



## Growth and Foreign Direct Investment in the Pacific Island Countries

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### Abstract

Achieving sustained high rates of economic growth in Pacific countries has proved incredibly challenging. Despite many being rich in natural resources, receiving high levels of foreign aid and being open to external trade, the economic growth rates of Pacific island countries are the lowest and most volatile for all groups of developing countries. This paper examines the impact of Foreign Direct Investment (FDI) to the Pacific region. Results from the estimation of a number of empirical models suggest that the impact of FDI is lower in Pacific countries than it is in host countries on average. A 10 per cent increase in the ratio of FDI to host Gross Domestic Product (GDP) is associated with higher growth of approximately two per cent in all countries on average. The impact in Pacific countries falls to between 0.1 to 0.4 per cent. A number of explanations for this finding are provided.

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## Growth and Foreign Direct Investment in the Pacific Island Countries

### I. Introduction

Pacific island countries face many tremendous challenges. These include small domestic markets, limited resource bases, great distances from major markets, vulnerability to external shocks such as hikes in the prices of key international commodities and natural disasters, often inadequate governance and political instability. Western governments seemingly recognise this to the extent that Pacific island countries receive some of the highest levels of foreign development aid in the world relative to the size of their economies. In 2009, Official Development Assistance (ODA) accounted for as much as 34 per cent of GDP in the Solomon Islands and 68 per cent of GDP in Tuvalu. On average ODA accounted for over 25 per cent of recipient GDP in Pacific island countries. Despite these aid levels, Pacific island countries have experienced the lowest and most volatile economic growth of any region of developing countries, including sub-Saharan Africa (McGillivray *et al.*, 2010). Partly due to these growth rates, poverty is increasing in the region. Approximately 2.7 million people, one-third of the region's population, live in poverty, without the income to satisfy their basic human needs. More than 400,000 children are not enrolled in primary school and seven out of every 100 children die before their fifth birthday. At least 80,000 adults have HIV and the rate of infection is growing by more than 40 percent per year, the fastest of any region of the world (AusAID, 2009).

Despite the immense challenges faced by the Pacific, the region remains startlingly under-researched. There is a small literature examining the economic growth impact of foreign aid and remittances to the region. For example, Pavlov and Sugden (2006), Feeny (2007a, 2007b) and Feeny and McGillivray (2008, 2010) provide positive assessments of foreign aid to Pacific countries, while Connell and Brown (2005), Browne and Mineshema (2007) and Brown (2008) examine the impact of remittances. Yet, surprisingly, the impact of Foreign Direct Investment (FDI) has been neglected.<sup>1</sup> This is despite FDI accounting for a greater share of Gross Domestic Product (GDP) in Pacific countries than for developing countries on average. The main objective of the paper is therefore to help fill the void in development related research for the Pacific by

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<sup>1</sup> Jayaraman and Singh (2007) provide the only exception, finding that FDI contributes to employment creation and economic growth in the case of Fiji. See Read (2007) for an examination of the determinants of FDI flows to Small Island Developing States (SIDS).

providing the first study to comprehensively examine the growth impact of FDI to the region.

FDI can play a crucial role in contributing to growth and poverty reduction in host countries, particularly in small countries located a long way from major markets. These countries often lack the resources to develop their own technology and suffer from technical and institutional constraints to the accumulation of physical and human capital. Domestic financing for investment projects can be limited and unprotected property rights, corruption, and civil and political instability may either hinder capital accumulation, or become obstacles for using already existing resources. FDI should, therefore, be an attractive source of development financing for these countries. A number of positive externalities are associated with FDI inflows, such as advanced technology, managerial expertise, R&D, employment, productivity and efficiency gains in the domestic economy.<sup>2</sup>

Support for FDI is not universal despite its potential benefits. Critics argue that the policies to attract FDI can distort domestic incentives and displace domestic investment, crowding out employment and domestic firms. The impact of FDI on the host country is therefore an empirical issue and one that has been examined by a voluminous (cross-country) empirical literature. The consensus of this literature is that the impact of FDI has been favourable, by contributing to the economic growth rates of host countries. It is also clear from a review of this literature that the impact of FDI varies across host countries.<sup>3</sup>

