grown rapidly. The offshore industry in Nauru is the only vestigial after the repeal of its offshore banking legislation in 2004. A common characteristic, which marks all the four PICs, is the decline of OFCs due to their adverse publicity in 1999-2000 as well as increased regulatory requirements imposed in the wake of outside pressure from various multilateral organizations (Sharman 2008).

---

[1] A tax haven is a jurisdiction which allows residents or foreigners to minimize their tax payments. An offshore financial center is a tax haven jurisdiction which has at least one significant institution primarily oriented toward accepting deposits and investment funds, and where government policy is oriented toward attracting the business of foreigners by creating legal entities and structures, or facilitating immigration, naturalization, residence, or the acquisition of passports to allow foreigners to minimize taxes, regulation, loss of assets, unwanted financial disclosure and forced disposition of property. All offshore financial centers are sovereignty businesses and all are tax havens (van Fossen 2008). A pure tax haven, however, is the jurisdiction with absence of any exchange control and absence of direct taxation of any kind, including personal and corporate income taxes, capital gains taxes and death duties.

[2] In February 2007 the Stop Tax Haven Abuse bill was introduced in the US Senate. A companion bill was introduced into the House of Representatives. The House bill was referred to the House Judiciary Subcommittee on Courts, the Internet, and Intellectual Property. The main focus of the bill is to stop offshore tax haven and tax shelter abuses which reportedly cost the US Treasury US$100 billion per annum. Specifically, the Act focused on those centers that had secrecy provisions.

It has been estimated that OFCs in PICs make only a modest direct contribution to employment in each country, ranging from 10 employees in Nauru to 60 in Samoa, 70 in the Cook Islands and 115 in Vanuatu. However, it has been claimed that with the exception of Nauru, they make a valuable contribution to GDP, besides foreign exchange earnings and government revenue. In terms of ratio of GDP, OFC's contribution represents about 3 per cent of GDP in Samoa, 5 per cent in Vanuatu, and up to 8 per cent in the Cook Islands. It is also claimed by OFCs that they are the third-largest foreign exchange earner in terms of various fees including registration and license fees in Samoa next to remittances and tourism, the third-largest in the Cook Islands behind tourism and fish, and the second-largest in Vanuatu only after tourism (Sharman 2008).

There has been no recent study done on the contribution of OFC to GDP. This paper seeks to fill the gap by updating an earlier study, which is more than a decade old (Jayaraman 1998) on Vanuatu, which is a pure tax haven with no direct taxation of any kind. The rest of the paper is organized as follows: Section II reviews trends in OFC development over the last two decades; Section III outlines the modeling, empirical methodology and data sources; Section IV reports results; and Section V and the final section presents a summary and conclusions with policy implications.

II. Trends in OFC Development in Vanuatu

Background

Vanuatu (population 215,000), whose selected key indicators are given in Table 1 shares many commonalities with rest of the PICs. Its economy is heavily subsistence oriented, dominated by root crops and commercial ranch and fishery activities to a small extent, which provide livelihood to 80 percent of the population. The country's manufacturing base is small and is confined to processing coconut oil based soaps and detergents, and biscuits and breads. However, Vanuatu has been historically an open economy with offshore financial institutions (OFC) inherited from the days of the joint Anglo-French condominium rule (van Fossen 2003). The country also provides flag-of-convenience registration of ships. Additionally, absence of all

forms of direct taxation, including personal and corporate income taxes, estate taxes, death duties and gift taxes, have made Vanuatu a pure tax free haven in the South Pacific[3]. Thus, services sector of Vanuatu dominated by tourism activities, has been a major support to Vanuatu's economy.

Table 1: Vanuatu: Selected Key Indicators

Land Area (Sq.km.'000)	12.2
Population (2006: '000)	215
Per Capita GDP (US$) Current prices: 2006	1,799
Aid Per Capita in US$ (2006)	227
Aid as percentage of GDP (2006)	13.4
Human Development Ranking (2006)	118
Annual Average Growth Rate in percent (2001-2007)	2.7
Annual Average Inflation in percent (2001-2007)	2.5
Overall Budget Balance as percent of GDP (2001-2007)	-0.5
Current Account Balance as percent of GDP(2001-2007)	-5.4

Source: ADB (2008), UNESCAP (2008, 2009)

These developments have indeed given rise to the emergence of a dual economy, with OFC institutions in Port Vila, the country's capital on the main island of Efate, and commercial tourism, confined to Port Vila and the big island of Santo. The rest of Vanuatu still continues to be characterized by subsistence agriculture.

Vanuatu has a fixed exchange rate regime, which has served the country well. Since most of the imports have been sourced from Australia and New Zealand, whose monetary policies have been targeting inflation, inflation has been kept low. Being a small country with no mineral resources and limited commercial agriculture, Vanuatu is heavily dependent on imports ranging from food and beverages, to fuel and capital goods and transportation machinery and equipment. Vanuatu's exports have been beef, copra, cocoa and *kava*, a non-narcotic beverage root crop. Export earnings have been far less than imports with the result that trade balance always remained negative (Jayaraman and Choong 2008). However, tourism earnings, steady aid inflows and in

[3] For a study on the determinants of OFC activities in Vanuatu, see Jayaraman (2001)

recent years, remittances in particular, have provided substantial support to the country's current account balance, minimising pressures on the fixed exchange rate (Jayaraman and Ward 2007).

Vanuatu's economic progress during the first ten years of independence has been uneven. Soon after independence in 1980, there were departures of skilled expatriate residents, consequent to a rebellion in the outer islands. With bilateral grants falling from 80 percent of public sector expenditure in 1980 to nearly 50 percent in 1983 and 21 percent in 1989, the government tightened expenditures and increased revenues through indirect taxes, which included fees, charges and import duties. Government gave up its conservative stand and began borrowing from international agencies, including Asian Development Bank (ADB) on concessional terms, which are available to lower-income countries for development projects. These included international telecommunication network and airport runway extension. These helped to augment tourism receipts by allowing larger aircrafts to land. As the domestic currency, the *vatu* appreciated, inflation moderated. A Comprehensive Reform Programme was also launched in 1998 with ADB funding for improving economic and financial management.

Although gross domestic product grew annually at 4.25 percent during the period 1991–1995, there were several unanticipated shocks, which resulted in a deterioration of overall macroeconomic performance. In 1998, loss of trust in the state-sponsored Vanuatu National Provident Fund (VNPF) led to a run on the institution and riots in Port Vila, which prompted government to permit unconditional withdrawals of retirement savings of VNPF members. The payouts of funds by VNPF led to a sharp rise in liquidity in the banking system. There were capital outflows as well, as confidence in the domestic currency had already been shaken in the process.

