

Gounder, Rukmani; Xayavong, V.

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## Globalization and the island economies of the South Pacific

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Discussion Paper No. 2001/41

## **Globalization and the Island Economies of the South Pacific**

Rukmani Gounder and V. Xayavong\*

July 2001

### **Abstract**

This paper examines the impact of increasing integration of the island economies of the South Pacific into expanding international markets, particularly that of Fiji and the Solomon Islands. Since the 1980s, globalization of the world economy has altered dramatically the volume and character of international resource flow. This has provided small island economies financing for international transactions, competitiveness, and diffusion of international financial markets. Trade, capital mobility, foreign direct investment (FDI) and foreign aid flows have become an important feature for most of these economies. It is unclear whether the island economies in fact have benefited from the globalization of international markets. The paper empirically tests how capital flows (i.e. FDI, aid flows) savings, trade (exports, and imports) affect growth. Thus, evaluation of the macroeconomic impact for these economies suggests some policy implications for the island nations economic performance and growth.

Keywords: globalization, aid dependence, growth, South Pacific island economies.

JEL classification: F35, O11, O40, O56

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\* Department of Applied and International Economics, Massey University, Palmerston North, New Zealand

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## **Introduction**

The South Pacific island economies have become part of the globalization process of the last two decades. The concern of many less developed countries (LDCs) and in particular small island states is that they will be disadvantaged in the emerging global economic order and some will be further marginalized in world trade, investment, commodities and capital markets. Size is an important factor here, as well as vulnerability of small states in terms of economic and environmental threats (see, Bräutigam and Woolcock 2001). Small states will need to implement domestic reforms as well as the initiatives to maximize opportunities and minimize constraints.

It is not clear whether the island economies have benefited from the globalization of international markets. The paper examines the impact of capital flows and trade on the economies of Fiji and the Solomon Islands. Since the 1980s, globalization of the world economy has altered dramatically the volume and character of international resource flows. Section 1 presents an overview of the economic characteristics of small island states. Financial and trade flows over the past two decades are examined along with the effect of globalization on the growth performance of two South Pacific island countries in section 2. The models utilized in this study evaluate whether capital flows i.e. Foreign Direct Investment (FDI) and foreign aid, and trade (exports and imports) affect growth. Other conditioning factors, such as inflation, real effective exchange rate, savings, growth of income of the main trading partners, etc. have been included to analyze the dynamic link to economic growth. The empirical results are discussed in section 3. The final section presents the policy implications of the study.

## **1 Economic characteristics of island states**

The South Pacific islands reflect slow economic growth and development in the past two decades compared to similar island economies in other regions. For the period 1983 to 1993, the average growth rate of real Gross Domestic Product (GDP) for the Pacific Islands is 2.1 per cent per annum, this is lower than real GDP growth rates for the Caribbean, and the African and Indian Ocean regions for the same period at 3.2 per cent and 5.4 per cent per annum, respectively (World Bank 1996). On average Fiji achieved an annual GDP growth rate of 1.6 per cent and the Solomon Islands achieved 3.7 per cent for the period 1981-1997 (Asian Development Bank (ADB) 1998). Within the PMCs, GNP per capita in 1998 varied considerably ranging from US\$2,110 in Fiji to US\$750 in the Solomon Islands (World Bank 2000).<sup>1</sup>

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<sup>1</sup> Solomon Islands are categorised as the low-income country and Fiji is categorised as a lower middle-income economy.

Table 1

## South Pacific islands: macroeconomic indicators and resource flows

Year	1980	1985	1987	1990	1995	1997
<b>GDP growth (annual %)</b>						
Fiji	-1.6	-4.0	-6.6	2.6	1.4	-1.8
Solomon Islands	-6.0	0.8	2.4	1.8	7.7	-0.5
<b>GNP per capita (constant 1995 US\$)</b>						
Fiji	2267	2017	1962	2322	2365	2340
Solomon Islands	538	633	749	763	846	797
<b>Economic Activity<sup>a</sup></b>						
<b>Agriculture, value added (% of GDP)</b>						
Fiji	22.1	18.3	22.9	19.1	22.8	17.6
Solomon Islands	34.7	36.3	32.1	..	..	..
<b>Industry, value added (% of GDP)</b>						
Fiji	22.0	19.5	21.1	20.6	27.4	26.3
Solomon Islands	4.3	2.7	3.2	..	..	..
<b>Services, etc., value added (% of GDP)</b>						
Fiji	55.8	62.2	56.1	60.3	49.8	56.1
Solomon Islands	43.2	16.7	16.2	..	..	..
<b>Merchandise Export (% of GDP)</b>						
Fiji	47.7	44.5	44.7	60.3	55.5	57.2
Solomon Island	73.2	50.2	51.3	45.2	64.2	63.9
<b>Merchandise Import (% of GDP)</b>						
Fiji	54.6	48.9	46.2	70.6	64.3	63.5
Solomon Island	100.8	77.3	79.3	77.5	72.9	81.5
<b>Inflation, consumer prices (annual %)</b>						
Fiji	14.5	4.4	5.7	8.2	2.2	3.4
Solomon Islands	13.1	9.6	11.0	8.7	9.6	8.1
<b>Foreign direct investment, net inflows (% of GDP)</b>						
Fiji	3.0	1.9	1.0	6.7	3.6	0.6
Solomon Islands	2.1	0.4	6.4	4.7	5.5	5.9
<b>Aid (% of GNP)</b>						
Fiji	3.0	2.9	3.5	3.8	2.4	2.2
Solomon Islands	41.3	13.6	35.1	22.1	14.9	11.4

Source: World Bank (1999) and AIDAB (1991).

Note<sup>a</sup> Economic activity data for Solomon Islands do not add to 100% as the subsistence sector (food) is not included in any of the three sectors shown for GDP sectoral composition.