This paper contributes to the literature by examining the impact of FDI flows to the Pacific region. To the authors' knowledge, it is the first to do so despite the issue being of considerable importance. Arguably, there is some anecdotal evidence to suggest that FDI has provided little benefit to some countries in the Pacific. FDI to Papua New Guinea (PNG) and the Solomon Islands, for example, has been characterised by large capital intensive projects in the extractive industries (mining and logging) of these economies. These industries have been plagued by corruption, widespread concerns over environmental damage and the exploitation of domestic landowners. FDI has focused on

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<sup>2</sup> In the context of the neoclassical growth framework, FDI affects only the level of income. Long-run economic growth will be unchanged unless FDI influences technological progress (see Solow, 1957 and de Mello, 1997). In endogenous growth models, however, economic growth will be generated if FDI increases productivity via externalities and spillover effects such as know-how and improvements in human capital (Lucas, 1988; Rebelo, 1991; Romer, 1986).

<sup>3</sup> In a meta-analysis, Doucouliagos *et al.* (2011) find, for example, that the impact of FDI varies across countries and according to levels of financial development, trade and human capital.

agriculture and tourism in other Pacific countries, sectors which (directly and indirectly) provide employment to a substantial proportion of their populations.

The paper finds that FDI is associated with higher rates of economic growth in the Pacific. Yet it also finds that the impact of FDI is lower in the region than it is for countries on average. One of the recommendations emanating from this finding is for donor governments to shift the nature of their assistance to the region. There are limits to what aid can achieve to the region and instead of providing additional assistance, a change in the focus of aid is appropriate. More specifically, donors should examine ways of improving the growth (and other) impacts of FDI in the Pacific. This likely to require a greater focus on improvements in human capital and private sector development.

The remainder of this paper is structured as follows. Section II provides an overview of FDI flows to Pacific countries. Section III discusses the data and empirical methods adopted by the study. Section IV presents and interprets the results. Finally, Section V concludes.

## II. An Overview of FDI to the Pacific

Pacific countries suffer from a number of factors which might limit the desire of international firms to invest in them. These include their small size, remoteness, insecure land rights, high cost and low availability of skilled labour and unfavourable business environments (Nathan Associates Inc., 2007). Yet to varying extents, Pacific countries have overcome these obstacles. Outside of the extractive industries, FDI in the Pacific has flowed to agriculture (the palm oil, copra, sugar and livestock industries), forestry, fishing, banking and finance, real estate and tourism. There has been less FDI to the manufacturing sector. A notable exception is the Yazaki automobile wiring harness plant in Samoa.

While flows of FDI to the Pacific are small in absolute terms, levels of FDI (relative to the size of host country GDP) are actually higher (on average) in Pacific countries than they are in low and middle income countries. This is demonstrated by Table 1 which provides net FDI inflows relative to GDP for selected Pacific countries and country groups during the last three decades.

Fiji and Vanuatu have received far higher levels of FDI (relative to low and middle income countries on average) in each of the last three decades. The same is true for Kiribati and the Solomon Islands in the 1990s and 2000s. Levels of FDI to Samoa and Tonga have been lower and fluctuated widely. While PNG has received a lower level

of FDI in the 2000s, the level is starting to increase dramatically with the construction of a large Liquid Nitrogen Gas (LNG) plant.

Table 1: Flows of FDI to selected Pacific countries

Pacific country/country group	Net inflows of FDI to GDP (%)		
	1980 – 1989	1990 – 1999	2000 - 2009
Fiji	2.13	3.24	5.42
Kiribati	0.14	9.42	11.41
Papua New Guinea	3.98	3.65	1.71
Samoa	0.14	3.09	0.87
Solomon Islands	1.33	2.92	5.72
Tonga	0.13	0.55	2.77
Vanuatu	5.33	11.34	6.09
Pacific Average	1.88	4.89	4.86
Low and Middle Income Countries	0.58	1.94	2.79
World	0.67	1.49	2.86

Notes: Data are from the World Bank (2011)

### III. Data and Methods

Empirical studies examining economic growth have specified models to include measures of human capital, institutional factors, policy related factors, and conditional convergence in addition to domestic and foreign investment. The current study follows this approach in examining the relationship between FDI flows and economic growth in 209 countries covering the period 1971 to 2010.<sup>4</sup> Cross-country data are averaged over five-year periods, as is standard practice. To examine whether the FDI-growth relationship is different in Pacific countries, the paper includes a FDI-Pacific interaction term. The Pacific variable is a dummy variable taking the value of 1 if the country is located in the Pacific and zero otherwise.<sup>5</sup>

<sup>4</sup> The specific choice of the empirical model is motivated by maximising the number of observations for Pacific to be included in the analysis.

