DETERMINANTS OF PRIVATE INVESTMENT IN FIJI

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Abstract

Private investment in Fiji, in real terms as well as as a ratio to GDP have been falling over the years underpinned by both economic and non-economic factors. This paper seeks to identify the determinants of private investment in Fiji by undertaking an empirical analysis on the subject. The paper discusses the trends in investment and also reviews the literature on the topic. Empirical investigations show that changes in real private investment in Fiji are best explained by changes in terms of trade and by a dummy variable representing a coup and its after effects. Changes in the other economic variables examined had an insignificant effect on the variations in private investment, possibly due to the poor quality of data. In an attempt to further ascertain the causes of private investment, some qualitative data on a one–off Reserve Bank of Fiji survey on investment was used.

1.0 Introduction

Investment is key to economic growth. Recent empirical studies (Hernandez-Cata 2000, Ndikumana 2000, Ben-David 1998, Chari, Kehoe and McGrattan 1997, Barro and Lee 1994, Collier and Gunning 1999, Barro 1995, Ghura and Hadjimichael 1996, Khan and Reinhart 1990, Kormendi and Mcguire 1985) conducted in Africa, Asia and Latin America have established beyond a doubt, the critical linkage between investment and the rate of growth. Throughout the 1990s, the ratio of total gross domestic investment (GDI) to gross domestic product (GDP) in Asia, which experienced a high average rate of growth compared with the rest of the world, was about 27 percent, while in Latin America and sub-Saharan Africa the corresponding ratios were 20 percent and 17 percent, respectively.

Econometric evidence (Beddies 1999, Ghura and Hadjimichael 1996, Ghura 1997) indicates that private investment has a stronger, more favorable effect on growth rather than government investment, probably because private investment is more efficient and less closely associated with corruption. It is estimated that the ratio of private investment to GDP in the sub-Saharan African countries which had experienced poor rates of growth in the 1990s was less than 10 percent, compared with 16 percent in Latin America, 18 percent in advanced countries and 16.5 percent in newly industrialised countries in Asia (Hernandez-Cata 2000).

Viewed against the background of growing evidence of a strong link between high investment and sustainable growth, a steady decline since the mid 1980s in Fiji's GDI as a ratio to GDP has been a matter of

considerable concern to policy makers. Furthermore, in the context of observed policy shift in the late 1980s, placing a greater emphasis on the private sector following the initiation of public sector reforms, a perceptible slide in the ratio of private sector investment to GDP is all the more worrying. The much-awaited role of the private sector as an engine of growth has not yet materialised.

The objective of this working paper is to find out the determinants of private investment in Fiji. The rest of the paper is organised as follows: Section 2 discusses trends while Section 3 presents a brief review of empirical literature on the subject. Section 4 attempts an econometric analysis of private investment over the last three decades, whereas Section 5, employing some of the qualitative data obtained from an Investment survey conducted by the Reserve Bank of Fiji in 1999, makes a further attempt to determine the causes of private investment. Section 6 offers some conclusions with policy implications.

2.0 Trends in Investment

Data on gross fixed capital formation, hitherto referred to as gross domestic investment (GDI) is classified into public investment (includes investment by government and public enterprises) and private investment. For comparison over a thirty-three year period (1966-1998), the investment components of each year are scaled to the gross domestic product (GDP) of the respective year (Refer to Table 1).

Total GDI, as a proportion of GDP, has generally been declining since 1981 from a peak of 29.4 percent (public investment: 15.7 percent and private investment: 13.7 percent). The descending trend

was due more to the tapering off of public investment with the completion of several infrastructure projects in sub sectors including power, communications and agriculture, which were initiated in the early seventies (Treadgold 1992, Fallon and King 1995).

Ceteris paribus, the steady decline in investment, but for the impressive performances of tourism and emerging export industries including garments, would have adversely impacted growth (Refer to Table 2).

FIGURE 1
Real GDP and Total Investment
(Annual Percent Change)

