EFFICACY OF FISCAL AND MONETARY POLICIES IN THE SOUTH PACIFIC ISLAND COUNTRIES: SOME EMPIRICAL EVIDENCE

T.K. Jayaraman
(Senior Lecturer, Economics Department,
The University of the South Pacific, Suva, Fiji Islands)

Introduction

Since their independence in the early and mid-seventies, the South Pacific Island Countries (SPICs) have been pursuing fiscal and monetary policies for promoting growth and diversification of their economies. Their fiscal policies in the past were influenced by plentiful supply of foreign savings. Annual budgets were supported by grants from former colonial rulers for both recurrent expenditures such as wages and salaries and capital expenditures for investment in physical infrastructures (Jayaraman - 1995a, Jayaraman 1996a and Jayaraman 1997). The impact of fiscal and monetary policies on economic growth in SPICs appears to be uncertain, as there have been a number of factors, which are beyond the control of the decision-makers. The negative effects of physical limitations such as small resource base, long distances from external markets and limited export possibilities are now being overcome by increased efforts towards diversification into new and emerging economic activities of service-oriented nature, including tourism and off-shore finance centres. However, the single most important constraint to steady growth has been the annual occurrence of cyclones. Under these circumstances, it would be of interest to undertake an empirical investigation of the impact of fiscal and monetary policies on growth, which is the objective of this paper. The data limitations in terms of both availability and completeness have restricted the choice of the island nations to four: Fiji, Samoa, Tonga and Vanuatu. The paper is organised into three sections. The first section discusses some recent developments in the selected four SPICs, which would serve as a background for the analysis; the second section outlines the model adopted for the empirical analysis and presents the results; and the last section offers some conclusions and examines policy implications.

TABLE 1: Annual GDP Growth Rates (percent)

Country	Average 1981-1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Fiji	1.7	4.9	2.2	3.9	1.4	4.4	-1.7	-1.3	9.6	-3.4
Samoa	-0.8	-0.9	6.3	-7.8	9.6	7.0	1.6	3.4	5.3	7.0
Tonga	1.5	0.2	3.8	4.7	2.6	1.6	-1.4	2.5	3.5	5.3
Vanuatu	2.3	1.0	4.0	2.6	3.2	3.0	0.2	-0.1	-3.0	2.8

Source:Asian Development Bank (2000) UN ESCAP (2001)

I. Background

Economic Growth

The economic performance of the SPICs during the past two decades has been dismal. While similarly placed island countries in the Caribbean and the Indian Ocean have grown during this period at 3.2 percent and 5.4 percent per annum, the SPICs registered an annual growth rate of 2.2 percent (World Bank 1995). Further, there have been considerable year to year fluctuations in growth rates of all the four countries under study (Table 1). If the population growth is taken into consideration, the annual growth rate of per capita real gross domestic product (RGDP) in the SPICs was only 0.5 percent as compared to 2.3 percent in the Caribbean countries and 3.4 percent in the Indian Ocean island nations (World Bank 1995).

TABLE 2: Macroeconomic Key Indicators (1981-1999)				
	Fiji	**Tonga**	**Vanuatu**	**Samoa**
Government Expenditure as percent of GDP	33.9	25.6	44.9	113.4
Annual Change in Govt. Expenditure as percent	6.4	16.1	3.2	13.2
Fiscal Balance as percent of GDP	-3.0	-1.5	-3.5	-4.9
Inflation Rate (percent)	6.8	11.5	8.2	10.5
M2 as percent of GDP	45.6	27.4	81.8	33.6
Change in M2 (percent)	11.6	13.1	14	18.4
Foreign Grants as percent of GDP	4.9	20.4	31.1	35.7
Exports as percent of GDP	30.5	9.6	20.2	12.3
Annual Exports Growth Rate (percent)	13.1	11.3	3.2	11.7
Source: Asian Development Bank (2000)				