<sup>5</sup> An alternative approach is to estimate models for Pacific countries only. This option is not pursued by the current paper on the grounds of data availability and sample size. If annual data are employed, there are just 95 FDI observations for Pacific countries over the period 1971 to 2010. The time-series properties of the data would also need to be addressed.

The model is specified as follows:

$$g_{it} = \alpha_0 + \beta_1 P_i + \beta_2 FDI_{it} + \beta_3 FDI * P_i + \beta_4 Z_{it} + \mu_{it} \quad i = 1, \dots, n \quad (1)$$

where  $g_i$  is a real growth in GDP per capita,  $P_i$  is the Pacific dummy variable,  $FDI_i$  is the ratio of FDI to GDP,  $FDI * P_i$  is the FDI-Pacific multiplicative interaction term and  $Z_i$  is a vector of control variables. Subscript  $i$  represents recipient country and  $t$  represents time. The vector of additional variables ( $Z_i$ ) contains the initial level of GDP per capita (to capture convergence), the secondary school enrolment rate (as a measure of human capital), the ratios of imports and exports relative to GDP, the rate of inflation (logged), domestic investment, a measure of economic freedom and the coefficient of variation for the FDI variable. The data include 42 observations for the seven Pacific countries provided in Table 1. Data are sourced from the World Bank's *World Development Indicators* (WDI) online database. The exception is the economic freedom variable which is obtained from the Freedom House database.

The choice of the explanatory variables included in the model warrants some discussion. This is especially the case with the FDI variable as it can be specified in a number of different ways. Firstly, FDI can be measured either as a 'flow' or a 'stock'. While the flow of FDI is based on current account inflows of foreign capital for a year, stock measures estimate the total cumulated value of foreign-owned capital in a country (Bornschieer *et al.*, 1978). Secondly, a choice must be made between using FDI inflows or net FDI inflows (with FDI outflows subtracted).

The analysis in this paper focuses on annual FDI inflows to the host economy rather than using net FDI or the stock of FDI. This is justified on the grounds that the paper is concerned with the *current* impacts of annual FDI *inflows* to the host country. FDI inflows provide a measure of the additional capital available to the production process of the host economy in a particular year (Bornschieer *et al.*, 1978; Alfaro *et al.*, 2004). Net FDI includes investment outflows which are not expected to impact on the growth rates of host countries.<sup>6</sup>

Existing economic conditions are controlled for by including the level of initial GDP as an explanatory variable. Initial GDP per capita is measured in constant US dollars and the variable is logged. Given different initial levels of output in each country,

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<sup>6</sup> Moreover, poor data availability for Pacific countries prevents the calculation of appropriate FDI 'stock' variables.

convergence theory implies that growth rates of per capita income will eventually equalise. If convergence holds, the coefficient on the initial GDP per capita variable will therefore be negative.

The importance of human capital to economic growth is highlighted by Barro and Sala-i-Martin (1995) and Mankiw *et al.* (1992). In addition to a direct impact on economic growth, human capital can be critical for absorbing foreign knowledge and is an important determinant of whether positive FDI spillovers will be realised. Human capital has been measured in various ways by the literature. Average years of schooling and school completion rates from Barro and Lee (2001) are often favoured. The current study uses the secondary school enrolment rate to capture human capital since these data are widely available for the Pacific countries under consideration.

Trade variables are also included in the empirical model. Both the ratio of imports and exports to GDP are included in the model.<sup>7</sup> In addition, the inflation rate is included as an indicator of macroeconomic policy and stability. The variable is logged to capture the non-linearity in the inflation growth relationship.

The level of freedom is an institutional variable included in the model. Indices are constructed by Freedom House to measure freedom in terms of two dimensions: political rights and civil liberties. The survey reports a numerical rating on a scale of 1 to 7 for each index, with 1 representing the highest and 7 the lowest level of freedom. In this study, the variable *Free* is a dummy variable taking the value of 1 if the country has an average rating of between 1.0 and 2.5 and zero otherwise.