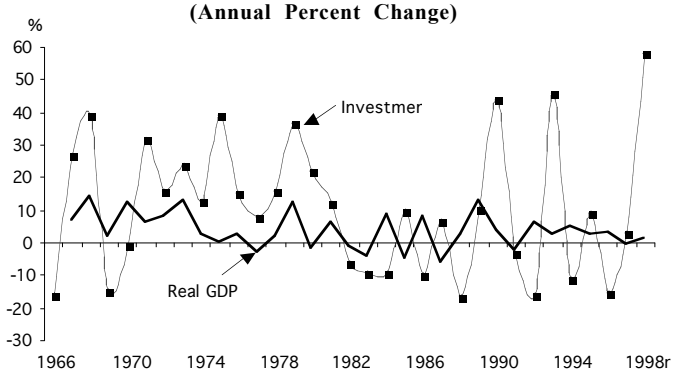


Table 1: *Fiji: Ratio of Investment to GDP*

	Total Investment (% of GDP)	Private Investment (% of GDP)	Public Investment (% of GDP)
1966	20.4	12.1	8.3
1967	25.2	18.3	6.9
1968	31.7	23.1	8.6
1969	24.0	18.0	6.9
1970	20.6	13.3	7.3
1971	24.9	15.6	9.3
1972	23.0	14.9	8.1
1973	21.9	13.3	8.5
1974	18.1	11.0	7.0
1975	20.1	11.4	8.7
1976	20.9	10.9	10.0
1977	21.3	11.5	9.7
1978	23.3	13.3	10.0
1979	26.3	14.2	12.1
1980	27.7	14.9	12.8
1981	29.4	13.7	15.7
1982	25.7	11.1	14.6
1983	23.2	10.9	12.3
1984	18.9	11.4	7.6
1985	20.3	13.6	6.7
1986	16.2	11.0	5.3
1987	17.3	10.9	6.4
1988	13.4	7.5	5.8
1989(r)	12.0	6.5	5.5
1990(r)	12.5	5.6	6.9
1991(r)	14.4	5.4	9.1
1992(r)	11.5	3.6	7.8
1993(r)	14.5	4.7	9.7
1994	12.0	4.1	7.9
1995	12.5	4.1	8.4
1996	10.0	4.2	5.8
1997(r)	10.2	3.4	6.8
1998(r)	12.2	4.0	8.2
1999(r)	12.7	4.2	8.5
2000(p)	9.9	3.1	6.8

Source: Fiji Islands Bureau of Statistics, RBF Quarterly Review (various issues).

Table 2: *Fiji: Investment and Real GDP growth*

	Total Investment (Annual % change)	Real GDP (Annual % change)
1966	-15.6	-
1967	27.0	6.7
1968	38.9	14.3
1969	-14.8	2.1
1970	-0.6	12.2
1971	31.9	6.0
1972	15.7	7.9
1973	23.7	12.7
1974	12.9	2.6
1975	39.4	0.1
1976	15.6	2.7
1977	7.9	-3.0
1978	16.1	1.8
1979	36.9	12.0
1980	21.8	-1.7
1981	12.3	6.0
1982	-6.3	-1.1
1983	-9.0	-4.0
1984	-8.9	8.4
1985	9.7	-5.1
1986	-9.9	8.1
1987	6.8	-6.4
1988	-16.7	2.2
1989	10.2	12.9
1990(r)	17.4	3.6
1991(r)	19.0	-2.7
1992(r)	-10.5	6.1
1993(r)	38.3	2.6
1994(r)	-12.2	5.1
1995(r)	9.2	2.5
1996(r)	-15.2	3.1
1997(r)	5.2	-0.9
1998(r)	28.2	1.5
1999(r)	16.2	9.6
2000(p)	-24.9	-2.8

Source: Fiji Islands Bureau of Statistics, RBF Quarterly Review (various issues).

2.1 Public Investment

During the late 1960s and early to mid 1970s, public investment averaged around 8 percent of GDP. This was well below the average recorded by private sector investment during the same period, of approximately 15 percent. However, it was acknowledged that public investment, *ceteris paribus*, was supportive of private sector investment through the creation and improvement in infrastructure, which was a necessary condition to economic development and growth in Fiji.

Throughout the 1970s, several major hotels, office projects and infrastructural developments were carried out. The government's industrial programme during the late '70s resulted in the establishment of new industries through the development of industrial lands and the construction of factory buildings. Furthermore, improvements to national infrastructure continued to be a major concern of government. This resulted in the commencement of projects that provided water and sewerage services, roading, jetties, airstrips, wharves, electricity supplies, postal services and telecommunications.

The completion of most of these public sector projects in the early to mid '80s resulted in lower investment levels being realised in the following years. However, the benefits to the economy, in particular to the private sector, were enormous. These benefits were realised through increased employment opportunities, better infrastructural access and higher income prospects.

Some of the projects that were completed in the early to mid '80s included the Monasavu Hydroelectric project, Vaturu Water Supply site, the Buckhurst Park complex, the Hyatt Regency Hotel, the

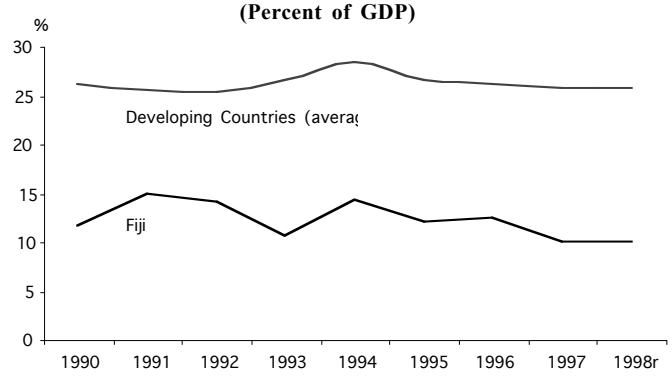
Nadi/Lautoka Regional Water Supply Scheme and building of jetties and roading projects in the rural and urban areas.

In 1981, public investment as a percent of GDP reached its peak of 15.7 percent and has been on a declining trend thereafter. The downward movement reflects a reduced commitment by government to capital projects as most of these schemes had been completed in the late '70s up to 1981.

The public sector continued to engage in projects throughout the mid to late '80s and '90s with the construction of hotel complexes of up market standard and ongoing projects such as rural roading, water supplies and major agricultural projects such as Uluisavou, Yalavou and Cocoa Development projects.