Barring Fiji, all the SPICs have been receiving substantial support under ODA. Fiji's dependency on foreign aid is much less compared to that of other SPICs, as it was only 4.9 percent of GDP. The corresponding proportions for Samoa, Tonga and Vanuatu are 35.7 percent, 20.4 percent and 31.1 percent respectively (Table 2). Considering that the levels of ODA flows to the SPICs have been relatively high and most of the aid was directed towards public sector operations, the poor economic growth in the SPICs has been labelled by the World Bank (1993) as a "Pacific paradox". Legitimate concerns have therefore been raised in regard to the fiscal policies pursued in general and, in particular, about the quality of public sector investments, their implementation and operations after completion. In addition, both multilateral and bilateral donors have questioned the prevailing policy environment, macroeconomic and political, especially with reference to governance issues, which appeared to be less conducive for private sector development. Among the four selected countries for study, Fiji's growth performance since the mid-eighties was marked by weak investor confidence. Samoa staged a major comeback in the mid nineties after two cyclones, *Ofa* and *Val* in 1991 and 1992 destroyed nearly half the country's resource base, giving rise to negative growth rates in 1991 and 1992. Another year of negative growth in Samoa was 1994, when its major staple and export crop *taro* was afflicted by leaf blight. Tonga's growth has been fluctuating throughout the two decades. Vanuatu would have done much better than the other three with its increasing exports of beef, expanding tourism and impressive off-shore finance centre (OFC) activities, but for the governance issues faced by the country in recent years (Jayaraman 1998).

Table 3 : Exports and Export Growth Rates: 1991-1995

Annual Growth Rate of Exports (per cent)

Country	1991	1992	1993	1994	1995
Fiji	-9.1	0.3	3.7	15.6	8.8
Samoa	-24.4	-7.7	15.4	-44.8	140
Tonga	40.5	-19.1	25.9	-19.2	1.7
Vanuatu	-7.3	31.1	3.0	5.5	9.0

Exports as percentage of GDP (percent)

Country	1991	1992	1993	1994	1995
Fiji	36.2	33.3	31.9	32.3	37.0
Samoa	5.8	5.6	2.8	5.9	5.9
Tonga	12.4	9.4	11.0	8.5	8.4
Vanuatu	10.6	13.0	12.6	12.2	12.2

Source: Asian Development Bank (2000)

Export Performance

Exports of goods and services, including traditional exports of sugar from Fiji in particular, and copra, root crops, tropical fruits and vegetables in general for all SPICs, besides tourism earnings have continued to be crucial to economic growth in the SPICs. They have now assumed greater significance once annual flows of foreign grants started to decline in the late eighties. To pay for increased imports for both consumer goods, including rice and wheat for the expanding urban population who have been shifting their tastes from traditional root crops to storable grains, and capital and intermediate goods, the SPICs have to earn greater foreign exchange. In addition, the rising external debt servicing requirements have also highlighted the need for stepping up export earnings (Jayaraman 1996a). Among the four countries, only Fiji has some basic manufacturing capacity and its diversification efforts have enabled to increase its production of consumer goods such as biscuits and flour, cooking oil and other household consumption goods. Fiji is now exporting some of its manufactured goods to its neighbours in

the region. In addition, the newly emerging exports such as gold, garments and spices have contributed to keep up Fiji's total exports at a fairly high level. Its export earnings have been around 30 percent of GDP in the last decade and now it is about 37 percent. The rate of growth of exports has however, not been so steady. Natural disasters have been adversely affecting its natural resource based exports, especially sugar (Table 3). Since the other four SPICS have much less manufacturing capacity, they have to continue depending upon their traditional primary exports such as copra, root crops and tropical fruits and vegetables. Fall in overseas demand for copra products and decline in their world prices led to general decreases in their overall exports which would explain the shrinking proportions of exports in GDP of Samoa, Tonga and Vanuatu. The annual average ratios of exports to GDP during the last decade which were about 12 percent in Samoa, 10 percent in Tonga, and 20 percent in Vanuatu declined to 5.9 percent, 8.5 percent and 12.2 percent respectively in 1995. To some encouraging extent, both Samoa and Vanuatu have been successful in diversifying their exports during recent years. Samoa has been attracting overseas investors to exploit its cheap labour for undertaking auto wire manufacturing for exports, mainly to Australia, while Vanuatu has concentrated on beef exports to Japan by developing cattle ranches,