Pacific countries experience volatile levels of FDI in addition to volatile growth rates, potentially hampering FDI's impact on economic growth. To capture this volatility, the Coefficient of Variation (CV) of FDI is employed as an explanatory variable. The coefficient of variation is a statistical measure of the dispersion in a series around the mean. It is calculated as the ratio of the standard deviation to the arithmetic mean of variable. Finally, latitude and longitude variables are included in some regressions since economic growth rates are often found to vary across geographic areas. Full details of data sources and definitions are reported in Table A1 of the appendix. Summary statistics for the variables are provided in Table A2.

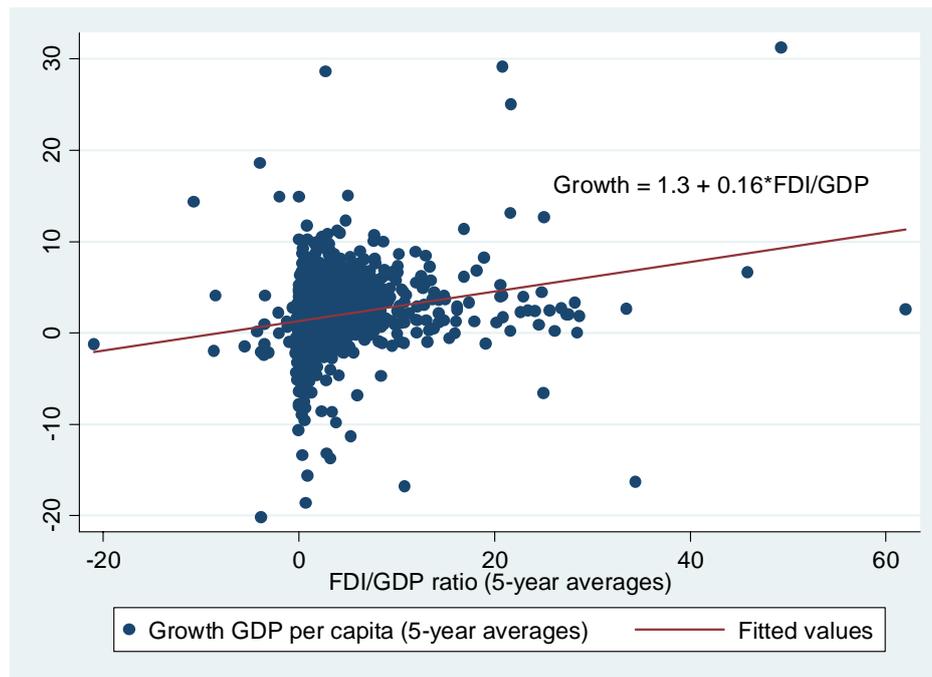
Figure 1 provides a scatter plot of countries economic growth rates versus the level of FDI for 209 countries. Data are averaged over five-year periods. A simple bivariate regression of the growth rate on FDI yields a positive slope coefficient of 0.16

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<sup>7</sup> The adoption of the Sachs-Warner trade openness variable often used in the literature is not possible due to the limited observations for Pacific countries.

with a corresponding  $t$ -statistic of 3.43.<sup>8</sup> While this analysis is simplistic, it confirms a positive relationship between FDI and host country growth rates, despite considerable cross-country heterogeneity. The results from the multivariate regression analysis are provided in Section IV.

Figure 1: Scatter plot of economic growth and FDI



Equation (1) is initially estimated using Ordinary Least Squares (OLS). Results from these estimations can be validly questioned due to concerns over the endogeneity of the FDI (and other) variables. For example, FDI will be endogenous if the economic growth rate of a host country is an important factor for international firms when deciding where to invest. In other words, FDI can determine and be determined by host country growth rates. Studies, in response to these concerns, have adopted different instrumentation strategies.

Some studies have sought to find valid external instruments for the FDI variable. Unfortunately suitable instruments have been difficult to identify.<sup>9</sup> The favoured

<sup>8</sup> The regression is run with White's robust standard errors to control for heterogeneity.