There are considerable differences in average per capita GNP of Fiji and the Solomon Islands as well as their economic structure as shown in Table 1. Agriculture forms a major component of GDP for the Solomon Islands, while for Fiji as per capita income rises, industry and service sectors account for a growing share of GDP while agriculture tends to diminish relatively as a source of income. The service sector tends to be the most important sector with tourism and the provision of offshore financial services particularly contributing to the growth of this sector. Generally, the industry sector as a source of income is underdeveloped for the Solomon Islands, and Fiji's agriculture sector in the 1990s face the problem of unclear land rights (see also Economic Intelligence Unit (EIU) 1999, Gounder 1999a). Pacific islands also experienced their worst growth performance in 1998 with a steep decline in output estimated at 4.6 per cent: The Solomon Islands recorded negative growth rates estimated at 10 per cent (UNCTAD 1999). Political developments, and ethnic strife, adversely affected economic performance in Fiji and the Solomon Islands. The 1987 military coups in Fiji led to a temporary suspension of aid. Fiji also experienced a decline in tourism earnings and a drop in private sector investment.

## **2 Globalization and resource flows**

### **2.1 Globalization and its effects on island economies**

It is unclear whether the Pacific Island economies in fact have benefited from the globalization of international markets. Experiences of the last two decades show that island economies have been faced with increased negative growth rates.<sup>2</sup> Fiji and the Solomon Islands have implemented reforms that include trade liberalization, exchange rate adjustments with the goal of improving competitiveness of exports and the attainment of external equilibrium and fiscal, monetary and wage policy reforms to macroeconomic management. Also the tax reforms have focused on greater competitiveness, the elimination of disincentives to investment and enhancement of entrepreneurial activities. The implementation of these various policies suggests that emergence of a greater market oriented regime as well as macroeconomic management are both necessary and desirable.

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<sup>2</sup> The Solomon Islands experienced some sharp declines as commercial fishing and canning became major industries controlled mainly by Japanese companies (Eceleston et al. 1998: 259). The ADB points out that this has been mainly due to falling commodity prices, high inflation and the impact of the Asian crisis, which affected log exports (ADB 1998: 159). Furthermore, it appears that Government domestic borrowing to sustain fiscal imbalances has created considerable inflationary pressures, and is the major factor in reducing the country's real GDP growth (World Bank 1996: 119).

## **2.2 Net flow of resources to island nations**

### *2.2.1 Investment*

The need for FDI is essential because of the scarcity of domestic capital. This specially applies in the natural resource, tourism, transport and financial service sectors. This reflects a shift from the traditional investment area of plantation, which has now declined in relative importance compared to other sectors.

In recent years there has been a large inflow of FDI to the Asian and Pacific region. Most of this investment has been directed to East and Southeast Asia and China. The Pacific economies generally have been bypassed, receiving only about one per cent of total FDI to developing countries in the Asia and Western Pacific region between 1985 and 1990 (UNESCAP 1997). See Table 1 and Figure 1 for FDI flows to Fiji and the Solomon Islands. The ADB (1998) also points out that Government deficits have crowded out investment and caused serious problems for the financial systems. In the Solomon Islands there is an attempt to strengthen the economy, gold deposits are being developed along with heavy government investment in agriculture, livestock, agro-industries, export assembly industries and tourism (Keith-Reid 1998: 206). Fiji has encouraged diversifying its investment in the Agri-business, fishing, tourism and manufacturing sectors (FTIB 1994, AusAID 1995).

Fiji and the Solomon Islands have introduced various policies to attract foreign investment (see UNESCAP 1997: 134). These countries' emphasis on private sector development will require the government to ensure a stable macroeconomic regime; a trade and tax regime; international competitiveness; clear enforced property rights, a non-discriminatory regulatory environment; skilled labour and the provision of physical infrastructure. The main constraints that hinder investment opportunities for these island economies are the uncertainty of the political situation and property rights, macroeconomic instability, lack of skilled manpower and the administrative processes.

### *2.2.2 Foreign Aid*

Foreign Aid or Official Development Assistance (ODA) has been a dominant feature in the Pacific islands for over past two decades. The developing countries of Oceania have an ODA/GNP ratio among the highest in the world, equal to 16 per cent on average (OECD 1987: 103). Where competition for aid between and within countries is growing there is an increasing pressure for countries to use their existing aid flows more effectively and a need to try to attract more private flows to finance development efforts. Burnside and Dollar (1997) and the World Bank (1998) note that aid generally has a large effect in good-management environments. Foreign aid flows to the selected islands have remained high, but from 1990 there has been a declining trend. Japan, Australia, New Zealand and France are the major donors to the island economies. Between 1980-92, ODA to Pacific Islands amount almost 27 per cent of GDP. This average, however, conceals the variation of aid flows to individual islands. For example as seen in Figure 2 aid totalled less than 5 per cent of GDP for Fiji, while at the other extreme case, the Solomon Islands aid ratio amounted to 40 per cent in 1980 to almost 12 per cent of GDP in 1997. The Solomon Islands ratio of loans to total aid exceeds 15 per cent.

In the Solomon Islands, the development budget is mainly aid driven, thus aid may be a major determinant of growth. However, the ability of aid to influence growth depends on the forms of aid provided and its utilization. For Fiji, (Gounder 1999a) shows that total foreign aid, and aid in a decomposed form (bilateral aid, grant aid, technical cooperation grant), contributes positively to growth.

### 2.2.3 Trade

The South Pacific region accounts for a miniscule share of world production and trade, realising less than 2 per cent of total world trade. They rely mainly on the export of a few primary products. Table 1, Figures 3 and 4, demonstrate import dependence, the import share is much higher than the export to GDP ratio. Usually, net receipts from international services and transfers, particularly from foreign aid, offset trade deficits and the other net receipts come from tourism earnings, financial services and remittances.

South Pacific islands have trade arrangements with Australia, New Zealand, Japan, the United States and countries in Asia and Europe under the South Pacific Regional Trade and Economic Co-operation Agreement, the Lomé Convention, and the Generalized System of Preferences. Export destinations for Fiji and the Solomon Islands have changed in the 1980s indicating a shift from traditional ties to more market-based arrangements. Also, benefits arising from preferential access to protected markets (e.g. sugar to US and Europe, copra to Europe, textile to the Pacific), will diminish over time as these preferences are to be phased out.