Fiscal Policy

As noted earlier, fiscal policy has been the major policy instrument for macroeconomic management. However, it has been found to be a clumsy instrument with its attendant delays in the start-up of public sector investment projects, which are usually associated with preparation and floatation of tender documents and approvals of contracts as well as uncertain impacts due to lags in their implementation (Treadgold 1992). Government expenditures in all the four countries are heavily oriented towards maintaining their large bureaucracies inherited from colonial days. Traditionally government has been the largest employer, as it was involved not only with public utilities but also with various enterprises of commercial nature such as government marketing activities and government undertakings such as hotels, and tourist duty free shops. Inefficiently run public enterprises have also contributed to a heavy drain on the public exchequers each year. At the same time, the tax burden has been larger, especially with respect to high import tariffs (Rumbaugh 1997). Since Vanuatu has no income tax, it has to depend only upon indirect taxation. With a view to improving private sector activity through reductions in tax and tariff rates, the governments have been considering improvements in tax administration and introduction of value added taxes.

Public Sector Reforms

In the last decade, total government expenditures ranged from about 113 percent of GDP in Samoa and 26 percent of GDP in Tonga. Structural adjustment measures initiated in Samoa in the late 1980s at the behest of the International Monetary Fund (IMF) and ADB, led to reduction in public sector expenditures, including the closure of some inefficient enterprises and privatisation of some of the viable public enterprises. In Fiji, similar efforts as part of deregulation measures towards liberalising the economy initiated since 1990 were also aimed at public sector reforms. Tonga introduced major reforms in the early nineties, which included the discontinuance of the commodity marketing board and privatisation of export trade in copra, fruits and vegetables. Although in Vanuatu, public utilities such as power and water supply have already been in the private sector, the commodity marketing board for exports is still in the public sector and has been incurring heavy losses each year. In addition, there are a number of poorly run commercial undertakings in the public sector such as fisheries, cocoa plantations and

ranches which have proved to be a drag on government finances. Vanuatu has recently launched far reaching public sector reforms, including downsizing of the civil service and tax reforms with ADB's assistance under a structural adjustment loan programme.

TABLE 4 : Fiscal and Monetary Policy Indicators: FIJI

	1991	1992	1993	1994	1995
Gov't Expenditure as percent of GDP	33.1	34.1	35.8	33.9	34.5
Annual Change in Govt Expenditure (percent)	11.8	7.0	9.1	-0.8	3.1
Fiscal Balance as percent of GDP M2 as percent	-1.6	24.7	-5.7	-3.2	-3.8
M2 as percent of GDP	63.4	65.8	65.1	64.2	64.9
Changes in M2 (percent)	15.6	14.1	6.4	3.0	4.7
Inflation (percent)	6.5	4.9	5.2	0.6	2.2

Source: Asian Development Bank (1996) Author's

Despite the initiatives towards major re-hauling of the public sector, government expenditures as ratios of GDP in the 1990s have remained almost at the same levels as during the 1980s. Persistent budgetary deficits have marked the public finances of all the four SPICs, except for a few years in Fiji. Fiji achieved some measure of success not only in reducing the size of annual budget deficits over the period but also in registering some budgetary surpluses in 1992 and 1995 (Table 4) and this was achieved by cutting new investment expenditures rather than the recurring expenditures. Samoa had to implement cyclone rehabilitation works in 1992 and 1993 and as a result its government expenditure rose annually at 20.4 percent in 1992 and 18.7 percent in 1993, which was followed by declines in 1994 and 1995 (Table 5). Although Tonga made serious efforts during the 1990s to reduce the annual rise in public expenditures, the results were mixed as there have been periodical surges (Table 6). Vanuatu, which experienced a low annual rate of rise in government expenditure at 3.2 percent during the 1980s, managed to achieve a decline in public expenditures in 1991 and 1992 (Table 7). However, due to aggressive domestic borrowing under the newly adopted Special Implementation Scheme in the mid-nineties, the percentage rise in expenditure was at its highest (8.8 percent) in 1995. The overall fiscal balances as ratios of GDP, during the 1980s were all negative for the four SPICs. The situation was no better during the 1990s. In 1995, Samoa had the highest fiscal deficit at 27.8 percent of GDP, followed by Vanuatu (11.1 percent), Tonga (5.9 percent) and Fiji (3.8 percent).