<sup>9</sup> Previous studies have used the distance that host countries are from major investing countries (Egger, 2008 and Guerin, 2006).

approach of the recent FDI literature has therefore been to control for the potential endogeneity of the FDI (and other) variables using the Generalised Method of Moments (GMM) approach. The GMM approach provides estimates that are consistent in the presence of one or more endogenous regressors. The specific variant of GMM used is a two-step system GMM proposed by Blundell and Bond (1998) and extended by Roodman (2006).<sup>10</sup>

#### IV. Results and Interpretation

Results from OLS estimation are provided in columns (1) and (2) of Table 2. The second column presents results when the model is augmented with period (time) dummy variables. These period fixed-effects capture time specific factors that determine growth, which are not captured by the other explanatory variables. Results from column (1) indicate that FDI has a positive association with host country growth. The coefficient attached to the FDI variable suggests that a 10 per cent increase in FDI is associated with (on average) a one per cent increase in per capita income growth. In contrast, the coefficient attached to the FDI-Pacific interaction variable is negative, large and statistically significant. Since the coefficient on the FDI-Pacific interaction is in absolute terms larger than the coefficient on the FDI variable, the results imply that FDI has a negative association with growth in the Pacific.

Other results from column (1) indicate that, as expected, the level of exports and domestic investment have positive associations with growth while imports, inflation and the volatility of FDI have negative associations. The coefficients attached to these variables are all statistically significant (at the 10 per cent level or greater). The coefficient attached to the initial GDP per capita variable provides evidence of growth convergence.<sup>11</sup>

Similar results are provided from OLS estimation of the model with period effects in column (2). The period effects are (jointly) statistically significant but the coefficients attached to the FDI and FDI-Pacific interaction variables are very similar to

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<sup>10</sup> System GMM is preferred over difference GMM due to gains in efficiency. In difference GMM, lagged levels of the regressors are used as instruments for the first differenced regressors. Such instruments have sometimes found to be poor. In system GMM a system of two equations is adopted, one specified in differences (with lagged levels of the regressors used as instruments) and the other in levels (with lagged differences of the regressors used as instruments). Efficiency is gained through the use of the additional instruments. Two-step robust estimation is employed ensuring that standard errors are adjusted for autocorrelation and heteroskedasticity.

<sup>11</sup> The Pacific dummy variable is dropped from the specification due to a high level of correlation with the FDI-Pacific interaction variable.

those presented in column (1). The coefficient attached to the human capital variable is also positive and statistically significant in this specification.

As discussed in Section III above, there are valid concerns over these results due to the endogeneity of the FDI and other variables. Coefficient estimates will be biased and inaccurate due to simultaneity bias. One way to try and overcome this problem is to lag the potentially endogenous variables. Results from this exercise are presented in column (3). Interestingly, results remain largely unchanged. The coefficients attached to the imports, exports and inflation variables are no longer statistically significant. Results regarding FDI and its impact in the Pacific are comparable to those reported earlier.

A preferred method to account for the endogeneity of explanators in growth regressions is to use GMM estimation. Results from system GMM estimation of equation (1) are provided in columns (4) to (6) of Table 2.<sup>12</sup> In GMM estimation coefficient estimates will be unbiased and greater emphasis should be provided to these results. The results provided in column (4) are broadly consistent with those from OLS. Important differences, however, are the size of the coefficients attached to the key variables. The coefficient attached to the FDI variable remains positive but becomes larger and the coefficient attached to the FDI-Pacific interaction variable remains negative but becomes smaller. Given the size of the coefficients on these variables, these results suggest that the impact of FDI in the Pacific is actually positive - but is much smaller than for countries on average.

Since the coefficient attached to the freedom variable is not found to be statistically significant in any of the models it is dropped to obtain more observations. Similar results are report in column (5). The impact of FDI to the Pacific remains small and statistically significant.

Pacific countries are located in the tropics where growth is often found to be poor. To test whether the results for the Pacific are being driven by a location factor, the model is augmented with latitude and longitude variables are results provided in column (6). They suggest that countries further from the equator experience higher rates of economic growth. Yet, the results regarding the impact of FDI remain unchallenged.

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<sup>12</sup> In these specifications FDI, human capital, imports, exports, inflation, domestic inflation and the FDI-Pacific interaction variable are all treated as endogenous. Instrument lags begin at t-2 and end at t-4. Further lags are unable to be employed since the number of instruments should be less than the number of country groups (Roodman, 2006). All GMM specifications pass the Hansen test for the validity of instruments (overidentifying restrictions) and the Arellano-Bond AR(2) test for autocorrelation. First order autocorrelation is expected.