Political instability in the first few years of the current decade had its toll on the economy. However, fiscal consolidation since 2001 which was supported by strong recovery in exports and rise in export prices of key crops, including copra and *kava*, expansion in airline capacity and greater number of flights, helped the economy to perform well. The pegged exchange rate regime helped to keep inflation low and the *vatu* remained stable. Improved economic performance (rates of growth was 6.5 percent in 2005; 7.2 percent in 2006; and 6.6 percent in 2007).

Improved governance won a grant assistance of US$66 million from the US Millennium Challenge Corporation for adding to physical infrastructure including ports, roads and jetties in outer islands for moving agricultural produce to the urban centres in two major islands and to the largest harbour on Santo, all aimed at promoting exports (Jayaraman and Ward 2006).

An assessment by IMF (2008) shows that with the strong growth in the tourism and construction sectors and increased aid inflows, real GDP grew at 6.6 percent in 2008. Inflation rose from 4.1 percent in 2007 to 5.8 percent in 2008, reflecting the effects of higher international prices of food and fuel, higher credit growth, and rise in government spending. Despite higher spending, fiscal surplus increased to 2.3 percent of GDP due to significant over performance on revenues, mainly VAT, reflecting buoyant economic activities.

The Reserve Bank of Vanuatu (RBV), which relaxed its monetary stance in December 2008 (RBV 2008), is now facing the impact of the global recession on Australia and New Zealand, the largest sources of tourism revenues and foreign direct investment (FDI). There are indications that new construction activities funded by large capital inflows from Australia and to a lesser extent from New Zealand, have begun to slow. Although tourist arrivals continued to remain strong, spending by tourists has been on the decline. GDP growth is expected to be in the 3-4 percent range in 2009 and to recover thereafter. Lower commodity prices would halt rising inflation and rising international reserves supported by aid inflows would be able to finance imports (IMF 2009).

Financial Sector

Vanuatu's financial sector includes RBV, four commercial banks (a government-owned bank, a locally owned bank and two foreign banks namely Westpac and ANZ), a number of trust and insurance companies, VNPF, and several smaller financial institutions (Table 2). In 2001, following a merger, the number of commercial banks dropped to four. At present, the largest bank has almost 70 percent of total assets of the banks.

Table 2: Vanuatu: Financial Sector

Financial Sector Institutions	Assets (billionsof vatu)	Percent in Total Assets	Number of Institutions	Percent of GDP
Commercial Banks	43.1	11.2	5	147.2
Of which: State controlled	2.7	0.7	1	8.5
Non-bankfinancial institutions	–	–	–	–
Offshore banks	337.5	87.9	36	1061.3
Insurance companies	0.5	0.1	3	1.6
Pension funds	3.1	0.8	1	9.7
Total	384.2	100.0	45	1219.8

The OECD's and United States' attempts since the late 1990s to reduce money laundering has led to cutting the number of off-shore banks from 103 in 1990 to 34 at the end of 2001 when there were also 10 trust companies incorporated as domestic companies but principally providing off-shore services, and 15 insurance companies. These organizations came under increasing scrutiny as a result of OECD interest in reducing tax avoidance and the passage of the first Patriot Act by the United States in 2001. But regulatory requirements remained largely voluntary. The onus was on the OFC banks to report their clients for suspicious transactions. In any case, some 4,500 international companies registered in Vanuatu merely pay an annual registration fee and remain completely uncontrolled. Until 2002, offshore banks were supervised by the Financial Service Commission. There has been a further fall in the number of OFC institutions since then.

As of 2009, Vanuatu's OFC includes 24 offshore banks with offshore banking licenses, and 16 insurance companies. Offshore banks, which are regulated by the International Bank Act (2002), are now supervised by the RBV, as are domestic banks. Offshore banks are not allowed to accept local deposits from, or make loans to, residents in Vanuatu. Given the restrictions which apply to the ability of the offshore banks to deal in domestic currency and to do business with domestic banks, the commercial banks play a dominant role in the domestic financial system and the offshore banks have no direct impact on the conduct of monetary policy.

A 2008 study by the Australian think-tank institution, Center for Independent Studies (CIS), reports that the legitimate benefits of OFC to Vanuatu, comprising registration fees might be a

small contribution to the budget. It was estimated to be 2 percent in 2001. Further, only a small number of ni-Vanuatu are employed in the off-shore sector. Hughes and Sodhi (2008), the two authors of the CIS study refer to the conclusion reached by the IMF Article IV Mission (IMF 2002) that "on balance, the reputational impact from the OFC sector appears to be negative"[4].

III. Modeling and Methodology

The modeling methodology for investigating whether OFC in Vanuatu has contributed to GDP is constrained by data deficiencies. Although Vanuatu became independent in 1980, time series of national income data on a consistent and reliable basis became available only from 1983 onwards. The study period, therefore, covers a twenty-five year period (1983-2007). Further, only aggregated data on expenditures by OFC are available, most of which are estimates. This deficiency was recognized by all studies including the latest study by Bois-Singh (2008). Further, estimates by consultants periodically hired by international organizations, including Pacific Islands Forum Secretariat widely vary. For a consistent set of time series, we rely on data gathered and reported periodically in the *Quarterly Economic Review* by RBV.

The contribution of OFC institutions is claimed to be in terms of employment, expenditure comprising wages and salaries, housekeeping expenditures such as water, electricity and other non-tradable goods and services, besides imports of computers and related equipments of all sorts, including air conditioners. The total expenditure as percentage of GDP appears to be the best proxy variable for estimation purposes (Table 3).

---

[4] Following the arrest in 2008 of one Vanuatu- based Australian businessman by name Robert Agius, who was accused of a $100million offshore tax scam involving more than 400 people, the Vanuatu government decided to scrap its secretive company law provisions within months as part of a legal overhaul. The Vanuatu Financial Services Commission (VFSC) assured Australia that it would replace its company law secrecy provisions - which allow for the creation of companies with hidden owners and undisclosed cash deposits. The avowed objective is to restore Vanuatu's image and develop "into some form of financial hub getting away from this financial secrecy business." .According to the Australian Taxation Office, about $5 billion flows from Australia to international tax havens each year, with about $350 million of that destined for Vanuatu. The overhaul is expected to involve the abolition of Section 125 of the Vanuatu International Companies Act, whereby companies and banks are not allowed to release information about private client accounts to any third parties without the consent of account holders or a local court order (Klan 2008).

Since OFC is part of the financial sector, whose development over the period is a key factor to growth, we use private sector credit expressed as percentage of GDP, representing financial sector development, as an important variable in the estimation procedure[5]. Although OFCs are not allowed to deal with the citizens directly in terms of acceptance of deposits and provision of credit, the interaction between OFC and domestic financial sector institutions and its impact in terms of transfer of skills through training through movement of personnel between the two is considered as a critical factor in assessing its impact on growth. Accordingly, we include the interaction term as a variable in the model.