Public investment continued to be the impetus for total investment during 1990 – 1998. In the late 1990s, the purchase of aircrafts boosted public investment levels. However, total investment as a percent of GDP during these years were lower compared with the levels realised by developing countries (Figure 2).

FIGURE 2
Fiji and Developing Countries: Investment
(Percent of GDP)



2.2 Private Investment

For the period 1966 to mid 1970s, private investment as a percent of GDP averaged around 15 percent. Maintaining the average ratio to GDP of 12 percent over 1976 to 1987, private investment performance worsened thereafter, following the coup in 1987. During the period 1988 to 1998, private investment, as a ratio to GDP, averaged approximately 5 percent.

In the late 1970s, government had imposed some measures to boost private investment levels. One of these measures included the establishment of an export-processing zone with appropriate incentives for encouraging investors into export industries. The completion of major infrastructural projects in the early 1980s also contributed to an environment conducive to private sector investment. In the hotel industry, the buoyant tourism sector underpinned a favourable outturn for private investment in the industry. The occurrence of cyclones in

the review period had also seen some activity being stimulated through reconstruction and new investment.

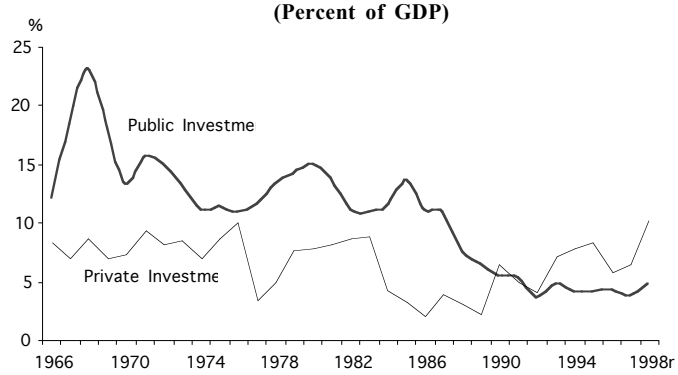
The slow and calculated withdrawal of the public sector from the investment scene, leaving the stage to the private sector to play its part, was auguring well for confining the public sector role to essential infrastructure investments. The disturbing trend, in terms of the steady decline in private investment, began from 1988 and resulted in a marked decline in overall investment.

The slump in private sector investment since 1988 is a reflection of how the Fiji economy has been affected by the uncertainties brought about by the coup in 1987. Private investment remained weak in 1988, reflecting continued uncertainties over constitutional and other issues.

In efforts to attract private investment into Fiji, the government had implemented the Tax Free Factory / Zone scheme which resulted in a notable increase in investment into garment manufacturing. In the early 1990s, work on tourism projects and commercial buildings were well underway and completed in the latter part of the decade.

However, the major expansion in private investment that is needed to sustain economic growth is yet to be achieved (Figure 3).

FIGURE 3
Fiji: Public and Private Investment
(Percent of GDP)



3.0 A Brief Review of Empirical Literature

Private investment behaviour is primarily influenced by the profit motive. There are a few factors such as wage and raw material costs that can be satisfactorily forecast and are within the control of investors. However, since many other factors in an open economy like Fiji are beyond the control of investors, profit expectations center around the future price level and export competitiveness (Serven and Solimano 1992, Duncan *et al*. 1999). Consequently, a low rate of inflation and appropriate pricing of capital, labour and land to maintain international competitiveness are two main macroeconomic challenges for decision makers to make the country investor friendly (World Bank 1995).

A high rate of inflation will tend to discourage private savings and investment. This calls for prudent fiscal policies, which will avoid unsustainable fiscal deficits, as well as disciplined monetary policies including self-denial in resorting to domestic borrowing from monetary

authorities (Fairbairn 1992). Export competitiveness requires proactive real exchange rate policies (Fischer & Khan 1998; Herandez 2000). This will prevent domestic resources from being overvalued and ensure that domestic investors are discouraged from investing overseas while overseas investors are encouraged to make new commitments (Siwatibau 1993).

3.1 Exchange Rate Adjustments and Private Investment

Although nominal exchange rate adjustments are made from time to time to maintain export competitiveness, it has been observed that such efforts are meaningless as little purpose is served if real wages and the prices of non-tradables are not flexible downwards. With specific reference to the Pacific island countries, it is argued that dependence on primary commodity exports as well as sharp fluctuations in export prices and volumes call for sufficient flexibility in wages and prices so as to allow for the necessary adjustments (Duncan, *et, al*. 1999).

Aside from flexibility in wages and prices, private investment would flourish in a supportive environment of cost reductions in power, transport and communications, which are often provided through public investment. Empirical studies (Bljer and Khan 1984, Greene and Villanueva 1991) on 23 countries have shown that public investment in physical infrastructure is complementary to private investment. However, as there is a finite limit for domestic savings, public investment would in some cases pose a severe constraint for private investment and would crowd out private investment. Balassa (1988) in his study of 30 countries showed the presence of a negative relationship

between private investment and public investment. Duncan *et al*. (1999) point out such a negative relationship might not exist in the case of Pacific islands, which have no difficulties accessing foreign savings.