Table 2: Econometric Results

		(1)	(2)	(3)	(4)	(5)	(6)
<i>Dependent variable: Growth in real GDP per capita</i>							
		OLS	OLS	OLS	GMM	GMM	GMM
Constant	( $\alpha_0$ )	7.090* (1.133)	6.229* (1.199)	2.456* (1.212)	11.984* (2.911)	12.062* (2.985)	12.529* (2.903)
FDI	( $\beta_1$ )	0.099* (0.043)	0.094* (0.042)		0.189* (0.102)	0.194* (0.102)	0.192* (0.105)
Initial	( $\beta_2$ )	-0.576* (0.135)	-0.569* (0.144)	-0.439* (0.147)	-1.324* (0.354)	-1.419* (0.361)	-1.604* (0.351)
Human capital	( $\beta_3$ )	0.010 (0.007)	0.013* (0.008)		0.037* (0.021)	0.041* (0.019)	0.030 (0.021)
Imports	( $\beta_{4,1}$ )	-0.052* (0.013)	-0.046* (0.012)		-0.069* (0.033)	-0.075* (0.034)	-0.079* (0.034)
Exports	( $\beta_{4,2}$ )	0.047* (0.013)	0.044* (0.013)		0.098* (0.041)	0.105* (0.040)	0.107* (0.040)
Inflation	( $\beta_{4,3}$ )	-1.419* (0.220)	-1.284* (0.201)		-1.868* (0.430)	-1.903* (0.459)	-2.022* (0.475)
Investment	( $\beta_{4,4}$ )	0.155* (0.027)	0.151* (0.028)		0.104* (0.058)	0.116* (0.059)	0.113* (0.060)
Freedom	( $\beta_{4,5}$ )	0.183 (0.252)	0.139 (0.248)	0.203 (0.283)	0.128 (0.331)		
CV	( $\beta_{4,6}$ )	-0.005* (0.002)	-0.004* (0.002)	-0.006* (0.002)	-0.010 (0.008)	-0.008 (0.008)	-0.004 (0.007)
FDI * Pacific	( $\beta_{4,7}$ )	-0.182* (0.078)	-0.174* (0.081)		-0.179* (0.089)	-0.157* (0.089)	-0.173* (0.089)
Latitude	( $\beta_{4,8}$ )						0.051* (0.021)
Longitude	( $\beta_{4,9}$ )						0.009 (0.005)
Lagged schooling	( $\beta_{4,10}$ )			0.019* (0.007)			
Lagged imports	( $\beta_{4,11}$ )			-0.012 (0.010)			
Lagged exports	( $\beta_{4,12}$ )			0.010 (0.011)			
Lagged inflation	( $\beta_{4,13}$ )			0.216 (0.156)			
Lagged investment	( $\beta_{4,14}$ )			0.083* (0.024)			
Lagged FDI	( $\beta_{4,15}$ )			0.171* (0.067)			
Lagged FDI*Pacific	( $\beta_{4,16}$ )			-0.380* (0.083)			
Period dummies		No	Yes	Yes	Yes	Yes	Yes
R-squared		0.25	0.29	0.20			
AR (1) (p-value)					0.00	0.00	0.00
AR (2) (p-value)					0.39	0.43	0.43
Hansen test (p-value)					0.37	0.31	0.37
N		967	967	831	967	980	980

Notes: Numbers in parentheses are robust standard errors and \* denotes significantly different from zero at the 90% or greater confidence level.

In summary results from GMM estimations of the model indicate that a 10 per cent increase in the ratio of FDI to host GDP is associated with higher growth of about two per cent in countries (on average). In contrast, the impact falls to between 0.1 to 0.4 per cent in the case of the Pacific.

There are number of explanations as to why the impact of FDI to the Pacific is lower (on average) than in other parts of the world. One explanation is that a lot of FDI has been concentrated in the extractive industries with such investments being plagued with allegations of corruption, disputes with local landowners and environmental damage. Profits from these investments may also have been repatriated overseas rather than re-invested in the Pacific. FDI might also have crowded out domestic investment and employment in the region. Another explanation is that the returns to FDI in the Pacific are lower due to factors that reduce the productivity and profitability of foreign investments in Pacific countries. These factors include a high cost and low availability of skilled labour, a great distance to major markets as well as unfavourable business environments.

The World Bank's 'Doing Business' project lends some support to this latter assertion. The project provides objective measures of business regulations and their enforcement in 183 economies. Each economy is ranked according to their ease of doing business. A high ranking means the regulatory environment is more conducive to the starting and operation of a local firm. The best performing Pacific countries in 2011 include Vanuatu, Samoa and Fiji with country ranks of 60, 61 and 62 respectively. Other Pacific countries perform less well including Kiribati, the Solomon Islands and Papua New Guinea, ranked 93, 96 and 103 respectively (World Bank, 2011).