Figure 1  
FDI/GDP (%)

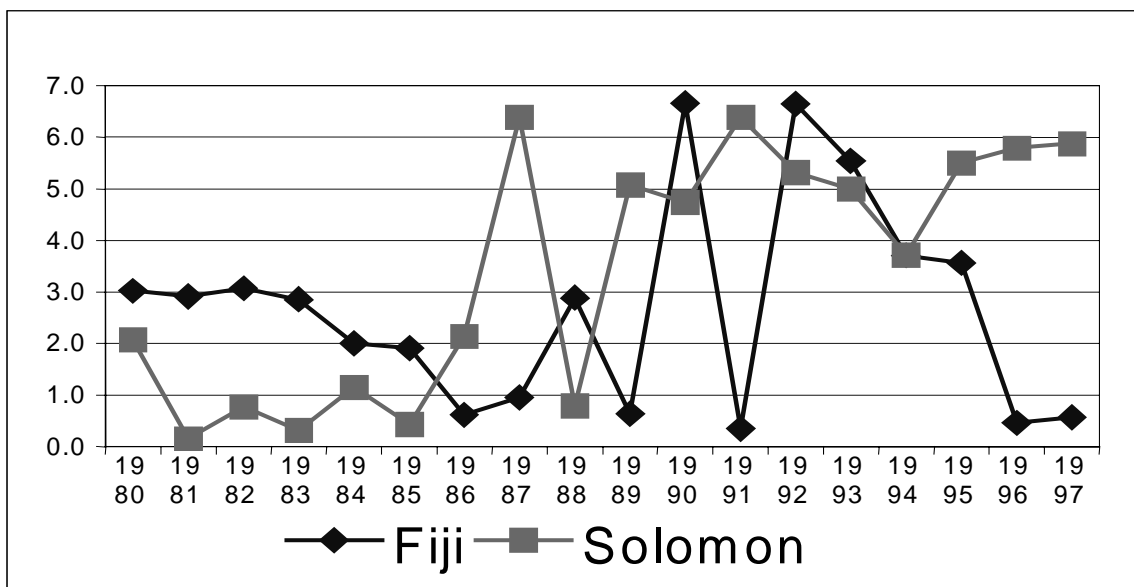




Figure 2  
Aid/GDP (%)

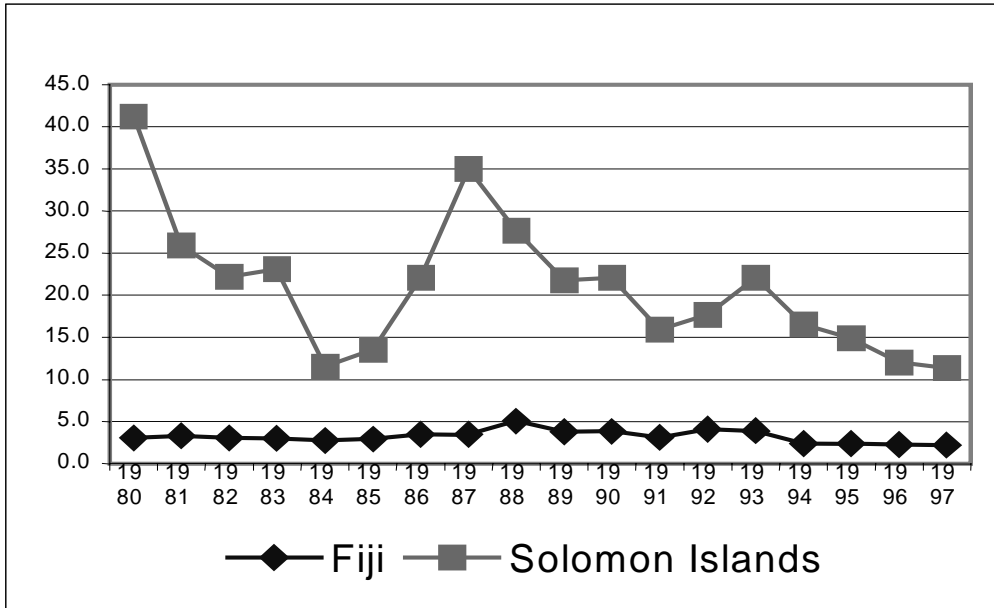


Figure 3  
Export/GDP (%)