TABLE 5: Fiscal and Monetary Policy Indicators : Samoa

	1991	**1992**	**1993**	**1994**	**1995**
Gov't Expenditure as percent of GDP	32.3	70.3	77.3	60.9	51.0
Annual Change in Govt Expenditure (percent)	4.9	20.4	18.7	-14.9	-17.8
Fiscal Balance as percent of GDP	-5.7	-29.3	-35.9	-21.2	-27.8
M2 as percent of GDP	44.2	43.4	41.6	42.9	45.6
Changes in M2 (percent)	26.3	41.5	44.0	41.6	37.9
Inflation (percent)	-1.8	9.0	1.8	18.4	1.1

Source: Asian Development Bank (1996) Author's Calculations

Monetary Policies

The use of monetary policy suffers from the limitations imposed by the presence of a large subsistence sector. Since the remote islands are yet to be fully integrated with the urban sectors, the monetisation process happens to be slow and gradual, which is indicated by gradual increases in the ratio of currency and checking deposits plus quasi money (M2) to GDP. In Fiji, it has grown from 45.6 percent in the last decade to 65 percent in 1995 (Table 3 and Table 4). Similarly in the other SPICs under study, there have been rising trends in monetisation over the last ten-year period. However, it will be of interest to observe that in Vanuatu the ratio has been at a very high level (more than 100 percent) as compared to the ratios in the other three SPICs. It appears that OFC institutions of Vanuatu and overseas residents must be lodging some of their funds with Vanuatu's commercial banks as long term deposits, taking advantage of its tax haven status.

Since the deregulation process initiated in the late 1980s, interest rates in all SPICs have been free from government controls. However, the large interest rate spread between deposit and lending rates charged by commercial banks which have been observed to have hindered growth in financial intermediation, appear to be due in part to a less than perfect competitive environment (Rumbaugh 1997). The objectives of monetary policy have been mainly concerned with maintenance of adequate foreign exchange reserves and price stability. The four SPICs have adopted a fixed rate regime, under which national currencies are pegged to a basket of currencies of their major trading partners. Therefore, the effectiveness of monetary policy is limited for the reason that any internal dis-equilibrium is quickly transmitted into pressures on external reserves. The available empirical evidence indicates that the monetary approach to balance of payments seems to be generally valid in the case of the SPICs (Jayaraman 1993).

TABLE 6 : Fiscal and Monetary Policy Indicators: TONGA

	1991	1992	1993	1994	1995
Gov't Expenditure as percent of GDP	33.9	31.0	23.3	23.3	26.0
Annual Change in Govt Expenditure (percent)	6.3	7.8	-2.3	1.0	10.1
Fiscal Balance as percent of GDP	-7.8	-4.8	-2.4	-0.2	-5.9
M2 as percent of GDP	25.5	29.1	25.6	26.7	30.5
Changes in M2 (percent)	8.9	22.8	-5.4	8.9	16.9
Inflation (percent)	10.6	8.0	0.9	1.1	1.4

Source: Asian Development Bank (1996)

Greater concern with price stability in the past seemed to have influenced the exchange rate policy, as the overvalued exchange rates have helped to insulate domestic economy from imported inflation. However, an awareness that any deviation from the real exchange rate due to difference between domestic and overseas inflation rates hurts the competitiveness of exports, has forced policy makers to think in terms of greater flexibility in manipulating exchange rates (Jayaraman 1997). The central banks in the four SPICs have been targeting monetary aggregates as part of their monetary strategy. A monetary budget is prepared ahead each year by estimating government budgetary needs and private sector credit requirements in line with projected real growth rate and price level change and estimates of external receipts (Siwatibau 1993). Additionally, with unexpected surges in net external assets experienced in recent years by SPICs in general and by Fiji, in particular, the role of monetary policy has been geared to absorb excess liquidity in the system. From the early 1990s onwards, the thrust of Fiji's monetary policy has been liquidity management and price stability. In the face of poor investment climate and excess liquidity, Fiji decided to reduce its foreign assets by retiring prematurely its external debt obligations and repaid most of its non-concessional debts. Thus, liquidity management has become the major focus of monetary policies in the SPICs