[5] Among the two indicators of financial development (broad money stock, M2 as a ratio of GDP, represented by M2/GDP and ratio of bank credit to private sector represented by PCR), we use the PCR since it is considered as a better measure. Following are the reasons: Although an increase in private financial savings results in higher M2/GDP ratio, if high statutory reserve requirements are imposed by central banks, credit to the private sector might not increase; and hence an increase in M2/GDP does not necessarily mean an increase in productive investments (Beck, Levine and Loayza 2000, Demetriades and Hussein 1996, King and Levine 1993).

Table 3. Vanuatu: OFC Data and Financial Sector Development Indicators

Year	RGDP Growth Rate	Total Exp of OFC (% of GDP)	Rev from OFC as % Total Rev	XGS (% of GDP)	Rev from OFC as % of GDP	Bank credit to Priv.Sector % of GDP	M2/GDP (in percent)
1983	9.6	8.5	2.7	100.0	1.1	31.9	77.2
1984	1.0	8.9	1.9	89.2	0.8	26.0	74.1
1985	-0.1	9.1	2.2	92.3	0.9	25.1	90.8
1986	-2.9	8.8	3.2	95.1	1.3	27.4	112.5
1987	-1.7	9.5	3.7	81.7	1.1	28.7	107.3
1988	1.6	10.3	2.4	74.4	1.1	28.7	98.7
1989	11.6	12.9	3.6	69.9	1.1	29.1	115.8
1990	3.2	11.1	7.4	70.6	2.2	32.6	128.3
1991	2.6	10.8	13.6	64.0	3.0	29.9	115.7
1992	0.7	14.0	13.4	62.3	3.0	35.9	107.0
1993	9.1	10.8	5.5	61.0	1.2	35.1	104.3
1994	1.0	9.3	3.9	59.6	0.9	33.8	97.2
1995	2.3	7.6	5.1	58.6	1.2	35.0	102.3
1996	4.9	7.7	4.5	57.4	1.0	36.2	109.3
1997	4.3	6.8	3.3	55.7	0.8	32.7	105.6
1998	-3.2	6.6	4.0	53.1	0.9	33.1	102.5
1999	2.7	7.2	3.2	51.4	0.7	38.0	103.7
2000	-2.5	8.6	6.4	50.8	1.3	34.8	97.6
2001	-7.4	7.9	5.9	48.9	1.2	36.5	101.6
2002	3.2	10.0	6.6	48.3	1.4	42.0	110.4
2003	5.5	10.1	6.1	46.6	1.3	43.1	102.0
2004	6.5	7.4	2.2	45.6	0.5	43.7	98.8
2005	7.4	7.9	1.9	44.3	0.4	46.2	99.9
2006	6.8	7.9	2.5	41.9	0.5	44.5	95.9
2007	3.8	12.2	7.1	39.5	1.6	44.2	94.6

Source:
Reserve Bank of Vanuatu , *Quarterly Economic Review (several past issues)*

Vanuatu is an open economy with a high degree of dependency on imports. Aside from paying for growing import needs ranging from food and fuel to intermediate and capital goods, exports of agricultural products and tourism also create jobs and incomes. Therefore, export of goods and services is included as a variable in the estimation procedure. Vanuatu had its own law and order

problem. During 1997-1999, Vanuatu underwent a phase of severe civil unrest, as a result of which tourism and normal economic activities were adversely affected, leading to a decline in GDP growth. A dummy variable is accordingly added, assuming the value of unity for years which witnessed civil unrest and zero for other years, besides a time trend[6].

The hypotheses, which are sought to be tested are: (i) OFC positively influences output; (ii) PCR directly affects output; (iii) interaction between OFC and PCR, with output is positive; and (iv) dummy variable for unrest is negatively associated with output. All variables except D and time trend are transformed into logs first and then entered into econometric analysis.

Accordingly, the model is written as follows:

$$LRGDP = F(LOFC, LPCR, LOFC * LPCR, DUM, TREND)$$

Where

RGDP = gross domestic product in constant prices;.
PCR = OFC's total expenditure;
PCR = banking sector's credit to private sector expressed as percent of GDP;
DUM = dummy variable assuming the value of 1 for years political instability and zero for normal years; and
TREND = time trend variable

We use the bounds testing procedure proposed by Pesaran, *et al*. (2001) to investigate the long-run equilibrium relationship among the variables, since the number of observations is less than 30. The model is a general dynamic specification, which utilizes lags of the endogenous variable and the lagged and contemporaneous values of the explanatory variables, through which short-run effects can be directly examined and long-run relationship estimated indirectly[7].

---

[6] Trend variable is added under the assumption that influences of those relevant variables, which are omitted due to non-availability of time series of data on a consistent basis, are a smooth function of time. Moreover, we found a clear positive-linear trend in the levels of log of RGDP and LPCR over the sample period, therefore including a trend variable in the estimation process further improved the level of significance of other core variables.

[7] The use of this technique is also based on its advantages over the conventional cointegration procedure. See, for example, Pesaran *et al*. (2001), Chang et al. (2001), Narayan and Smyth (2006), among others for the advantages and applications of ARDL.

An ARDL model of Equation 1 is constructed as follows:

$$\Delta LRGDP_t = \beta_0 + \beta_1 LRGDP_{t-1} + \beta_2 LOFC_{t-1} + \beta_3 LPCR_{t-1} + \beta_4 LXGS_{t-1} + \beta_5 (LOFC * LPCR)_{t-1} + \beta_6 TREND_t + \beta_7 DUM_t + \sum_{i=1}^{p} \alpha_{1i} \Delta LRGDP_{t-i} + \sum_{i=0}^{p} \alpha_{2i} \Delta LOFC_{t-i} + \sum_{i=0}^{p} \alpha_{3i} \Delta LPCR_{t-i} + \sum_{i=0}^{p} \alpha_{4i} \Delta LXGS_{t-i} + \sum_{i=0}^{p} \alpha_{5i} \Delta (LOFC * LPCR)_{t-i} + \varepsilon_t \quad (2)$$

There are two steps in investigating the relationship between real output, offshore financial center, private credit, exports and the interaction term. First, we regress Equation (2) by ordinary least squares (OLS) techniques. Second, we impose a restriction on all estimated coefficients of lagged level variables equal to zero to examine the presence of a long-run relationship between the variables. This can be performed by using F-statistics (or Wald statistics) with the null hypothesis of no cointegration ($H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$) against its alternative hypothesis of a long-run cointegration relationship ($H_1 : \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq 0$).

If the calculated F-statistic is higher than the upper critical bounds value, then the null hypothesis is rejected. In contrast, if the calculated F-statistic is less than lower critical bounds value, it suggests that there is no long-run relationship between variables. If the calculated F-statistic falls between lower and upper bounds values, then the result becomes inconclusive.