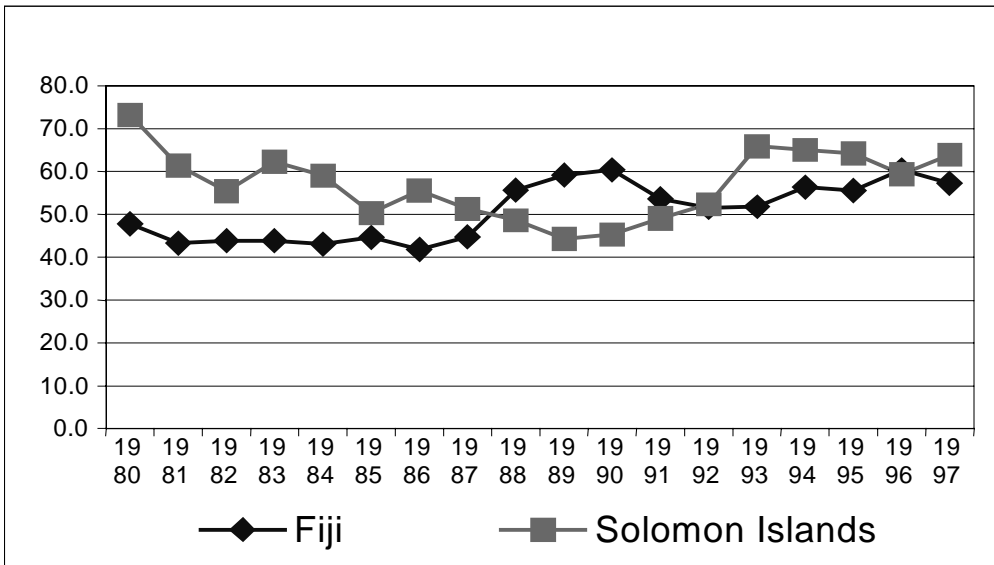
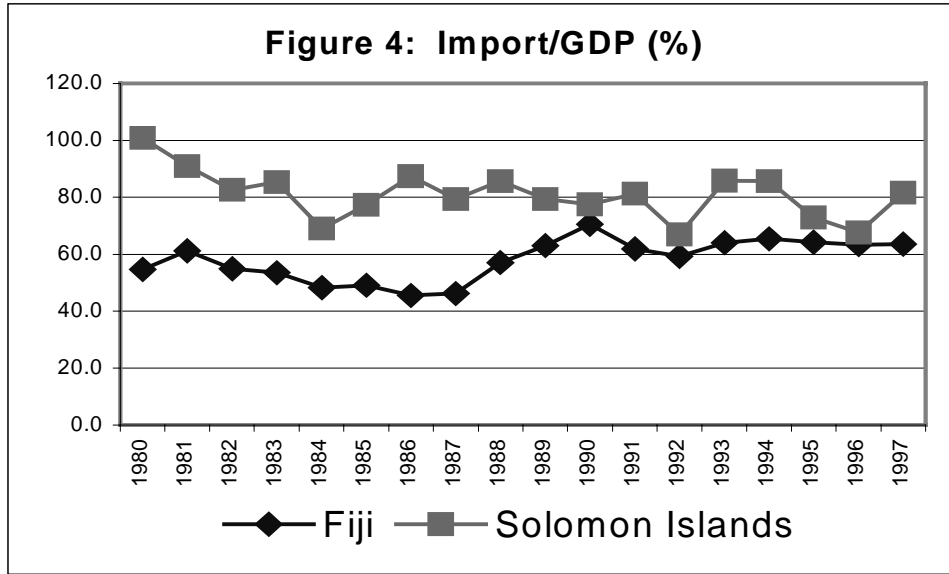


Figure 4  
Import/GDP (%)



Source: World Bank (1999).

### 3 Models, data and methodology, estimated results

#### 3.1 Models, data and methodology

This section addresses whether there is a link between economic growth and the effect of globalization. To study the impact of capital flows and trade on the development of the island nations, the standard neoclassical measure of growth is modified to integrate several aspects of the impact of capital flows on the economy, as explained in the two-gap model. The simulation models track the impact of capital flows through its direct and indirect effects on investment, international trade and growth. Therefore, the impact of capital flows is estimated by separate equations. By doing this, the model has an advantage of capturing simultaneous relationships among the capital flows and other endogenous variables in the model. The model consists of four behavioural equations, i.e. domestic investment, exports, imports, national savings and a resource gap identity equation:

*Behavioural Equations:*

$$I / Y_i = f_1(\dot{Y}_i, S / Y_i, FDI / Y_i, Aid / Y_i, Inf_{i(-1)}) \quad (1)$$

$$X / Y_i = f_2(\dot{Y}_i^*, I / Y_i, REX_i) \quad (2)$$

$$M / Y_i = f_3(\dot{Y}_i, I / Y_i, REX_i) \quad (3)$$

$$\dot{Y}_i = f_4(I / Y_i, \dot{Leff}_i, Z_i) \quad (4)$$

*Identity Equation:*

$$\frac{(S_i - I_i)}{Y_i} = \frac{(X_i - M_i)}{Y_i} \quad (5)$$

where  $I/Y$  is domestic investment to GDP ratio,  $\dot{Y}$  is growth rate of income,

$Aid/Y$  is foreign aid to GDP ratio,  $S/Y$  is the savings to GDP ratio,

$Inf$  is inflation rate,

$\dot{L}^{eff}$  is the growth rate of effective labour force, measured as secondary, tertiary, vocational educational attainment to total labour force,

$X/Y$  is exports to GDP ratio,

$M/Y$  is imports to GDP ratio,

$\dot{Y}^*$  is the weighted average by trade share of growth in per capita income of the trading partners,  $REX$  is real exchange rate,

$Z$  is all other factors that may affect growth, i.e. political instability, oil shocks and/or externalities,

$i$  is country  $i$ , i.e. Fiji or Solomon Islands,

$S, I, X, M, Y$  is total savings, investment, exports, imports and GDP, respectively.

Equation 1 presents the macro impact of investment through FDI flows, aid, savings, and inflation. Inflation is included as it affects the economy through higher price levels, which has an impact on investment decision-making. Equation 2 is the export function and equation 3 is the import function.

Equation 4 presents the growth function. The economic performance of a nation is measured by its annual growth rate of GDP. The common variables that enter the growth model include annual growth rate in labour force and investment share to GDP. Human capital is included in the growth process by creating an index that comprises secondary, tertiary and vocational educational enrolment to the total labour force as a proportion of population, called effective labour force in this study. The  $Z$  vector in equation 4 includes all other factors that may affect growth, i.e. political instability, oil shocks and/or externalities.<sup>3</sup> Equation 5 presents a balance of payments equation

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<sup>3</sup> In the case of Fiji, various actions immediately after the military *coups* in 1987 led to changes in the government structures, abrogation of the 1970 Constitution and the *coup* leader, (then) Colonel Sitiveni Rabuka, becoming the Prime Minister of Fiji. These changes may have contributed to political instability as well as the economic decline affected by loss of investor confidence, capital and skilled labour outflow and a negative impact on trade balance. Moreover, the 1990 Constitution (protecting the rights of the indigenous people in terms of political supremacy and land) was seen as racially prescriptive in nature that caused an international outcry (EIU 1998). Empirical results for Fiji show that political instability adversely affected growth (Gounder 1999b).

relating to a two-gap (saving-investment) model. FDI and aid can affect investment, imports and exports explicitly, and the balance of payments implicitly.

The model involves time series techniques as outlined in Harvey (1990) and Hendry (1995), using procedures that minimise the possibility of estimating spurious relations, while retaining the long-run information. Dynamic simulation techniques are employed to study the validity of the model, as well as the multiplier analysis to measure the impact of foreign capital flows and trade on growth. We utilise ordinary least squares (OLS). The estimation period for Fiji is 1968 to 1997 and for the Solomon Islands is 1970 to 1997. The data source for the variables employed is World Bank (1999).