3.2 Interest Rate Policy and Private Investment

User cost of capital is an important factor in any investment decision by the private sector. When the user cost of capital is increased by raising the cost of bank credit or by increasing the cost of retained earnings, which is the main source of financing investment, there is a decline in investment. Findings of various empirical studies are not, however, consistent. While certain studies (Green and Villanueva 1991, Solimano 1992) have confirmed the negative relationship between interest rates and investment, studies by others (Serven and Solimano 1993, van Wijnbergen 1985a, 1985b) have shown that in repressed financial markets, credit policy affects investment in a distorted manner. The interest channel transmission mechanism, therefore, depends upon the institutional set up of financial markets. As financial sector reforms aiming at deregulation in Fiji are of recent origin, regulatory measures might have affected private investment until the 1980s, through serious distortions in incentives.

Skully (1997) in his study on Fiji and other countries in the region stressed that the availability of finance at competitive real interest rates was not a constraint for private investment in Fiji. Furthermore, he concluded that public sector borrowings crowding out private sector funding was not a problem in Fiji. As regards availability of indigenous entrepreneurship, Pollard and Qalo (1994) have shown that there are

sufficient indigenous skills available in the country, which could be further developed to foster private enterprise.

Duncan et al. (1999) observe that one cannot reach any conclusion in regard to whether there are any profitable opportunities. These are best answered by investors themselves and that too only in *ex post* context. Any lack of profitable business opportunities can be traced to three causes: (i) government policies that raise the cost of investing; (ii) cultural and social barriers; and (iii) natural barriers such as small scale and physical location.

3.3 Quantitative and Qualitative Factors Influencing Private Investment

Any effort to undertake a quantitative analysis is fraught with the difficulties of choosing appropriate variables which one might not have full information on, on a consistent basis. For overcoming the problem of limited number of observations, imposed by the constraints in regard to availability of consistent time series data covering a long period for any given country, cross-sectional data of a large number of countries, although for a shorter period, are generally used. Serven (1997) in his study of 86 developing countries examined data on terms of trade, real exchange rates, property rights and civil liberties and concluded that while factors including credit, availability and the quality of physical and human infrastructure are important influences, uncertainty in the investment environment was negatively related to private investment in sub-Saharan countries.

Employing the variability in real exchange rates as an explanatory variable in regression analysis, Jayaraman (1996) in his cross-country study on the macroeconomic environment and private investment in six Pacific Island countries observed a statistically significant negative relationship between the variability in the real exchange rate and private investment. Duncan *et al*. (1999) commented that although variability in the real exchange rate is a reasonable proxy for instability in major economic variables as fluctuations in inflation and productivity and more generally in fiscal and monetary management are reflected in the real exchange rate, it is not a good measure of the uncertainty attached to policy or the insecurity of property rights and enforcement of contracts or the level of corruption. Observing that these non-economic factors appear to be very significant influences on investment in the Pacific Island countries, Duncan *et al.* 1999, however, concede that no quantitative or qualitative evidence is available of their size or their impact. In the absence of such evidence, any study on private investment is to be necessarily restricted to the conventional variables.

3.4 Institutional Factors and Private Investment

A study by Weder (1998) on 21 Sub-Saharan African countries using data on institutional factors is of relevance here. The institutional factors employed by Weder (1998) were qualitative information on annual ratings of the following indicators: (i) quality of bureaucracy; (ii) the rule of law; (iii) policy surprises; (iv) credibility of announcements; (v) extent of availability of information on new rules; (vi) degree to

which business can participate in making new rules; (vii) predictability of judiciary enforcement; (viii) theft and crime; (ix) security of property rights; (x) frequency of corruption; (xi) uncertainty of corruption; and (xii) corruption perceived as an obstacle to business. All indicators are rated from 1 (worst) to 6 (best).

Data on (i) and (ii) were drawn from a private firm study on international country risks. Others from (iii) to (xii) were drawn from the data collected by the World Bank and University of Basel. These are based upon private sector surveys commissioned in 73 countries in Africa, Asia and Latin America in preparation for the World Development Report 1997 (World Bank 1997). As these data pertain to a short period, a cross-country regression analysis was found more appropriate for the 21-country study (Weder 1998). The study (Weder 1998) concludes that factors (vii), (viii), (ix) and (xi) are highly significant.

4.0 Empirical Investigation

Econometric investigation of private investment in Fiji is considerably influenced by past studies notably by Goldsborough *et al.* (1996) and a recent study by Ndikumana (2000). The econometric procedures employed have recognised the limitations imposed by several problems, including data limitations and constraints posed by the limited number of observations. Further, likely simultaneity problems have been avoided by lagging certain variables, constraining the causality to run in one direction.

Three categories of factors were identified for attention in our exploration of determinants for private investment: (i) neo-classical factors of investment; (ii) policy-related factors; and (iii) open economy factors. Data on non-economic and institutional factors are available for 1999 thanks to a one-off Investment Survey carried out by the Reserve Bank of Fiji. As no such survey was conducted in earlier years on a longitudinal basis, no data for past years were available, the empirical analysis is confined only to economic time series data.