Granger causality test

After investigating the long-run relationship between the variables, we proceed to the Granger causality test in the parsimonious vector error correction model (PVECM) framework to find a short-run causal relationship between real output, offshore financial center, private credit, exports and the interaction term. In PVECM framework, we estimate the change in both endogenous and exogenous variables on lagged deviations and it can be expressed as follows[8]:

[8] Engle and Granger (1987) and Irandoust and Ericsson (2004) provide a comprehensive discussion of this technique.

$$\Delta Z_t = \Pi Z_{t-1} + \Gamma_1 \Delta Z_{t-1} + \Gamma_2 \Delta Z_{t-2} + ... + \Gamma_{p-1} \Delta Z_{t-p+1} + u_t \quad (3)$$

Where $\Delta Z_t = [\Delta LRGDP, \Delta LOFC, \Delta LPCR, \Delta LXGS, \Delta LOFC * LPCR]'$, $\Pi = -\left(1_m - \sum_{i=1}^{p} A_i\right)$ and $\Gamma_i = -\left(1 - \sum_{j=1}^{i} A_j\right)$. For $i = 1,..., p-1$.

Γ represents the short run impact of the changes in Z_t.

Meanwhile, the (5×5) matrix of $\Pi = (\alpha\beta)'$ incorporates the speed of adjustment to long-run equilibrium (α) and the long-run information (β) such that the term $\beta' Z_{t-p}$ measures the $(n-1)$ cointegrating vector on the model.

The short-run causal relationship between variables can be examined by computing the Wald test (F-statistics) with the null hypothesis that the set of coefficients (Γ_i) on the lagged values of exogenous variables are insignificantly different from zero. If the null hypothesis is rejected, then it is found that the explanatory variables Granger cause the dependent variables. If Π is found insignificant based on the t-statistics, then both the exogenous and endogenous variables do not have a steady-state long-run relationship.

IV. Results

Unit root test and bounds testing approach

Before resorting to bounds testing which does not, however, require the same order of the integration of each variable, we examine the time series properties of the variables by using unit root tests[9]. The results of unit root tests, which include the augmented Dickey and Fuller (ADF) (1979) and Ng and Perron (2001), indicate that all series are integrated of order one (Table 4).

[9] Granger causality tests through an error correction model in the event of a cointegration require that variables should be of I(1) for entering them in their first differences.

Table 4: Results of unit root tests

Variable	ADF		Ng and Perron	
	Level	First Difference	Level	First Difference
LRGDP	-2.2789	-3.2732**	-16.8131	-10.3533**
LOFC	-1.8591	-5.1186**	-6.7774	-11.3620**
LPCR	-3.2735	-5.7452**	-11.5557	-55.0293**
LXGS	-2.9266	-4.4535**	-7.2304	-10.7011**
LOFCLPCR	-1.5831	-4.8892**	-6.4041	-11.4023**

Notes: The ADF critical values are based on Mckinnon. The optimal lag is chosen on the basis of Akaike Information Criterion (AIC). The null hypotheses for both ADF and Ng-Perron tests are a series has a unit root (non-stationary) while the null hypothesis of the KPSS test is does not contain unit root (stationary).
The asterisk ** denotes the rejection of the null hypothesis at the 5% level of significance.

The results of ARDL model are reported in Table 5. As the calculated F-statistic is higher than the upper bound value in the equation with LRGDP as the dependent variable, we reject the null hypothesis of no long-run relationship between real output, OFC, private credit, exports and the interaction term between OFC and private credit. Nevertheless, the respective F-statistics in the equations with other variables as dependent variables are not found significant even at 10% significance level. Thus, there is only one cointegration equation.

The estimated equation with the LRGDP as dependent variable is:

$$\begin{aligned} LRGDP &= -10.849 - 0.131LOFC + 0.688LPCR*** + 0.306XGS* - 0.354(LOFC*LPCR) \\ t = \quad & (-5.869) \quad (-0.270) \quad (19.692) \quad (3.819) \quad (-2.629) \\ & -0.148DUM*** + 0.06TREND** \\ & (-29.760) \quad (6.204) \end{aligned} \tag{4}$$

*, ** and *** indicate significance at 10%, 5% and 1% levels, respectively. Figures in parentheses are t-statistics.

Both private credit (PCR) and exports (XGS) have the theoretically expected signs. They are also found statistically significant at 10% level or better. It is found that dummy variable for political instability is negative and statistically significant. In other words, unrest leads to lower RGDP. The estimated coefficient of OFC is not significant, which indicates that OFC does not contribute

to output expansion in Vanuatu. This finding is further confirmed by looking at the interaction term (OFC*PCR) between OFC and domestic financial sector. The interaction term is not significant. The result is as per expectations since funds received by OFC do not contribute to RGDP as they are transferred immediately to other places, without adding to domestic liquidity with no impact on growth in credit and output growth. Further, movement of personnel between OFC and domestic sector is limited and the interaction is limited.

Table 5 : Results of Bound Tests

Dependent Variable			Computed F-statistic	
LRGDP			4.7060**	
LOFC			0.5627	
LPCR			0.3778	
LXGS			1.0195	
LOFCLPCR			1.2557	
	Pesaran, et al. (2001)[a]		Narayan (2005)[b]	
Critical Value	Lower bound value	Upper bound value	Lower bound value	Upper bound value
1 per cent	3.41	4.68	4.134	5.761
5 per cent	2.62	3.79	2.910	4.193
10 per cent	2.26	3.35	2.407	3.517

[a] Critical values are obtained from Pesaran et al. (2001), Table CI(iii) Case III: Unrestricted intercept and no trend, p. 300.
[b] Critical values are obtained from Narayan (2005), Table case III: unrestricted intercept and no trend, p. 10. *, ** and *** indicate significance at 10%, 5% and 1% levels, respectively.

A number of diagnostic tests such as Jacque-Bera normality test, Breusch-Godfrey Serial Correlation LM test, Heteroskedasticity test (ARCH), Ramsey RESET Mis-specification test suggest that Equation 4 performs reasonably well. These tests reveal that the residuals are normally distributed, serially uncorrelated with homoscedasticity of residuals, and confirming the equation has a correct functional form. In addition, the CUSUM and CUSUM of Squares plots indicate that the parameters of the equation are stable over time[10].

Granger causality test

[10] The CUSUM and CUSUM of Squares plots are not reported in order to conserve space. However, the results are available upon request.

Since the variables are of I(1) and are also found cointegrated, we proceed to undertake error correction modeling the variables in their first differences with view to examine grager-causality. Table 6 shows the results of Granger causality tests. Among the five equations, error correction term (ECT) is statistically significant with the negative sign only in the equation with LRGDP, as dependent variable. This finding is consistent with the results of bound test, confirming that there is only one cointegrating equation, which is the one with LRGDP as dependent variable.