## 3.2 Empirical results for Fiji and the Solomon Islands

Based on the results of the equation for each behavioural equation 1 to 4, with equation 5 as the identity equation, we undertake the ex-post simulation for each country. Overall the equations have a high explanatory power and the model diagnostics suggest no concern.

### 3.2.1 Model validation for Fiji

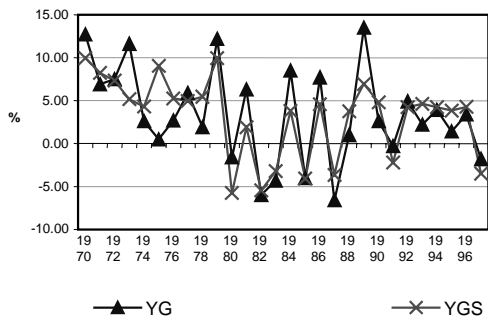
Overall, the simulated values capture the fluctuations and trend over the period for most actual data quite well except for some years. This exception is particularly seen in the simulated values of growth in GDP (Figure 5) and savings to GDP ratio (Figure 9) in the post-coup period due to political instability and also uncertainty caused by the implementation of the 1990 Constitution.

### 3.2.2 Evidence of the impact of globalization: Fiji

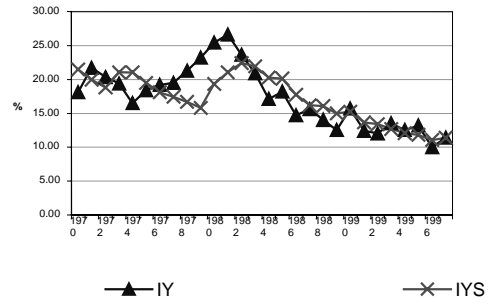
The effect of globalization is measured by a dynamic multiplier analysis to understand the impact of foreign capital inflows and other factors on various macroeconomic variables that determine growth. The dynamic multiplier analysis shows how the endogenous variables may change overtime in response to a change in a particular exogenous variable.

In this study, the impact and long run multipliers for five endogenous variables (i.e.  $\dot{Y}$ ,  $IY$ ,  $XY$ ,  $MY$ ,  $SY$ ) are computed with respect to eight exogenous variables, namely, the growth rate of effective labour force ( $\dot{L}_{eff}$ ), foreign direct investment ( $FDI$ ), foreign aid ( $A$ ), real exchange rate ( $REX$ ), inflation ( $Inf$ ), external shocks causing negative growth ( $DI$ ), uncertainty affecting FDI in the post-coup period ( $CFDI$ ), and growth rate in income of trading partners ( $LGYTRP$ ). The coefficients estimated for the dynamic multiplier effects are presented in Table 2. The estimated value of the coefficient in each column represent the multiplier effect on the endogenous variables for every 1 million dollar increase of the exogenous variables. The short-run or impact multiplier measures the first period impact of the change in the endogenous variables due to the change in the exogenous variables.

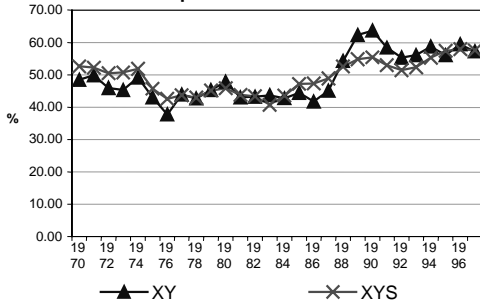
**Figure 5: Actual and Simulated Values: GDP Growth Rate**



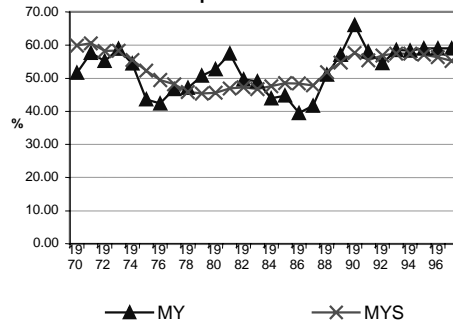
**Figure 6: Actual and Simulated Values: Investment/GDP Ratio**



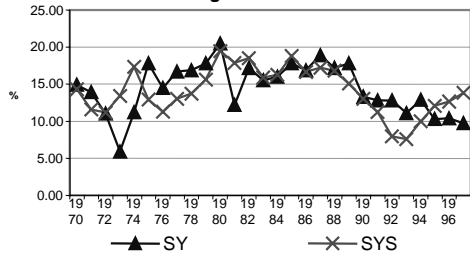
**Figure 7: Actual and Simulated Values: Exports/GDP Ratio**



**Figure 8: Actual and Simulated Values: Imports/GDP Ratio**



**Figure 9: Actual and Simulated Values: Savings/GDP Ratio**



Notes: YG actual, YGS simulated,  
 IY actual, IYS simulated,  
 XY actual, XYS simulated,  
 MY actual, MYS simulated,  
 SY actual, SYS simulated.

Foreign direct investment as an important component of growth shows positive short run and long run multiplier values for the effect on  $\dot{Y}$ ,  $IY$  and  $MY$ . This result suggests that FDI flows that are channelled through the private sector positively affects growth. FDI also has a positive relationship with domestic investment ( $I/Y$ ), which has backward and forward linkages with domestic investment sector. The impact of FDI in the long run increases substantially, and supports the view that domestic investment benefits considerably from exposure to foreign technology. The FDI multiplier value is negative on savings, thus it does not stimulate domestic savings and therefore indirectly may not increase gross national investment. Nor does FDI fill the gap caused by low export earnings.