Neo-classical investment theory suggests that the growth rate of real GDP influences private investment in a positive manner (Wai and Wong 1982, Greene and Villanueva 1991, Fielding 1997). This is also known as the "accelerator effect". However, to reduce the risks of simultaneity basis, the GDP variable, either in levels or in percentage form, is specified with a one-period lag (Goldsborough *et al.* 1996). Further, the growth rate lagged by one period could also be construed as a proxy for expectations about future demand for, and returns from, the output of investments (Jayaraman 1996). A rapidly growing economy would be expected to boost expectations and hence investment (Duncan *et al*. 1999). Neo-classical theory also suggests that, as high interest rates discourage investment by raising user cost of capital, private investment is negatively related to interest rate. Since the real interest rate has become positive only very recently, mainly because of financial sector reforms, the interest rate, in accordance with Mckinnon-Shaw (1973) hypothesis, can have a negative effect only on investment through the saving channel. Low or negative interest rates discourage saving, which would reduce the amount of savings for investment.

However, there is little empirical evidence on this channel (Ndikumana 2000).

The policy related variables have to take into account government consumption spending which affects availability of savings for the private sector. The "crowding out" effects of government expenditure are reflected in credit availability for the private sector. Another factor is inflation, which affects investment by increasing the uncertainty of investment. A rise in domestic inflation relative to overseas inflation, given the nominal exchange rate, results in the appreciation of the real exchange rate adversely affecting export competitiveness. Trade flows fall under open economy factors, which include availability of external reserves, impact of external debt and black market activities in currency exchange (Ndikumana 2000). Since Fiji's external debt as a proportion of gross domestic product is low, there is no debt-overhang of the kind facing countries with high debt servicing obligations being financed out of export earnings. Similarly there is no black market in foreign currency dealing. Hence, we will consider two factors under the open economy category: external reserves and variability in terms of trade.

Greater availability of external reserves, in terms of months of import coverage, is expected to encourage private investment. Variability in the terms of trade is expected to affect private investment in an adverse way.

4.1 Data

Appendix 1 outlines the data sources and their construction. Before commencing with the estimation exercises, the Augmented Dickey Fuller test (ADF) and the Phillips Perron test were used to examine the stationarity properties of the time series data.

Table 3 shows the results of the ADF and Phillips Perron tests where a unit root null hypothesis is tested against a stationary alternative. Empirically, all the variables except for the Real Effective Exchange Rate Index, public investment and the unit labor costs index are of integration order one. However, due to the weak power of the tests, each series is treated as I(1).

Table 3: *Unit Root Tests*

Estimation period: 1966 - 1998

Variable	Dickey – Fuller Test		Phillips – Perron Test	
	I(1)	I(2)	I(1)	I(2)
Log of real Private investment	-4.54**		-5.34**	
Log of real GDP	-4.14*		-6.84**	
Log REER	-3.17	-3.85*	-2.75	-3.55
Log of real private Sector credit	-4.04*		-5.94**	
Log of real public Investment	-3.48	-6.11**	-5.21**	
Log of real unit labor cost index	-3.01	-5.45**	-5.70**	
Log of terms of trade index	-5.10**		-6.63**	

Note: **(*) denotes significance at one (five) percent levels. The critical values for the ADF tests are –4.29 and 3.57 at the one and five percent levels respectively. The critical values for the Phillips Perron tests are –4.28 and –3.57 at the one and five percent levels respectively.

4.2 Estimation

The model is estimated over the period 1966 to 1998 as an unrestricted error correction model (ECM). This approach enables the long run equilibrium relationship and the short run dynamics to be estimated simultaneously. The general-to-specific approach was then utilised where insignificant regressors were sequentially deleted to arrive at the preferred specification reported in Table 5. The F-tests were carried out to ensure that the omitted variables were not significant.

The unrestricted equation is expressed below:

$$\Delta RPI_t = b_0 + \sum_{i=1}^{7} \beta_{it} \Delta x_{it} + \sum_{i=1}^{7} \gamma_{it} \Delta x_{it-1} + \ldots + \lambda \Delta RPI_{t-1} + u_t$$

where:

RPI = Real private investment;

x_1 = Real public investment;

x_2 = Real GDP growth;

x_3 = Real lending rate;

x_4 = Real private sector credit;

x_5 = Real Effective Exchange Rate Index;

x_6 = Terms of Trade Index;

x_7 = Real Unit labour cost; and

u_t = Error Term

Note: All variables are in log form except the interest rate.

4.3 Diagnostics

Before turning to the results, it is necessary to consider the statistical properties of the model. The model was tested for normality, serial correlation, autoregressive conditional heteroskedasticity, heteroskedasticity and specification error. The results, reported in Table 4, suggest that the model is well specified. The diagnostics indicate that the residuals are normally distributed, homoskedastic and serially uncorrelated.

Table 4: *Diagnostics*

			Probability
Normality:			
Jarque-Bera statistic	χ^2-statistic	0.797	0.671
Serial Correlation:			
Breusch-Godfrey Serial	F-statistic	0.603	0.555
Correlation LM test	χ^2-statistic	1.418	0.492
AR Cond. Heteroskedasticity			
ARCH LM test	F-statistic	0.305	0.585
	χ^2-statistic	0.322	0.570
Heteroskedasticity:			
White Heteroskedasticity test	F-statistic	0.310	0.902
	χ^2-statistic	1.802	0.876
Specification Error:			
Ramsey RESET test	F-statistic	0.670	0.675
	L-R statistic	5.372	0.497

Note: **(*) denotes significance at the one (five) per cent levels. No terms were significant at these levels. LR is a likelihood ratio statistic.