Turning to short-run causality relationship, we find that there is a bi-directional causality between real output and private credit. However, there is a unidirectional causality running from real output to offshore financial centre (OFC), but not vice versa. This suggests that a good economic performance attracts more funds flowing to OFC in Vanuatu. In line with the long-run results, it is found that exports of goods and services Granger cause real output in the short-run as well, a finding which supports the exports growth-driven hypothesis. In sum, the results confirm that offshore financial centre does not have a significant impact on real output both in the short- and long-run, regardless the efficiency of the domestic financial system.

Table 6: Granger Causality Test Results

Dependent Variable	**F-statistics**					**ECT (t-statistics)**
	ΔLRGDP	**ΔLOFC**	**ΔLPCR**	**ΔLXGS**	**ΔLOFCPCR**	
ΔLRGDP	-	2.924	5.815**	0.944	2.767	-0.3136* (-1.936)
ΔLOFC	2.787*	-	1.727	1.509	0.750	-0.4492 (-0.803)
ΔLPCR	5.566**	1.866	-	2.173	1.209	-0.2420 (-1.069)
ΔLXGS	3.867*	3.896*	0.002	-	1.821	-0.3513 (-0.858)
ΔLOFCPCR	5.053**	0.032	5.303**	0.685	-	-0.4028 (-0.225)

Notes: *, ** and *** indicate significance at 10%, 5% and 1% levels, respectively. Figures in parentheses are t-statistics.

V. Summary and Conclusions

Vanuatu is a pure tax haven in the Pacific region with no direct taxation of any kind on both citizens and resident expatriates alike. Further, open economy features, including the absence of exchange controls, coupled with the past governments' single-minded devotion over the years to the pure tax haven concept, regardless of their political differences, have made Vanuatu, a zero tax friction country and a popular destination for parking funds by investors from high tax friction countries.

A strong commitment to continue the pure tax haven status has thus come in the way of introducing direct taxation. During the past three decades, the government never attempted any serious local revenue mobilization effort in the midst of declining foreign aid. Introduction of direct taxation was clearly rejected under the belief that Vanuatu would lose its popularity amongst offshore investors. For its growing budgetary needs, Vanuatu depended on indirect taxes, including import and export taxes and value added taxes on commodities and services and fees and charges. This has created an avoidable situation of a high regressive tax burden on lower income groups, much against the goal of promoting an egalitarian society, let alone reducing poverty, with rich sections of the community and expatriates becoming richer.

As Vanuatu would soon become part of a free trade area with signing of the Pacific Island Countries Trade Agreement and Pacific Agreement on Closer Economic Relations with Australia and New Zealand, policy makers are now aware of the need for finding new sources of tax revenue, as international trade taxes for revenue purposes would have to be discontinued.

Utilizing the data covering a 25-year period (1983-2007) and employing the bounds testing approach within an ARDL framework, our study results reveal that OFC in Vanuatu did not contribute to economic growth. Further, since OFC institutions are prohibited from dealing with citizens and domestic financial sector, any interaction between OFC and domestic financial institutions did not significantly impact growth. Thus, the conclusion is clear: reliance on OFC for Vanuatu's economic growth is misplaced.

The study results point out the direction towards which the country should now move. Government should tax the profits of OFC institutions. Introduction of direct taxation would in no way discourage OFC to continue their operations as there are many flourishing jurisdictions, including Hong Kong and Singapore which have both personal income and corporate profit taxes.

References

Asian Development Bank (2008). *Key Indicators of Asia and Pacific Developing Countries*, Manila: Asian Development Bank.

Bois-Singh, S. (2008). " Costs and Benefits of Adopting and Implementing New International Standards for the Operation and Regulation of the International Financial Services Sector in Vanuatu", *Journal of South Pacific Law*, 12(1); 17-38.

Demetriades, P. O., and Hussein, K. A. (1996), "Does Financial Development cause Economic Growth?", *Journal of Development Economics* (51): 387-411.

Dickey, D.A. and W.A. Fuller (1979), " Distribution of the estimators for autoregressive time series with a unit root", *Journal of the American Statistical Association*, 74: 427-431.

Engle, R. and Granger, C. (1987). "Co-integration and error correction: representation, estimation and testing: *Econometrica*, (55):, 251-276.

Hughes, H. and Sodhi, G (2006). *Annals of Aid: Vanuatu and the United States Millennium Chalenge Corporation",* Sydney: Center of independent Studies,

International Monetary Fund (2009*). Statement of an IMF Staff Mission at the Conclusion of the 2009 Article IV Discussions with Vanuatu*, Press Release 09/56, March 4, 2009.

International Monetary Fund (2008). *Vanuatu: Selected Issues and Statistical Appendixes.* Washington, D.C., December 2008.

Irandoust, M. and Ericsson, J. (2004). Are imports and exports cointegrated? An international comparison. Metroeconomica, (55), 49-64.

Jayaraman, T.K. and Choong, C.K. (2008). "Twin Deficits in Pacific Island Countries: A Case of Vanuatu", in J.R.Pillarisetti, *et al*. (eds). *Small Economies and Global Economics,* Chapter 27, New York: Nova Science Publishers: 389-407.

Jayaraman, T.K. and Ward, B (2006). "Aid Effectiveness in a Vulnerable Island Nation: An Empirical Study on Aid-Growth Nexus in Vanuatu", *Asia Pacific Development Journal*, 13 (2): 93-112.

Jayaraman, T.K. (1998). "Vanuatu's Offshore Financial Centre and its Impact on Growth", Michael Bowe *et.al*. (ed)., *Banking and Finance in Islands and Small States*, London: Cassells: 103-133.

Klan, A. (2008)." Vanuatu to ditch tax haven status?", *The Australian,* May 6, 2008.

King, Robert G., and Ross Levine (1993), "Finance, Entrepreneurship, and Growth: Theory and Evidence," *Journal of Monetary Economics* : 513– 542.

Narayan, P.K. and Smyth, R. (2006). The residential demand for electricity in Australia: an application of the bounds testing approach to cointegration. *Energy Policy*, 33: 467-474.

Ng, S. and Perron, P. (2001). Lag length selection and the construction of unit root tests with good size and power. *Econometrica,* (69): 1519-1554.

Pesaran, M.H., Shin, Y. and Smith, R. (2001). Bounds testing approaches to the analysis of level relationships. Journal of Applied Econometrics, (16): 289-326.