Table 2  
Short run and long run multiplier for the Fiji model

Short run (Impact multiplier)								
DEPVAR	$FDIY$	$AID$	$CFDI$	$\dot{L}_{eff}$	$D1$	$LINF$	$REX$	$LGYTRP$
$\dot{Y}$	0.42	0.09	-0.33	-0.002	0.11	0.03	-0.001	0.003
$IY$	0.57	0.12	-0.44	-0.02	0.70	0.03	0.02	0.33
$XY$	-0.29	-0.06	0.23	0.004	-0.16	-0.02	-0.05	0.79
$MY$	0.02	0.12	-0.45	0.58	0.12	0.04	-0.08	0.36
$SY$	-0.03	-0.06	0.24	-0.03	1.22	-0.02	0.06	0.76
Long run Multiplier								
$\dot{Y}$	0.21	0.04	-0.16	0.17	-6.67	0.01	0.02	0.16
$IY$	1.87	0.38	-1.45	-0.09	3.59	0.11	0.15	1.49
$XY$	-1.66	-0.34	1.28	0.08	-3.18	-0.10	-0.36	2.67
$MY$	1.65	0.34	-1.28	0.13	-5.04	0.10	-0.49	1.31
$SY$	-1.44	-0.29	1.11	-0.14	5.45	-0.09	0.28	2.84

DEPVAR—dependent variable,  $\dot{Y}$ ,  $IY$ ,  $XY$ ,  $MY$   $SY$  are Growth rate of GDP, Investment, Exports, Imports and Savings to GDP ratio, respectively.  $FDIY$  and  $Aid$ —foreign direct investment and aid to GDP ratio,  $CFDI$  - interactive coup dummy for FDI,  $\dot{L}_{eff}$  growth in effective labour force,  $D1$  dummy for external shocks,  $Linf$ —lagged inflation,  $REX$ —real exchange rate,  $LGYTRP$ —lagged growth of the income of the trading partners.

Aid inflows directly raises economic growth, investment and imports and lowers savings in Fiji. This implies that foreign aid may be used to finance increased public investment and pay for imports. Essentially, aid is tied to imports of the donor country and this effect is explained by a positive coefficient of imports multiplier both in the short run and long run. However, the impact of aid on growth declined from 0.09 to 0.04 in the long run.

It is not surprising that the extent of the impact of FDI on the components of aggregate supply is larger than the impact of foreign aid. This result supports the view that FDI goes directly into production sectors while foreign aid is usually used to finance social and physical infrastructure projects. Therefore, FDI directly contributes to economic growth while foreign aid contributes only indirectly to economic growth. The actual impact of military *coups* on foreign capital flows and its effect on other endogenous variables is measured by an interactive dummy variable ( $CFDI$ ). The negative  $CFDI$  multiplier values in the short and long run indicate that economic growth, investment and imports have been adversely affected by *coups*. Gounder's (1999b) study of the

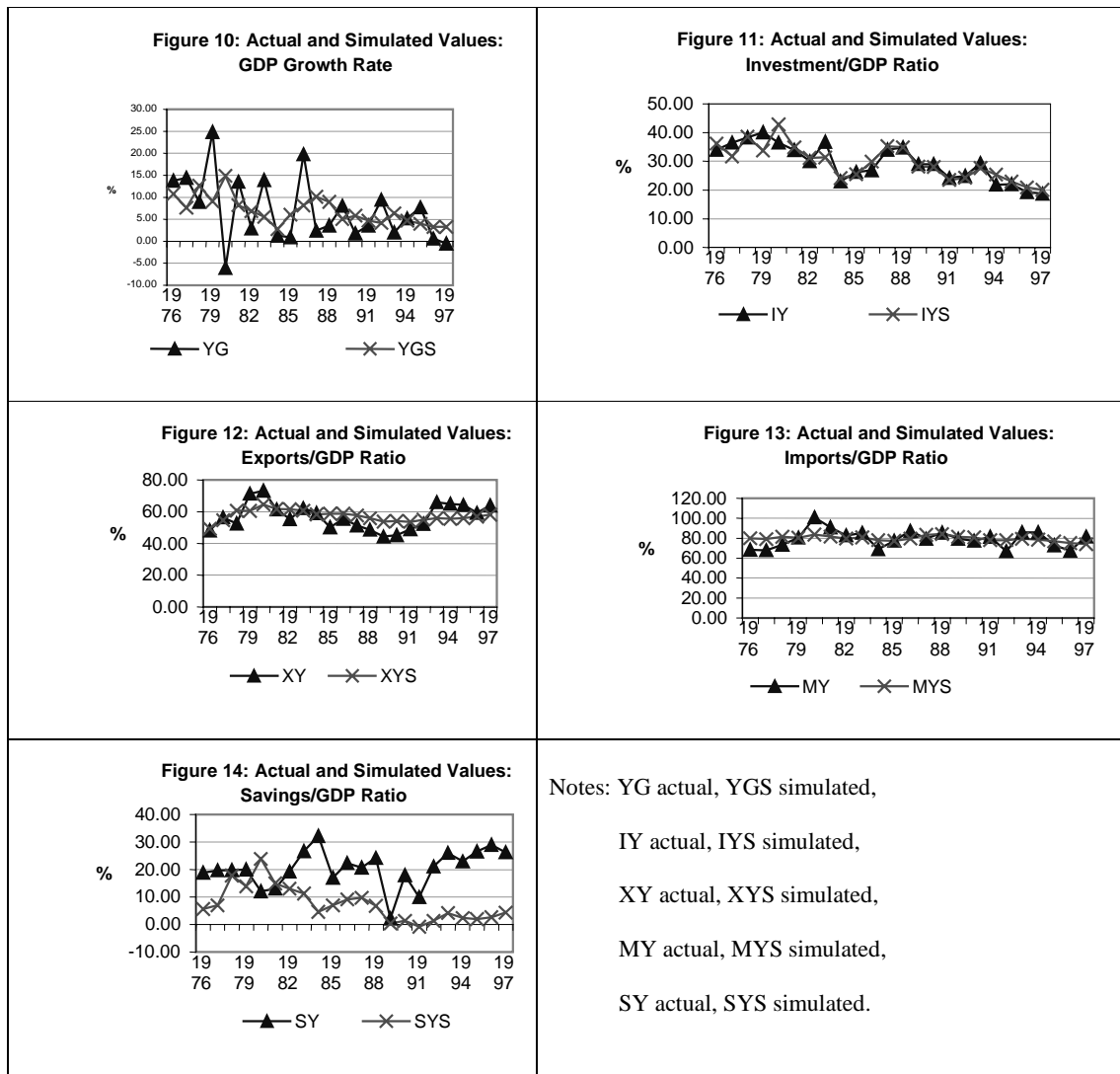
impact of political instability on Fiji's economic growth shows a negative impact on capital and labour inputs due to the *coups* that lower economic growth. The majority of the emigrants after the 1987 *coups* were Indo-Fijian professional and technical workers. The impact effect of growth in the effective labour force ( $\dot{L}_{eff}$ ) on GDP is negative in the short run. The effect of political instability in Fiji led to an outflow of skilled labour. In the long run, however, increases in the effective labour force have a positive impact on growth. The effect of the lack of skilled manpower on investment increased in the long run from -0.02 to -0.09. The emigration of skilled labour also contributes to lack of savings, i.e. the  $\dot{L}_{eff}$  impact multiplier value on savings ( $SY$ ) increases from -0.03 to -0.14 in the long run.