TABLE 7 : Fiscal and Monetary Policy Indicators: VANUATU

	1991	1992	1993	1994	1995
Gov't Expenditure as percent of GDP	38.4	33.4	31.5	38.0	37.5
Annual Change in Govt Expenditure (percent)	-6.7	-7.4	4.8	1.7	8.8
Fiscal Balance as percent of GDP	-13.9	-8.7	-8.2	-12.3	-11.1
M2 as percent of GDP	117.6	107.2	110.0	105.7	104.6
Changes in M2 (percent)	23.1	-2.7	9.8	4.5	6.9
Inflation (percent)	6.4	4.1	3.6	2.5	2.3

Source: Asian Development Bank (1996) Author's Calculations

The monetary policy instruments for regulating money supply in keeping with growth in GDP and for maintaining domestic price stability have been mainly direct, except in Fiji, which includes variations in statutory reserve deposits ratio, unimpaired liquid assets ratio and moral suasion. Notable success has been achieved in keeping inflation rates low in all the four countries (Tables 4 to 7). The role of monetary policy has been significantly circumscribed. As the financial sector is characterised by excess

liquidity, monetary authorities in the past have had to rely mainly on direct controls. Recently, there has been an encouraging trend in the use of indirect controls. With the introduction of Reserve Bank of Fiji (RBF) Notes in 1989 for absorbing excess liquidity and its continued success during the 1900s, other monetary authorities in the region began to emulate RBF's open market operations. Tonga and Samoa introduced indirect controls by issuing their own instruments in 1995 and Vanuatu followed in April 1997.

Table 8: Regression Results (Dependent Variable : Growth Rate (y)

Coefficient	Fiji (1980-1995) Eqn. 1	Fiji (1980-1995) Eqn. 2	Samoa (1983-1995) Eqn. 1	Samoa (1983-1995) Eqn. 2	Samoa (1983-1995) Eqn. 3	Samoa (1983-1995) Eqn. 4	Tonga (1983-1995) Eqn. 1	Tonga (1983-1995) Eqn. 2	Vanuatu (1984-1995) Eqn. 1	Vanuatu (1984-1995) Eqn. 2
Constant	3.207 (0.343)	3.074 (1.360)	0.947 (0.389)	0.555 (0.246)	0.715 (0.342)	0.631 (0.312)	1.791** (1.567)	1.901* (1.860)	3.268* (5.311)	3.211* (5.759)
m2	0.367* (2.036)	0.387* (2.402)	0.047 (-0.232)	0.017 (0.101)	- -	- -	0.177* (2.196)	0.169* (2.367)	0.089* (2.118)	0.819* (2.396)
f(-1)	-0.129 (-0.084)	- -	0.071 (0.635)	- -	0.058 (0.633)	- -	0.319 (0.289)	- -	-0.001 (-0.330)	- -
x	0.079** (1.450)	0.083** (1.473)	0.086** 1.564	0.065** (1.528)	0.081** (1.683)	0.065** (1.631)	0.062* (1.863)	0.065* (2.087)	0.046* (1.964)	0.042* (2.261)
Dummy for cyclone	-3.737* (-1.776)	-3.781* (-1.879)	-16.311* (-2.705)	-15.373* (-2.724)	-15.706* (-2.916)	-15.504* (-2.974)	-3.123** (-1.519)	-2.981** (-1.575)	-2.770* (-2.870)	-2.691* (-3.051)
Dummy for political stability	-2.902** (-1.365)	-3.105** (-1.585)	- -	- -	- -	- -	- -	- -	- -	- -
Adj. R square	0.348	0.4	0.407	0.446	0.469	0.501	0.418	0.477	0.621	0.663
F Ratio	2.6	3.501	3.061	4.227	4.54	7.032	3.157	4.656	5.5	8.215
DW	1.614	2.001	2.063	1.959	2.018	1.963	2.684	2.771	2.412	2.314

* Significant at 5 percent level by one tailed test ** Significant at 10 percent level by one tailed test
Source: Author's Calculations

However, as general financial markets in all the four SPICs are dominated by a few major players and there are no secondary markets in government and government agencies/central bank issued debt instruments, there is still a long way to go before developing an appropriate range of policy instruments. No doubt, excess liquidity would be reduced as these economies develop. In the meantime, management of excess liquidity will be typically supplemented by the use of unremunerated reserve requirements and liquid asset ratios (Rumbaugh 1997). It is worth noting here that in 1997, Fiji effected a change in its framework for the conduct of monetary policy by targeting interest rate rather than monetary aggregates, through its open market operations in RBF Notes and Treasury Bills (Morling and Singh 1997). It is too early to assess the impact of the change.