4.4 Results

The results show that in the long term, the variation in private investment is underpinned by the terms of trade performance of the country. The occurrence of a coup also has a significant negative impact on private investment. Combined, however, the coup and terms of trade explain only 35 percent of the variation in private investment. The other 65 percent is unexplained by the model. The factors that were not initially included in the model comprised mainly of qualitative

factors. These qualitative factors coupled with other factors that might have been left out explain the deviations in private investment which are not being captured or explained by the model. The value obtained for R^2 (0.4) and the adjusted R^2 (0.35) may appear somewhat low. As we are attempting to explain annual changes, R^2 of this low magnitude is quite acceptable (Thomas 1997).

Table 5: Determinants of Private Investment in Fiji

Dependent variable: change in real private investment.
Estimation period: 1966 – 1998

Explanatory variables: short run	(1)	(2)
Constant	-2.017	
	(-1.789)	
Coup	-0.451	
	(-2.902)	
Explanatory variables: long run		
Error Correction Term	-0.371	
	(-3.352)**	
Terms of $trade_{t-1}$	0.808	2.181
		(3.700)**
Summary Statistics		
Adjusted R-squared	0.346	
□	0.149	

Notes: t-values are in parentheses. **(*) denotes significance at the one(five) per cent levels. For the long run explanatory variable, the implied long-run coefficient (column 2) was calculated as the ratio of the relevant long-run ECM coefficient to the long-run coefficient on the lagged dependent variable; the Bewley transformation was applied to obtain interpretable t-statistics. □ is the standard error of the equation.

5.0 Qualitative Factors

Econometric analysis shows that conventionally used economic variables in the cited studies on investment behaviour in other developing countries in Asia, Africa and Latin America could not successfully explain the variations in private investment. The reasons appear to be the economic data employed in our study were either poor in quality or reliability. Such an inference was also drawn in an earlier study on variations in output in Fiji (Morling and Williams 1999). The results of quantitative analysis would also lead us to imply that other factors may have a greater influence on private investment behaviour.

Paucity of data on qualitative factors such as those employed by the study (Weder 1998) on private investment behavior in Sub-Saharan Africa (Sec. 3.4) has been a serious constraint since we have no such longitudinal surveys of investment behaviour. However, in December 1999, the Reserve Bank conducted a one-off survey on Investment Impediments, the first such survey to be carried out, with the objective of gauging business people's views on the major impediments to investment in Fiji.

5.01 December 1999 Reserve Bank of Fiji Investment Survey

In trying to explain the declining investment trends in Fiji, an investment survey was conducted to gauge business people's views on the major impediments to investment.

The survey sample comprised 240 companies categorised into the following major sectors: 49 in distributive trade (retail/wholesale), 47 in the tourism sector, 40 in the garments sector, 26 in building and construction, 28 in transport and storage, 26 in manufacturing, 19 in

finance and insurance and 5 in communications. Table 6 shows the breakdown of the sample by localities.

Table 6: *Sample Breakdown by localities*

	Distributive Trade [Wholesale /Retail]	Tourism	Garments	Building and Construction	Transport and Storage	Manufacturing	Finance and Insurance	Communications
Suva	32	4	20	12	21	15	19	5
Nasinu				1				
Samabula	4			2		1		
Valelevu				2				
Labasa		1		1				
Nadi	5	18	7	2	5			
Lautoka	1	5	10	3	1	3		
Ba	2			1		2		
Sigatoka	2	4	1					
Taveuni		3						
Korolevu		3						
Savusavu		3						
Deuba		3						
Nausori			1			1		
Rakiraki		2			1			
Laucala			1			1		
Vatukoula						1		
Lami	1	1		2		1		
Raiwaqa	2					1		
Total	49	47	40	26	28	26	19	5

Respondents were requested to rank the various impediments listed in the questionnaire with the option of adding other factors they felt were barriers to investment in Fiji. Factors outlined in the survey ranged from financial and monetary factors to fiscal and structural factors. Appendix 2 shows a sample questionnaire.

The response rate for the survey was 37.9 percent. Hence, the results should be interpreted with caution.

The results of this survey indicated that the principal factors hindering investment are largely policy-related issues. This suggests that while investment incentive schemes might go some way in promoting

investment, the key to improving the investment climate in Fiji, according to respondents, would be clear policy direction and less bureaucracy and regulation.

The top ten impediments to investment in Fiji as indicated by the respondents were:

1. Government policy uncertainty;
2. Red tape and bureaucracy;
3. General economic climate;
4. Government regulations;
5. Finding skilled labor;
6. Political situation;
7. Land issue;
8. Law and order;
9. Lack of infrastructure; and
10. Utility costs like water and electricity.

Ranked 11 to 26 were the following factors:

11. Consumer confidence;
12. Interest rates;
13. Shipping costs;
14. Profitability;
15. Bank fees and charges;
16. Price controls;
17. Tax rates;
18. Racial issues;
19. Medical / education facilities;
20. Finding suitable land / premises;
21. Availability of work / sales;
22. Lack of bank lending;
23. Wages;
24. Cashflow;
25. Contract security; and
26. Exchange controls.