The results obtained for the impact of inflation ( $LINF$ ) is consistent with the theory that an increase in inflation reduces exports and savings through real exchange rate appreciation and a decline in real interest rate, respectively. Overall, as Fiji has a low inflation rate, there are no adverse effects on growth, imports and investment. The  $LGYTRP$  coefficients (income of the trading partners) indicate a positive impact on all endogenous variables. The  $XY$  multiplier increases from 0.79 to 2.67 in the long run, this reflects an increase in demand for goods from Fiji as the trading partners' income grow.

The steady-state concept assumes that all growth variables grow at a constant rate, the results in Table 2 show that in the short run most of the factors that contribute to growth do not follow a similar trend. Globalization generally demands a stronger state, and governance plays a key role in enabling people to benefit from it. Essentially, better governance is vital not just to ensure the rule of law, property rights and protect against crime, but maintain and expand the social and economic infrastructure.

### 3.2.3 Model validation for the Solomon Islands

The dynamic simulation for the Solomon Islands covers the period 1976 to 1997. Plots of the simulated values against the actual values are shown in Figures 10 to 14 to capture the trend of the endogenous models. The ex-post stimulated values reproduce the fluctuations and trend over the period for most actual data quite well except for some years. These are for GDP (Figure 10), exports (Figure 12) and savings (Figure 14). This may be due to internal disturbances and some external factors.



### 3.2.4 Evidence of the impact of globalization: the Solomon Islands

The dynamic impact for five endogenous variables (i.e.  $YG$ ,  $IY$ ,  $XY$ ,  $MY$ ,  $SY$ ) are computed with respect to six exogenous variables (i.e. foreign direct investment ( $FDI$ ), foreign aid ( $A$ ), growth rate of effective labour force ( $\dot{L}_{eff}$ ), real exchange rate ( $REX$ ), inflation ( $Inf$ ), and growth rate in income of the trading partners ( $LGYTRP$ ). The coefficients estimated for the impact and long run multiplier are presented in Table 3. The estimated value of the coefficient in each column represent the multiplier effect on the endogenous variables for every 1 million dollar increase of the exogenous variables. The impact of each exogenous variable affecting growth is discussed next.

The FDI impact multiplier reveals a positive impact in the short run on growth, exports and savings, however, in long run multiplier values obtained are negative for all the endogenous variables except for exports. Therefore, factors such as technology, foreign



capital, and skills associated with FDI do not contribute to Solomon Islands growth. This may be due to lack of domestic skilled manpower and the associated physical infrastructure required by the foreign investors which in turn has an impact on Solomon Islands long-term development. Note also that the long run coefficient for effective labour force is negative (-0.07) in relation to the endogenous investment variable, providing support for the view that Solomon Islands lack educated human capital. Removing restrictions on capital should attract more FDI, creating jobs and integrating labour in the international systems of production. While liberalization makes it easier to bring goods, increasing productivity raises the demand for skilled labour. Moreover, the unrest experienced in June-July 2000, has led to the country's largest company, Solomon Taiyo, repatriating all its foreign workers following the suspension of its operations. Such effects also lead to other negative impact on the backward and forward links with other sectors.

The negative sign of FDI on MY variable implies that FDI flows have not been a major force of rapid globalization through imports. The filling of the trade gap is depicted by positive XY variable, which suggest that foreign-owned enterprises generate a net positive flow of export earnings in the Solomon Islands. This may be due to tax incentives given to promote the export sector. FDI has a negative effect on savings in the long run, thus the role of FDI as a supplement to domestic savings in order to finance the required level of investment has not been established.

Aid inflows directly raise economic growth, investment, imports and savings in the Solomon Islands in the long run. Thus, foreign aid may be used to finance increased public investment and imports. The positive coefficient obtained between aid and imports suggests that aid is tied to the imports of the donor country. The impact of aid increased from -0.09 to 0.28 in the long run; it suggests that the Solomon Islands is heavily dependent on foreign aid to provide for its needs. The relationship between aid and investment is positive, which increases substantially from 0.05 to 0.69 in the long run, thus aid supplements government resources to finance public investment that contributes to growth. Therefore, aid inflows directly raises total investment (*IY*) through the increase in public expenditure and indirectly via the private investment through an increase in income. Aid fills the savings gap in the long-run. The extent of the impact of foreign aid on the components of aggregate supply is larger than the impact of FDI for the Solomon Islands. This may be because foreign aid is used to finance social, physical infrastructure and other investment projects that contribute to growth. Whereas FDI flows are not large enough it does not largely affect the production sectors, so the impact on growth has not been established.