Challenges to central banks

The challenges posed by the governments' expansionary fiscal stances have created problems of governance as well, especially with reference to the autonomy of the central banks. The central banks of the region have to choose between adjusting various policy instruments to meet domestic credit requirements, including taking up public debt, in the event of the small-sized private sector and commercial banks not being in a position to do so. The central banks have been required to providing direct finance to the governments for bridging budgetary gaps. These actions result in restricting credit for the private sector. These also add to inflationary pressures. The implications of central bank financing are well known in terms of their impact on balance of payments and exchange reserves and ultimately on exchange rate.

As witnessed in Solomon Islands, the forced accommodation of annual budget deficits during 1992-1995 by the reluctant central bank via printing of money and the subsequent devaluation of exchange rate actually resulted in the imposition of a regressive inflation tax for financing budget deficits (Jayaraman 1994). The current public sector reform agenda, which has been put forward by donor agencies for consideration by the countries in the region include a mandatory requirement for involving the central banks in the governments' budgeting exercises at a fairly early stage to advise on the limits to public borrowings. Further, it has been recommended to set up a macroeconomic co-ordination committee with appropriate representation to central bank and planning agencies (Siwatibau 1993), for undertaking periodical reviews and for advice on policy measures.

II. The Model

The Modified St. Louis Equation

The model proposed to be employed for undertaking an investigation into the efficacy of fiscal and monetary policies on economic growth of the SPICs is based on the St. Louis model. Following the methodologies utilised in various studies (Andersen and Carlson 1970) and the analytical procedures adopted by Keran (1970), Batten and Hafer (1983), Dewald and Marchon (1978), Darrat (1984), Chowdhury (1988) and Bynoe (1994), testable hypotheses are formulated.

The hypotheses are that economic growth in each of the SPICs is dependent on the fiscal and monetary policies implemented; and growth is influenced by export performance. Economic growth is represented by annual percentage change in real GDP (y) while fiscal and monetary policies are proxied by annual percentage changes in real government expenditures (f) and real money supply (m). Government expenditures include both recurrent and investment expenditures, which signify size of government and capital expenditures. For money supply, the broad monetary aggregate (M2) in real terms is used, which includes the quasi-money component. The latter relates to the economy's financial savings, which are available for borrowing by the private sector for its investment purposes. Export performance is captured by percentage change in real exports of goods and services.

Dummy Variables

In addition to the above three quantitative variables, two qualitative variables are included in the model. They relate to cyclones and political stability. For each of the four SPICs, a dummy variable (D1) is included for capturing the adverse impact of cyclones on growth. D1 assumes the value of unity for the years, which witnessed the occurrence of one or more cyclones, and zero for other years when there was no cyclone. One more dummy variable (D2) is included, only for Fiji, which takes the value of unity for 1987 and the later years marking the two military coups and their lingering impact on political stability and the value of zero for years prior to 1987.

Proposed Lagged Structure

Considering the fact that the number of observations is small in the available time series data of each of the four SPICs, the number of degrees of freedom would pose a serious constraint. Therefore, it is decided not to introduce any sophisticated lag structure for estimating the regression equations. Monetary policy has been used mainly for the purpose of maintaining price stability with an eye on liquidity management. So, it is assumed that there is no lagged effect of changes in monetary policy envisaged and hence there is no lag introduced in the model in regard to the monetary policy variable. However, since fiscal policy would have a lagged effect on growth, because of delays

involved in the floatation of tenders and approval of contracts for public investment projects, one period lag is assumed in regard to the fiscal policy variable. The single equation proposed to be fitted by ordinary least squares method for each country is written as: $y_t = a_0 + b_1 f_{(t-1)} + b_2 m2_t + b_3 x_t + D1_t + D2_t + u_t$; where y = annual growth rate in real GDP; f = annual growth rate in real government expenditures; m2 = annual growth rate in real broad money; x = annual growth rate in real exports of goods and services; D1= dummy variable for cyclone; D2 =dummy variable for political stability; u = the error term; and t =period under consideration.