Reserve Bank of Vanuatu (2008). *Monetary Policy Statement 2008*, www.rbv.vu

Sharman, J (2008). *A Study for the Pacific Islands Forum on offshore Centers in Forum Island Countries: Assessing the Impact of the 'US Stop Haven Abuse Act',* Suva; Pacific Islands Forum Secretariat

UN Economic and Social Commission (UNESCAP) (2008). *Annual Economic and Social Survey 2008*, Bangkok: UN ESCAP.

UN ESCAP (2009). *Annual Economic and Social Survey 2009*, Bangkok: UN ESCAP.

Van Fossen (2008). "Why are tax havens in small states "in J.R.Pillarisetti, *et al*. (eds). *Small Economies and Global Economics*, Chapter 27, New York: Nova Science Publishers: 221-232.

Van Fossen, A. (2002). "Offshore financial centres and internal development in the Pacific islands", *Pacific Economic Bulletin*, 17(1), 38-62.

Working Papers series

2010/WP:

4 T. K. Jayaraman and Chee-Keong Choong "*Role of Offshore Financial Center Institutions in Vanuatu"*

3 T. K. Jayaraman and Chee-Keong Choong "*Contribution of Foreign Direct Investment and Financial Development to Growth Pacific island Countries: Evidence from Vanuatu"*

2 T. K. Jayaraman, Chee-Keong Choong, Ronald Kumar "Nex*us between Remittances and Growth in Pacific Islands: A Study of Tonga"*

1 Azmat Gani "*Economic Development And Women's Well Being: Some Empirical Evidence From Developing Countr*ies"

2009/WP:

17 Azmat Gani "*Economic Development And Women's Well Being: Some Empirical Evidence From Developing Countries*"

16 T K Jayaraman "*How did External and Internal Shocks Affect Fiji? An Empirical Study: 1970-2008"*

15 T.K Jayaraman "*A Note on Measuring Liquidity in Fiji's Banking System: Two Procedures"*

14 T.K Jayaraman and Evan Lau "*AID and Growth in Pacific Island Countries: A Panel Study"*

13 T. K. Jayaraman and Chee-Keong Choong "*Shocking" Aspects of Globalization and Pacific Island Countries: A Study of Vanuatu*

12 P.J.Stauvermann and G.C. Geerdink *"A Pleading for Policy - independent Institutional Organisation"*

11 P.J. Stauvermann and G.C. Geerdink "*Competition between Regions with regard to Subsidies"*

10 P.J. Stauvermann, G.C. Geerdink and A.E. Steenge "*Innovation, Herd Behaviour and Regional Development"*

9 T. K. Jayaraman, Chee-Keong Choong and Ronald Kumar "*Nexus between Remittances and Economic Growth in Pacific Island Countries: A Study of Samoa"*

8 Azmat Gani and Saia Kami "*Food prices and health outcomes in Pacific Island Countries"*

7 Biman C. Prasad "*Sustaining Development in Pacific Island Countries in a Turbulent Global Economy"*

6 T.K Jayaraman "*Monetary Policy Response of Pacific Island Countries to Global Economic Downturn"*

5 Peter J. Stauvermann and Sunil Kumar "*Can the Fijian Economy Gain from Ethanol Production?"*

4 T.K.Jayaraman and Chee-Keong Choong "*Monetary Policy Transmission Mechanism in Vanuatu"*

3 T.K.Jayaraman and Chee-Keong Choong "*How does Monetary Policy Work in Solomon Islands?"*

2 T.K.Jayaraman and Chee-Keong Choong, "*Monetary Policy Transmission Mechanism in Vanuatu"*

1 T.K.Jayaraman and Chee-Keong Choong, "*Is Money Endogenous In The Pacific Island Countries?"*

2008/WP:

20 T.K.Jayaraman and Evan Lau, *Rise in Oil price and Economic growth in Pacific Island: An Empirical Study.*

19 T.K.Jayaraman and Chee-Keong Choong, *External current account and domestic imbalances in Vanuatu: A Study on Causality Relationships*.

18 T.K.Jayaraman and Chee-Keong Choong, *Channels of Monetary policy Transmission mechanism in pacific island countries: A Case Study of Fiji: 1970-2006.*

17 T.K.Jayaraman and Chee-Keong Choong, *Impact of high oil price on Economic Growth in small Pacific island countries.*

16 T.K. Jayaraman and Evan Lau, *Causal Relationships between current account Imbalances and budget deficits in Pacific island countries: A panel Cointegration Study.*

15 T.K. Jayaraman, *Do Macroeconomic Fundamentals Influence External Current Account Balances?*

14 T.K. Jayaraman and Chee-Keong Choong*, Is Fiji's Real Exchange Rate Misaligned.*

13 T.K.Jayaraman, Chee-Keong and Siong-Hook Law, *Is Twin Deficit Hypothesis in Pacific Island Countries valid? An Empirical Investigation.*

12 Tauisi Taupo, *Estimating the production function for Fiji.*

11 Tauisi Taupo, *Estimating demand for money in Philippines*.

10 Filipo Tokalau, *The Road that is; for whom and why: Impacts of tourism Infrastructural development on Korotogo Village, Fiji islands.*

9 Mahendra Reddy, *Sequential Probit modeling of the determinants of child Labour: Is it a case of luxury, distributional or Substitution Axiom?*

8 Neelesh Gounder, Mahendra Reddy and Biman C. Prasad, *Support for Democracy in the Fiji Islands: Does Schooling Matter?*

7 Sunil Kumar*, Fiji's declining formal sector economy: Is the informal sector an answer to the declining economy and social security?*

6 T K Jayaraman and Evan Lau, *Does External Debt Lead to Economic Growth in the Pacific Island Countries: An Empirical Study*

5 Gyaneshwar Rao, *The Relationship between Crude and Refined Product Market: The Case of Singapore Gasoline Market using MOPS Data*

4 Bill B Rao and Saten Kumar, *A Panel Data Approach to the Demand for Money and the Effects of Financial Reforms in the Asian Countries.*

3 Bill B Rao and Rup Singh, *Contribution of Trade Openness to Growth in East Asia: A Panel Data Approach.*

2 Bill B Rao, Rup Singh and Saten Kumar, *Do We Need Time Series Econometrics?*

1 Rup Singh and Biman C Prasad, *Small States Big Problems Small Solutions from Big Countries.*

2007/WP:

24 Biman C Prasad*, Changing Trade Regimes and Fiji's Sugar Industry: Has the Time Run-out for Reform or is there a Plan and Political Will to Sustain it?*

23 B Bhaskara Rao and Rup Singh, *Effects of Trade Openness on the Steady State Growth Rates of Selected Asian Countries with an Extended Exogenous Growth Model.*

22 T K Jayaraman and Jauhari Dahalan, *How Does Monetary Policy Transmission Mechanism Work in Samoa?*

21 T K Jayaraman and Chee-Keong Choong*, More on "Shocking Aspects" of A Single Currency For Pacific Island Countries: A Revisit*