Other impediments included expatriate permits, lack of Board of Directors' support and interest, lack of management focus and prioritising, trade union issues, lack of local equity, labor rigidity, trade

relations, lack of raw material, international tax treaties, coups and crime.

The results of the investment survey were mainly influenced by the manufacturing, tourism and garments sectors. This was followed by the wholesale and retail sector, the building and construction sector and the communication sector.

6.0 Conclusion

Econometric investigation into the determinants of private investment has portrayed weak results as far as explaining the variations in private investment in Fiji. However, analysis of the results of the first-ever conducted Investment Survey reveals that the investment behaviour might have been influenced more by private sector expectations.

With only 35 percent of the changes in private investment being explained by the model, it is only logical to conclude that other factors, for which a major share are qualitative factors, explain the other overwhelming 65 percent of the variability in private investment in Fiji.

Empirical studies conducted elsewhere, notably in Africa (Ghura and Hadjmichael 1996, Easterly and Levine 1997, Fischer, Hernandez-Cata and M.S. Khan 1999, Hernandez-Cata 2000) and in the West Bank and Gaza Strip (Oussama Kanaan 1998) have established that uncertainty deters private investment. These studies have brought out in clear terms that the reason for the low level of private investment is the perception by both domestic and foreign investors of a low after tax, risk adjusted rate of return on capital (Collier and Patillo 2000,

Heranandez-Cata 2000). Opportunities of very high gross, unadjusted rates of return on capital are cold comfort, if they are diminished by high taxes and if there is a significant risk of capital loss associated with investment. Generally, high taxes adversely erode gross returns. Capital loss associated with investment risk can arise from three causes: macroeconomic instability, loss of assets due to non-enforceability of contracts; and physical destruction of infrastructure caused by armed conflicts (Hernandez-Cata 2000, Easterly and Levine 1997, Collier 1998).

Macroeconomic instability is often due to unsustainable fiscal deficits and consequently inflation and unstable exchange rates. The second cause relates to inadequacy of legal systems under which there is failure of enforcing contracts and property rights. The third cause, civil unrest and armed conflicts, aside from destroying human lives and physical infrastructure as well as disrupting the working of institutions, lead to increases in avoidable government spending such as strengthening military and civil defence forces. Such increases crowd out private investment and result in the reduction of expenditures on physical and social infrastructure, including education and health.

Fiji's macroeconomic performance has been sound as fiscal deficits have been low and sustainable. Therefore, the causes of risks to investment are not very far to seek. It seems that some of these causes appear to be in areas other than economic, such as perceived inadequacies in the legal system, failure to enforce contractual obligations and property rights, land issues, and uncertainties due to possible civil unrest.

Appendix A Data Sources and Construction

Series	Sources and Construction
Private Investment	Calculated as the change in logarithm of real private Investment. Bureau of Statistics, IMF Article IV Consultation Report; Reserve Bank of Fiji, Quarterly Review (2000).
Real GDP	Gross Domestic Product at constant factor Cost. Bureau of Statistics, Current Economic Statistics, various issues; Bureau of Statistics; GDP Releases, various issues; Reserve Bank of Fiji, Quarterly Review Reports (2000).
Nominal GDP at current market Prices	Calculated as real GDP adjusted for inflation. Bureau of Statistics, GDP Releases, various issues Reserve Bank of Fiji.
Public Investment	Calculated as the change in logarithm of real public investment. Bureau of Statistics, IMF Article IV Consultation Report; Reserve Bank of Fiji, Quarterly Review (2000).
Real Lending Rate	Calculated as the Commercial Banks' Lending Rate less inflation. Reserve Bank of Fiji, Quarterly Review, various issues; Bureau of Statistics, Current Economic Statistics, various issues.
Inflation	Change in the logarithm of the annual average consumer price index Reserve Bank of Fiji, Quarterly Review, various issues; Bureau of Statistics, Current Economic Statistics, various issues.
Private Sector Credit	Commercial Loans and Advances to the Private Sector. Reserve Bank of Fiji, Quarterly Review, various issues;
Real Effective Exchange Rate	Real effective exchange rate as calculated by the Reserve Bank of Fiji. For the period prior to 1979 an index was constructed using the trade-weighted consumer prices indices and bilateral exchange rates of Fiji's five major trading partners. IMF International Financial Statistics Yearbook (1998); IMF International Financial Statistics, various issues; Reserve Bank of Fiji, Quarterly Review (1999).

Series	Sources and Construction
Terms of Trade	Calculated as the ratio of an index of export prices to an index of import prices. The export price index was calculated as an index of the world prices of Fiji's major exports (in US$), weighted by their respective export share. Prior to 1990, the export price index published by the IMF was used. The import price index was calculated as an index of export unit values of Fiji's five major trading partners (in US$), weighted by their respective import share. IMF International Financial Statistics Yearbook (1998); IMF International Financial Statistics, various issues; IMF Direction of Trade Statistics, various issues.
Unit Labour	Unit labour costs index (Base Cost index Cost index 1990=100). Calculated as an index of wages divided by productivity. Productivity data were constructed using real GDP and paid employment. Wages data for 1997 – 1998 are the midpoints of the range of wage outcomes for year reported by the Fiji Employers' Federation. IFS International Financial Statistics Yearbook (1996); IFS International Financial Statistics, various issues; Bureau of Statistics, Current Economic Statistics, various issues; Reserve Bank of Fiji, Quarterly Review (1996).