Data Source and Limitations

The data relating to monetary aggregates and price levels for the four countries are available from the early seventies. However, since the efforts to compile data on national income, government expenditures and related statistical information by the national authorities have been of recent origin, the time-series data utilised in the study relate only to a limited period. The source of annual time series data, which are employed for Fiji (1980-1995), Samoa (1983-1995) Tonga (1983-1995), and Vanuatu (1984-1995), is the *Key Economic Indicators for Developing Asian and Pacific Countries* (Asian Development Bank 2000). Since the time series data of economic variables are generally non-stationary in nature, unit root tests were conducted with a view to avoiding any spurious regression errors (Gujarati 1996). As the time series of data in levels were afflicted with unit roots problems, the procedure of using the growth rates, which were free from such problems, was resorted to.

Results of Regression Analyses

The results of regression analyses estimating the equations for the complete model are presented in Table 8. The explanatory power of the variables included in the estimated equation for each country varies. Considering the uncertain quality of the data used in the study, the level of statistical significance chosen for testing the hypotheses is 10 percent, rather than 5 or 1 percent used in similar studies elsewhere. Accordingly, the fits obtained are considered reasonably acceptable. Among the equations estimated, the adjusted R-square for the estimated equation emerged to be the highest for Vanuatu followed by the adjusted R-squares for the estimated equations for Tonga, Samoa and Fiji. The F-Ratios for all the four countries' estimated equations are satisfactory such that the null hypothesis of the vector of estimated coefficients in the equation being equal to zero can be rejected.

Among the four countries, Samoa is the only country, where it is shown that both monetary and fiscal policies did not have any impact on growth. In the estimated equation for Samoa, the calculated 't' values of the estimated coefficients of the rates of growth in real government expenditures and real M2 were not statistically significant at 10 percent level of significance. Both these variables were dropped and another equation retaining only the variable representing export performance and the dummy variable for cyclone was estimated. The Wald test conducted to test the significance of the omitted variables showed that in Samoa, the fiscal and monetary variables did not have any influence on growth and that only export performance and cyclones exerted significant positive and negative influences respectively on growth. The coefficients of the monetary policy variable in the full model were statistically significant at 5 percent level in the estimated equations for Fiji, Tonga and Vanuatu. However, the coefficients of the fiscal policy variable were found to be not significant even at 10 percent level. The non-significant fiscal policy variable was, therefore, omitted from the estimation procedure and another set of equations for these three countries were fitted. The estimated equations

emerged to be more acceptable. As regards the growth rates in real exports, the estimated coefficients of the variable emerged significant in the equations fitted for all the four SPICs. In all the estimated equations for the four countries, the dummy variable for cyclone emerged to be significant indicating that natural disasters have had an adverse influence on growth rates. In regard to Fiji, political instability had a negative impact on growth.

III. Summary and Conclusions

In this paper, an attempt was made to evaluate the impact of fiscal and monetary polices adopted by the governments in the SPICs on economic growth. The reduced form of St. Louis equation was modified to reflect the openness of the four SPICs by including their export performance as well as their proneness to periodical cyclones. The results of empirical analyses show that fiscal policies have not been effective in any of the four countries for promoting economic growth. In Samoa, in particular, both fiscal and monetary policies have had no influence on growth. On the other hand, natural factors, namely annual cyclones had a negative impact on growth in all the four island countries. In Fiji, Tonga and Vanuatu, monetary policy had a positive impact on growth. The findings are quite similar to the ones obtained elsewhere. In a study of five African countries (Ghana, Kenya, Nigeria, Sierra Leone and Tanzania) which are no doubt larger in size than the four SPICs, it was shown that monetary influences on economic growth were more potent (Bynoe 1994). Regardless of size, degrees of development in terms of financial market infrastructure and general governance appear to be more relevant. Hence, the results are comparable. The conclusion is fiscal policies have been found to be less effective.

The policy implications emerging from the study and relevant to the four SPICs are:

1. fiscal policy is ineffective because of the apparent delays and inefficiencies involved in the execution and operation of public sector projects;
2. it is not the size or annual increases in public expenditures that are important but the quality and the components of expenditure are of critical significance;
3. implementation of ongoing macroeconomic and structural reforms would facilitate financial sector development; and
4. growth in the primary and secondary markets for short-term debt instruments, would contribute to well-functioning systems for indirect instruments of the central banks in the region.

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