20 Biman C Prasad, *Economic Integration and Labour Mobility: Are Australia and New Zealand Short-Changing Pacific Forum Island Countries?*

19 T K Jayaraman and C K Choong, *Monetary Policy Transmission Mechanism In The Pacific Islands: Evidence From Fiji.*

18 K L Sharma, *High-Value Agricultural Products of The Fiji Islands: Performance, Constraints And Opportunities*

17 Saten Kumar, *Income and Price Elasticities of Exports in Philippines.*

16 Saten Kumar Determinants of Real Private Consumption in Bangladesh

15 K.L Sharma, *Public Sector Downsizing in the Cook Islands: Some Experience and Lessons*

14 Rup Singh and B C Prasad, *Do Small States Require Special Attention or Trade Openness Pays-off.*

13 Rup Singh, *Growth Trends and Development Issues in the Republic of Marshall Islands.*

12 B. Bhaskara Rao and G Rao, *Structural Breaks and Energy Efficiency in Fiji.*

11 Rup Singh, *Testing for Multiple Endogenous Breaks in the Long Run Money Demand Relation in India*

10 B.B Rao, Rukimini Gounder and Josef Leoning, *The Level And Growth Effects in the Empirics of Economic Growth: Some Results With Data From Guatemala*

9 B. Bhaskara Rao and K.L Sharma, *Testing the Permanent Income Hypothesis in the Developing and Developed Countries: A Comparison Between Fiji and Australia.*

8 T. K Jayaraman and Chee K Choong, *Do Fiscal Deficits Cause Current Account Deficits In The Pacific Island Countries? A Case Study of Fiji*

7 Neelesh Gounder and Mahendra Reddy, *Determining the Quality of Life of Temporary Migrants using Ordered Probit Model.*

6 T K Jayaraman, *Fiscal Performance and Adjustment in the Pacific Island Countries: A Review.*

5 Yenteshwar Ram and Biman C Prasad Assessing, *Fiji' Global Trade Potential Using the Gravity Model Approach.*

4 Sanjesh Kumar and Biman C Prasad, *Contributions of Exports of Services Towards Fiji's Output*

3 Paresh Kumar Narayan, Seema Narayan, Biman Chand Prasad and Arti Prasad, *Tourism and Economic Growth: a Panel Data Analysis for Pacific Island Countries*

2 T.K. Jayaraman and Chee-Keong Choong, *Will External Borrowing Help Fiji's Growth.*

1 Arti Prasad Paresh Kumar Narayan and Biman Chand Prasad, *A Proposal for Personal Income Tax Reform For The Fiji Islands*

2006/WP:

34 Paresh K Narayan and Arti Prasad, *Modelling Fiji-US Exchange Rate Volatility.*

33 T.K. Jayaraman and Chee-Keong Choong, *Why is the Fiji Dollar Under Pressure?*

32 T.K. Jayaraman and Baljeet Singh, *Impact of Foreign Direct Investment on Employment in Pacific Island Countries: An Empirical Study of Fiji*

31 B. Bhaskara Rao and Toani B Takirua, *The Effects of Exports, Aid and Remittances on Output: The Case of Kiribati*

30 B. Bhaskara Rao and Saten Kumar, *Cointegration, Structural Breaks and the Demand for Money in Bangladesh*

29 Mahendra Reddy, *Productivity and Efficiency Analysis of Fiji's Sugar Industry.*

28 Mahendra Reddy, *Preferential Price and Trade Tied Aid: Implications on Price Stability, Certainty and Output Supply of Fiji's Sugarcane*.

27 Maheshwar Rao, *Challenges and Issues in Pro-Poor Tourism in South Pacific Island Countries: The Case of Fiji Islands*

26 TK Jayaraman and Chee-Keong Choong, *Structural Breaks and the Demand for Money in Fiji*

25 B. Bhaskara Rao and Saten Kumar, *Structural Breaks and the Demand for Money in Fiji*

24 Mahendra Reddy, *Determinants of Public Support for Water Supply Reforms in a Small Developing Economy.*

23 Mahendra Reddy, *Internal Migration in Fiji: Causes, Issues and Challenges.*

22 Mahendra Reddy and Bhuaneshwari Reddy, *Analyzing Wage Differential by Gender Using an Earnings Function Approach: Further Evidence from a Small Developing Economy.*

21 Biman C. Prasad Trade*: "WTO DOHA Round: An Opportunity or a Mirage for Fiji.*

20 Benedict Y. Imbun, *Review of Labour Laws in Papua New Guinea*

19 Benedict Y. Imbun, *Review of Labour Laws in Solomon Islands*

18 Rup Singh Cointegration, *Tests on Trade Equation: Is Devaluation an Option for Fiji?*

17 Ganesh Chand, *Employment Relations Bill: An Analysis.*

16 TK Jayaraman and Chee-Keong Choong, *Public Debt and Economic Growth in the South Pacific Islands: A Case Study of Fiji*

15 TK Jayaraman and Chee-Keong Choong, *Aid and Economic Growth in Pacific Islands: An Empirical Study of Aid Effectiveness in Fiji.*

14 Rup Singh, *A Macroeconometric Model for Fiji.*

13 Rup Singh and Saten Kumar, *Private Investment in Selected Asian Countries.*

12 Ganesh Chand, *The Labour Market and Labour Market Laws in Fiji*

11 Carmen V-Graf, *Analysis of Skilled Employment Demand and Opportunities in the Pacific Labour Market*

10 Philip Szmedra, Kanhaiya L Sharma and Cathy L Rozmus, *Health Status, Health Perceptions and Health Risks Among Outpatients with Non-communicable Diseases in Three Developing Pacific Island Nations*

9 Heather Booth, Guangyu Zhang, Maheshwar Rao, Fakavae Taomia and Ron Duncan, *Population Pressures in Papua New Guinea, the Pacific Island Economies, and Timor Leste*

8 Mahendra Reddy, *Technical efficiency in Artisanal Fisheries: Evidence from a Developing Country.*

7 Paresh K Narayan and Biman C Prasad, *Macroeconomic Impact of the Informal Sector in Fiji*

6 Biman C Prasad, *Resolving The Agricultural Land Lease Problem in The Fiji Islands; Current Discussions and The Way Forward.*

5 Rup Singh & Saten Kumar, *Demand For Money in Developing Countries: Alternative Estimates and Policy Implications.*

4 B. Bhaskara Rao, Rup Singh & Fozia Nisha, *An Extension to the Neoclassical Growth Model to Estimate Growth and Level effects*.