Table 3

Short run and long run multiplier: the Solomon Islands model

Short run (Impact multiplier)						
DEPVAR	<i>FDIY</i>	<i>AID</i>	$\dot{L}_{\text{eff}}$	<i>LINF</i>	<i>REX</i>	<i>LGYTRP</i>
<i>YG</i>	0.09	-0.09	0.01	0.005	-0.001	-0.001
<i>IY</i>	-0.05	0.05	-0.005	-0.003	-0.001	-0.003
<i>XY</i>	0.14	-0.14	0.01	0.008	0.06	0.04
<i>MY</i>	-0.14	0.14	0.01	-0.008	-0.017	-0.002
<i>SY</i>	0.23	-0.22	-0.002	0.014	0.07	0.04
Long run Multiplier						
<i>YG</i>	-0.29	0.28	-0.28	-0.017	-0.008	-0.004
<i>IY</i>	-0.72	0.69	-0.07	-0.043	-0.002	-0.001
<i>XY</i>	0.22	-0.21	0.02	0.013	0.24	0.16
<i>MY</i>	-0.49	0.46	0.07	-0.029	-0.08	-0.001
<i>SY</i>	-0.02	0.02	-0.13	-0.001	0.32	0.16

Notes: As for Table 2.

The impact of growth in effective labour force ( $\dot{L}_{\text{eff}}$ ) on economic growth is negative in the long run, this result supports the view that Solomon Islands has a very low growth of skilled labour. According to the study by Ram, the labour coefficient is generally negative, he points out that "the labor parameter is not statistically significant in any models, which is a fairly typical scenario in the estimates of such growth equations for the LDCs" (Ram, 1996, p.1374). The negative impact of effective labour force is also felt in the investment sector where shortage of skilled manpower affects investment opportunities. Another problem the Solomon Islands faces is school dropouts; this does not lead to higher levels of educational attainment. The lack of skilled labour is also felt in the investment sector, long run multiplier increases from -0.005 to -0.07.

The results obtained for the impact of inflation are consistent with the theory that an increase in inflation causes negative effects on growth, investment, imports and savings. The Solomon Islands Government's position of chronic fiscal imbalances has created inflationary pressures and is a major factor in reducing economic growth. As price levels affect imports and investment it has an overall adverse effect on growth. The growth of the trading partners' income has a positive impact on exports only. Thus, demand for goods increases as Solomon Islands trading partners' income grows. However, as the Solomon Islands is an exporter of few primary commodities the earnings from the export sector does not contribute to an increase in GDP.

The steady-state growth feature also does not fit the Solomon Islands due to the varying impact of the growth variables. The characteristics of smallness, lack of infrastructure, skilled labour, political instability and the externalities that affect the Solomon Islands have contributed to declining economic growth. Therefore, in the long run we observe negative performance of various exogenous variables in relation to the endogenous variables as seen in the results reported in Table 3 and the backward and forward

linkages necessary for growth is not sufficient. Recent political instability in both these countries is likely to manifest itself into severe disruptions of capital flows and trade.

#### **4 Policy implications**

The points raised here focus on the structural issues and constraints that island economies face in their effort to attract investment and develop the export sector. They are as follows:

- Stability in the political, security, law and order and the economic environment are relevant as it is not just foreign capital flows that contribute to growth in GDP but also institutional factors, government policies, political stability and democratic design with good governance that provide opportunities for growth and development.
- As small island countries are more constrained in their access to world's fast-growing sources of private finance smaller states like the Solomon Islands will still depend heavily on foreign aid to meet their resource needs. However, with a declining trend in foreign aid, these countries will have to compete for their assured flow of aid and also strengthen their capacity to mobilize both domestic and foreign resources.
- Investment and export-oriented growth: countries in the South Pacific face the problem of clear delineation of land titles. While Fiji has developed land legislation, the recent expiry of agriculture land leases, and the blockades of hotels by traditional landowners have shaken the confidence of investors. Where the land disputes have been delayed, the lack of faith in the previous land contracts have impaired investment and ultimately export-led growth in most Melanesian countries.
- Export diversification is required to secure earnings. Also if resources are excessively committed to slow growing segments of world trade, price and quantity movements may be off-setting, therefore giving rise to earning instability. While Fiji has experienced considerable diversification of its export earnings in recent years, the Solomon Islands lagged behind. Invisible earnings from tourism, offshore banking and other financial services have been extended, however diversification via the growth of manufactured exports as well as non-traditional primary products have not taken place. Money laundering is also becoming a problem in small island economies that adds to other constraints of the country.
- Due to the openness on both trade and capital accounts of the island states they are vulnerable to economic shocks originating from abroad and find it difficult to offset them through national macroeconomic management. Withdrawal of official finance will hinder development budget of small islands and even reduce current spending that may depress economic activity. Sound monetary and fiscal policy measures are essential.
- Poor skilled development and relatively low levels of educational attainment. The absence of a developed pool of skilled labour and management is one of the greatest single constraints to the development of small island economies. Fiji to some extent possesses skilled labour and management capable of the

‘absorptive capacity’ ingredient of shifting from product to product and sector to sector. However, political instability in the country has led to an outflow of skilled labour that has an adverse effect on the economy.

- Deterioration of law and order: a serious constraint to development in most Pacific islands, particularly, Fiji and Papua New Guinea, where the economic effect of law and order deterioration has been the rise of operating costs and decrease in relative competitiveness of those Pacific countries confronting such problems. Moreover, the increase in direct cost of security also related to increased risk premium that mobile skilled labour and management have in those countries, resulting to an increase of net migration of skilled manpower.

A major challenge for Fiji and the Solomon Islands is the improvement of their competitiveness through domestic policy reform and enhancing their prospects for growth through integration into a global economy. Therefore, maintaining political and macroeconomic stability is an essential policy to steer the economy into the path of sustainable growth. The concern of many small island economies is that they will be disadvantaged in the emerging global economic order and that some will be further marginalized in world trade, investment, commodities and capital markets. These island nations have a narrow resource base and exports have been concentrated on few primary products as well as the economies are dependent on a wide variety of imported commodities. It is unclear whether any reforms of global financial institutions would deal with the most basic problems of small island economies such as access to markets of developed countries and the shortage of capital.

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UNU World Institute for Development Economics Research (UNU/WIDER)  
Katajanokanlaituri 6 B, 00160 Helsinki, Finland

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