Relative Effectiveness of External Aid and Foreign Direct Investment in the Economic Growth of Pacific Island Countries: A Case Study of Vanuatu

Professor T. K. Jayaraman
Fiji National University, Fiji

Dr. Hong Chen
The University of the South Pacific

Mr. Markand Bhatt
The University of the South Pacific
Introduction

- The 14 Pacific island countries (PICs), ever since their independence in the second half the 20th century, have been the leading recipients of foreign aid from bilateral and multilateral donors.
- Most of the foreign aid until the late 1980s was for the purpose of supporting government’s recurrent expenditures.
- Later, The donors cut down their aid for budgetary support and laid more stress on investing in physical infrastructures under their aid programs.
- Hughes (2003) led the critics by observing aid had failed PICs since the aid moneys were spent on government consumption. PICs fared poorly as compared to the similarly placed island countries in the Caribbean and Indian Ocean regions.
Introduction

• On the other hand, FDI, being the capital flows from private sectors have all along been in profit seeking ventures, including the natural resource based industries in the initial years, and later in tourism sector, such as hotel and resort facilities.
• There were notable positive impact studies on the contribution of FDI to growth in PICs (Gani 1999), Jayaraman and Choong (2006) and Jayaraman and Singh (2007). These authors argued that FDI inflows in profit seeking ventures, when supported by a high degree of absorptive capacity in terms of human capital and supportive trade regime in the recipient country, promoted economic development through the transfer of new technology and spillover efficiency, as pointed out by (Balasubramanyam et al. 1996; Borensztein et al. 1998; Xu 2000; Kohpaiboont 2003).
Introduction

• While these studies examined the efficacy of aid and FDI, there has been no study on the relative effectiveness of these two in a combined analysis.

• The objective of this paper is to fill the gap with a view to examining the contribution of aid and FDI to growth in PICs by a case study of Vanuatu over a period of 33 years (1979-2012).
Vanuatu: Selected Key Indicators

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Area (Sq.km.)</td>
<td>12 200</td>
</tr>
<tr>
<td>Population in (2013)</td>
<td>253 000</td>
</tr>
<tr>
<td>Per Capita GDP (US$)</td>
<td>3,303</td>
</tr>
<tr>
<td>Current prices (2013)</td>
<td></td>
</tr>
<tr>
<td>Aid Per Capita in US$</td>
<td>401</td>
</tr>
<tr>
<td>(2012)</td>
<td></td>
</tr>
<tr>
<td>Aid as percentage of GDP</td>
<td>12.9</td>
</tr>
<tr>
<td>(2012)</td>
<td></td>
</tr>
<tr>
<td>Human Development Ranking</td>
<td>124</td>
</tr>
<tr>
<td>(2013)</td>
<td></td>
</tr>
<tr>
<td>Annual Average Growth Rate</td>
<td>2.2</td>
</tr>
<tr>
<td>(%) (2009-13)</td>
<td></td>
</tr>
<tr>
<td>Annual Average Inflation</td>
<td>2.2</td>
</tr>
<tr>
<td>(%) (2009-13)</td>
<td></td>
</tr>
</tbody>
</table>

Source: WDI (2014)
Vanuatu’s economy

Vanuatu’s economy is heavily subsistence oriented, dominated by root crops; and commercial ranch and fishery activities to a smaller extent, which provide livelihood to 80 percent of the population.

The country’s manufacturing base is small, which is confined to processing coconut oil based soaps and detergents, and biscuits and breads.

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 popular tax free haven in the South Pacific (Jayaraman and Choong 2010).

Thus, services sector of Vanuatu comprising financial and tourism activities, has been a major support to Vanuatu’s economy, which has also been attracting FDI inflows.
FDI and Aid Trend for Vanuatu
Econometric Model

• Cobb-Douglas production function with constant return and hicks neutral technical progress is used.
• The model for estimation purpose is:

\[ ly_t = \beta_0 + \beta_1 lk_t + \beta_2 fdi_t + \beta_3 aid_t + \sum \lambda_m dum_{mt} + e_t \]

• Where:

Northwest GDP per capita; 
\( lk \) = log of capital per capita;
\( fdi \) = foreign direct investment as percent of GDP.
\( aid \) = aid inflows as percent of GDP, and
\( dum_{mt} \) = is a matrix of dummy variables to capture effects of shocks such as natural disasters and financial crises.
Results

- Using Phillips-Perron Unit root tests, we found Quantitative variables are integrated of order one, that is variables are non-stationary in levels and are stationary in their first difference.

- Johansen-Juselius cointegration approach was used and identified one cointegrating relationship. This suggests non-spurious relationships as specified in the preceding equation.
Results

• To control endogeneity of explanatory variables, the general method of moments (GMM) estimator was used which yielded results similar to OLS estimates:

\[ Ly_t = 7.948 + 0.313 lK_t + 0.009 FDI_t + 0.001 AID_t + \sum \hat{\lambda}_m dum_{mt} \]

\[ z = (11.85) (6.71) (3.27) (0.76) \]

\[ Centered \ R^2 = 0.8933 \]
\[ Root \ MSE = 0.0257 \]
\[ Sargan \ p = 0.2307 \]
\[ Wu-Hausman \ p = 0.3584 \]
Interpretations

• Considering Z statistics value, the positive impacts of $l_k$ and $fdi$ are observed to be significant at the 1 percent.
• However, the coefficient of $aid$, though positive, it found to be not significant.
• Holding others constant, a one percent increase in capital stock per capita leads to 0.313 percent increase in GDP per capita in Vanuatu.
• Similarly, a one percentage increase in FDI-to-GDP ratio leads to 0.009 percent increase in GDP per capita;
• A short run dynamic relationship was estimated by an error correction model (ECM) as follows:

$$\Delta l y_t = \alpha_0 + \sum_{j=1}^{p} \phi_j \Delta l y_{t-j} + \sum_{j=0}^{p} \phi_j \Delta l k_{t-j} + \sum_{j=0}^{p} \eta_j \Delta fdi_{t-j} + \sum_{j=0}^{p} \pi_j \Delta aid_{t-j} + \gamma \hat{e}_{t-1} + \nu_t$$

$$\Delta l \hat{y}_t = -0.02^{**} + 0.27 \Delta l y_{t-1}^{**} + 0.25 \Delta l y_{t-2}^{*} + 0.55 \Delta l k_{t-1}^{*} - 0.41 \Delta l k_{t-2}^{*}$$

$$- 0.005 \Delta fdi_{t-1}^{**} - 0.004 \Delta fdi_{t-2}^{*} - 0.002 \Delta aid_{t-1}^{*} - 0.002 \Delta aid_{t-2}^{*} - 0.67 \hat{e}_{t-1}^{***}$$

• The error correction term is negative and significant, which confirms the long-run relationship between the dependent variable per capita real GDP and the explanatory variables.
Conclusion

• The study results show that FDI has had a positive and significant effect on real output per capita and aid did not have any significant impact on real output.

• It is apparent that aid inflows were either spent on consumption or ineffectively utilized giving rise to fears expressed in literature.

• The policy implications are clear. While foreign aid is largely to government and other official agencies, effective use of aid needs improved policy framework and better governance measures.

• As regards to FDI, government will need to continue the present set of investor friendly incentives and attractive business environment.

• Thank you !!!!