3 Rup Singh & Saten Kumar, *Cointegration and Demand for Money in the Selected Pacific Island Countries.*

2 B. Bhaskara Rao & Rup Singh, *Estimating Export Equations.*

1 Rup Singh, *An Investment Equation for Fiji*

2005/WP:

27 Neelesh Gounder & Biman C. Prasad, *What Does Affirmative Action Affirm: An Analysis of the Affirmative Action Programmes for Development in the Fiji Islands*

26 B.Bhaskara Rao, Fozia Nisha & Biman C. Prasad *The Effects of Life Expectancy on Growth*

25 B. Bhaskara Rao, Rup Singh, & Neelesh Gounder, *Investment Ratio in Growth Equations*

24 T.K. Jayaraman, *Regional Economic Integration in the Pacific: An Empirical Study*

23 B. Bhaskara Rao & Maheshwar Rao, *Determinants of Growth Rate: Some Methodological Issues with Time Series Data from Fiji*

22 Sukhdev Shah, *Exchange Rate Targeting of Monetary Policy*

21 Paresh Narayan and Baljeet Singh, *Modeling the Relationship between Defense Spending and Economic Growth for the Fiji Islands*

20 TK Jayaraman, *Macroeconomics Aspects of Resilence Building in Small States*

19 TK Jayaraman, *Some "Shocking Aspects" of a Regional Currency for the Pacific Islands.*

18 Bimal B. Singh and Biman C. Prasad, *Employment-Economic Growth Nexus and Poverty Reduction: An Empirical Study Based on the East Asia and the Pacific Region*

17 Biman C. Prasad and Azmat Gani, *Savings and Investment Links in Selected Pacific Island Countries*

16 T.K. Jayaraman, *Regional Integration in the Pacific.*

15 B. Bhaskara Rao, *Estimating Short and Long Run Relationships: A Guide to the Applied Economist.*

14 Philip Szmedra, KL Sharma, and Cathy L. Rozmus, *Managing Lifestyle Illnesses in Pacific Island States: The Case of Fiji, Nauru and Kiribati.*

13 Philip Szmedra and KL Sharma, *Lifestyle Diseases and Economic Development: The Case of Nauru and Kiribati*

12 Neelesh Gounder, *Rural Urban Migration in Fiji: Causes and Consequences.*

11 B. Bhaskara & Gyaneshwar Rao, *Further Evidence on Asymmetric US Gasoline Price Responses*

10 B. Bhaskara Rao & Rup Singh, *Demand for Money for Fiji with PC GETS*

9 B. Bhaskara Rao & Gyaneshwar Rao, *Crude Oil and Gasoline Prices in Fiji: Is the Relationship Asymmetric?*

8 Azmat Gani & Biman C. Prasad, *Fiji's Export and Comparative Advantage.*

7 Biman C. Prasad & Paresh K Narayan, *Contribution of the Rice Industry to Fiji's Economy: Implication of a Plan to Increase Rice Production*

6 Azmat Gani, *Foreign Direct Investment and Privatization.*

5 G. Rao, *Fuel Pricing In Fiji.*

4 K. Bunyaratavej & Tk Jayaraman, *A Common Currency For The Pacific Region: A Feasibility Study.*

3 Sukhdev Shah, *Kiribati's Development: Review And Outlook.*

2 T.K. Jayaraman, B.D. Ward, Z.L. Xu, *Are the Pacific Islands Ready for a Currency Union? An Empirical Study of Degree of Economic Convergence*

1 T.K. Jayaraman, *Dollarisation of The South Pacific Island Countries: Results Of A Preliminary Study*

2004/WP:

15 Vincent D. Nomae, Andrew Manepora'a, Sunil Kumar & Biman C. Prasad, *Poverty Amongst Minority Melanesians In Fiji: A Case Study Of Six Settlement*

14 Elena Tapuaiga & Umesh Chand, *Trade Liberalization: Prospects and Problems for Small Developing South Pacific Island Economies*

13 Paresh K. Narayan, Seema Narayan & Biman C. Prasad, *Forecasting Fiji's Exports and Imports, 2003-2020*

12 Paresh K. Narayan & Biman C. Prasad, *Economic Importance of the Sugar Industry in Fiji: Simulating the Impact of a 30 Percent Decline in Sugar Production.*

11 B. Bhaskara Rao & Rup Singh, *A Cointegration and Error Correction Approach to Demand for Money in Fiji: 1971-2002.*

10 Kanhaiya L. Sharma, *Growth, Inequality and Poverty in Fiji Islands: Institutional Constraints and Issues.*

9 B. Bhaskara Rao, *Testing Hall's Permanent Income Hypothesis for a Developing Country: The Case of Fiji.*

8 Azmat Gani, *Financial Factors and Investment: The Case of Emerging Market Economies.*

7 B. Bhaskara Rao, *The Relationship Between Growth and Investment.*

6 Wadan Narsey, PICTA, PACER and EPAs: *Where are we going? Tales of FAGS, BOOZE and RUGBY*

5 Paresh K. Narayan & Biman C. Prasad, *Forecasting Fiji's Gross Domestic Product, 2002-2010.*

4 Michael Luzius, *Fiji's Furniture and Joinery Industry: A Case Study*.

3 B. Bhaskara Rao & Rup Singh, *A Consumption Function for Fiji.*

2 Ashok Parikh & B. Bhaskara Rao, *Do Fiscal Deficits Influence Current Accounts? A Case Study of India.*

1 Paresh K. Narayan & Biman C. Prasad, *The Casual Nexus Between GDP, Democracy and Labour Force in Fiji: A Bootstrap Approach.*

2003/WP:

11 B. Bhaskara Rao & Rup Singh, *Demand For Money in India: 1953-2002.*

10 Biman C. Prasad & Paresh K. Narayan, *Fiji Sugar Corporation's Profitability and Sugar Cane Production: An Econometric Investigation, 1972-2000.*

9 B. Bhaskara Rao, *The Nature of The ADAS Model Based on the ISLM Model*.

8 Azmat Gani, *High Technology Exports and Growth – Evidence from Technological Leader and Potential Leader Category of Countries.*

7 TK Jayaraman & BD Ward, *Efficiency of Investment in Fiji: Results of an Empirical Study.*

6 Ravinder Batta, *Measuring Economic Impacts of Nature Tourism.*

5 Ravinder Batta, *Ecotourism and Sustainability*.

4 TK Jayaraman & Rajesh Sharma, *Determinants of Interest Rate Spread in the Pacific Island Countries: Some Evidence From Fiji.*

3 T.K. Jayaraman & B.D. Ward, *Is Money Multiplier Relevant in a Small, Open Economy? Empirical Evidence from Fiji.*

2 Jon Fraenkel, *The Coming Anarchy in Oceania? A Critique of the `Africanisation' of the South Pacific Thesis.*

1 T.K. Jayaraman, *A Single Currency for the South Pacific Island Islands: A Dream or A Distant Possibility?*