## V. Conclusion

The economic growth record of the Pacific region has been very disappointing and partially as a result of this, poverty in the region is increasing and progress towards the Millennium Development Goals (MDGs) has been slow and in some cases non-existent. With their limited resource bases, small domestic markets and lack of economies of scale, Pacific countries are heavily reliant on assistance from other countries in the forms of foreign aid, trade, access to labour markets and FDI. This paper finds that the growth return from FDI to the region has (on average) been very small (although positive). A 10 per cent increase in the ratio of FDI to host GDP is associated with

higher growth of about two per cent in host countries on average but just 0.1 to 0.4 per cent in the case of the Pacific.

Given the (often) more positive assessments of aid and remittances to the region it might be tempting to conclude that donors should focus their assistance to Pacific countries through higher levels of ODA and greater access to their labour markets. While the latter policy is certainly likely to provide high development returns, calls for additional aid should be met with a great amount of caution. There is a substantial literature which demonstrates that there are diminishing returns to foreign aid owing mainly to limited absorptive capacities within recipient countries. Past a certain level or threshold of aid, its growth impact starts to diminish. A number of Pacific countries already receive some of the highest levels of aid in the world relative to the size of their economies, and levels at which diminishing returns will have set in. A key implication is NOT for higher levels of aid to be provided to Pacific island countries to compensate for the relatively small impact of FDI on growth, unless the capacity to efficiently absorptive capacities can be quickly increased.

The international community must find other ways to assist Pacific island countries. With regard to FDI, two policy recommendations emerge from the findings of this paper, based on the principle of attacking the development problems of the region: (i) for developed (source) country governments to encourage firms to invest more in Pacific island countries without introducing market distortions; and (ii) for both host and source country governments to find ways of increasing the impact of FDI on economic growth. Concerning the first recommendation, Moran (2010) points to three areas in which developed country policies are important for facilitating the flow of FDI to developing countries: the provision of national or multilateral political risk insurance; the avoidance of double taxation of profits earned abroad; and finally, regulation to combat bribery and to prevent diversion of public revenues to private pockets.

Concerning the second recommendation, some general lessons from the FDI-growth literature are likely to be particularly applicable for Pacific island countries. Limited absorptive capabilities and poor business environments hamper the positive impacts of FDI on growth. A greater donor focus on improving human capital and private sector development in Pacific island countries should therefore improve the productivity of investment and lead to FDI have a greater impact on economic growth. The research community could also assist in this regard, by investigating ways of increasing the growth impact of FDI in the Pacific.

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Appendix

Table A1: Data Description and Sources

Variable	Description	Source
Growth	Growth in real GDP per capita	World Bank (2011)
FDI	FDI inflows as a percentage of host country GDP	World Bank (2011)
Initial GDP per capita	Log level of GDP per capita (constant US\$)	World Bank (2011)
Human capital	Secondary school enrolment rate (Net)	World Bank (2011)
Imports	Imports of goods and services as a percentage of GDP	World Bank (2011)
Exports	Exports of goods and services as a percentage of GDP	World Bank (2011)
Inflation	Annual growth rate of the GDP deflator shows	World Bank (2011)
Investment	Gross domestic investment as a percentage of GDP	World Bank (2011)
Free	Variable taking the value of 1 for countries with an average index score of between 1 and 2.5 for political rights and civil liberties	Freedom House (2011)
CV	The coefficient of variation for FDI defined as its standard deviation divided by its mean	Authors calculations
Latitude	Distance from the equator	CIA (2011)
Longitude	Distance from Greenwich prime meridian	CIA (2011)

Table A2: Summary Statistics

Variable	mean	sd	Max	min
Growth	1.889	3.556	31.236	-18.645
FDI	3.156	5.368	61.976	-20.921
Initial GDP per capita	7.584	1.541	10.626	4.390
Imports	42.510	22.588	195.084	5.081
Exports	36.161	21.956	204.975	4.241
Human capital	61.262	33.188	155.579	0.374
Inflation	3.042	0.771	8.860	1.184
Domestic Investment	22.184	7.995	83.043	3.184
CV	100.979	56.997	391.223	-139.618
Latitude	25.637	17.056	65	0
Longitude	51.559	43.404	175	1.1