Appendix B Investment Survey Sample Questionnaire

Impediments	Rank
Availability of work / sales	_____
Bank fees and charges	_____
Cashflow	_____
Consumer confidence	_____
Contract security	_____
Exchange Controls	_____
Finding suitable land/premises	_____
General Economic Climate	_____
Government Policy Uncertainty	_____
Government regulations	_____
Infrastructure (roads, port facilities, airports)	_____
Interest rates	_____
Labour (finding skilled / experienced staff)	_____
Lack of bank lending	_____
Land issues	_____
Law and order	_____
Medical / education facilities	_____
Political situation	_____
Price controls	_____
Profitablity	_____
Racial issues	_____
Red tape (approvals, permits)	_____
Shipping costs	_____
Tax rates	_____
Utility costs (telecommunications, electricity, water)	_____
Wages	_____
Others:	_____
_ _	_____
_ _	_____
_ _	_____
_ _	_____

References

Balassa, B. (1988). Public Finance and Economic Development, *PPR Working Paper No.31*, World Bank, Washington, D. C.

Barro, R. J. (1995). Economic Growth in a Cross Section of Countries, *The Quarterly Journal of Economics*, May, pp. 407-443.

Barro, R.J. and J.W. Lee (1993). Losers and Winners in Economic Growth, *Proceedings of the World Bank Annual Conference on Development Economics*, ed. M. Bruno and B. Pleskovic, pp. 267-97.

Beddies, C. (1999). Investment, Capital Accumulation and Growth: Some Evidence from Gambia: 1964-1998. *IMF Working Paper 99/117*, August.

Ben-David, D. (1998). Convergence Clubs and Subsistence Economies, *Journal of Development Economics*, 55, pp.155-171.

Bljer, M and M. Khan (1984). Government Policy and Private Investment in Developing Countries, *IMF Staff Paper No.131*, International Monetary Fund, Washington, D. C.

Burnetti, A., G. Kisunko and B. Weder (1997). Credibility of Rules and Economic Growth: Evidence from a Worldwide Survey of Private Sector, *Policy Working Paper No.1760*, World Bank, Washington D.C.

Burnetti (1997b). Institutional Obstacles to Doing Business: Region by Region Results from a Worldwide Survey of the Private Sector, *Policy Research Working Paper No. 1759*, World Bank Washington, D. C.

Chari, V.V., P.J. Kehoe and E. R. McGrattan (1997). The Poverty of Nations: A Quantitative Investigation, *Research Department Staff Report 204,* Federal Reserve Bank of Minneapolis, Minneapolis.

Collier, P. and J.W. Gunning (1999). Explaining African Economic Performance, *Journal of Economic Literature*, 37, March, pp.64-111

Collier, P. and C. Patillo (2000). *Investment and Risk in Africa*, Macmillan.

Duncan, R., S. Cuthbertson, and M. Bosworth (1999). Pursuing Economic Reform in the Pacific*, Pacific Studies Series No.18*, Asian Development Bank, Manila.

Easterly, W. and R. Levine (1997). Africa's Growth Tragedy: Policies and Ehnic Divisions, *Quarterly Journal of Economics*, 112, November, pp.1203-50

Fallon, J. and T. King (1995). The Economy of Fiji: Supporting Private Investment, *International Development Issues No. 36*, Australian Agency for International Development, Canberra.

Fairbairn, T.I.J. (1992). Private Sector Development in the South Pacific: Options for Donor Assistance, *Pacific Studies Monograph No.3*, The Centre for South Pacific Studies, University of New South Wales.

Fielding, D. (1997). Adjustment, Trade Policy and Investment Slumps: Evidence from Africa, *Journal of Development Economics,* 52, pp. 121-137.

Fischer, S. E. Hernandez-Cata and M.S. Khan (1998). Africa: Is this the Turning Point?, *IMF Paper on Policy Analysis and Assessment 98/6,* May.

Foreign Investment Advisory Service, (1998). *Practical Impediments to Investment in Forum Island Countries*, Forum Secretariat, Suva.

Ghura, D. and T. Hadjimichael (1996). Growth in Sub-Saharan Africa, *Staff Papers*, International Monetary Fund, 43, September.

Ghura, D. (1997). Private Investment and Endogenous Growth: Evidence from Cameroon, *IMF Working Paper 97/165*, December.

Granger, C.W.J. and P. Newbold (1974). Spurious Regressions in Econometrics, Journal of Econometrics, 2, pp. 111-120.

Greene, J. and D. Villanueva (1991). Private Investment in Developing Countries: An Empirical Analysis, *IMF Staff Papers*, 38 (1), International Monetary Fund, Washington, D. C.

Goldsborough, D. S. Coorey, L. Dicks-Mireaux, B. Horvat, K. Kochhar, M. Mecagni, E. Offerdal, and J. Zhou (1996). Reinvigorating Growth in Developing Countries, *Occasional paper No. 139*, International Monetary Fund, Washington, D. C.

Herandez-Cata, E. (2000). Raising Growth and Investment in Sub-Saharan Africa: What Can be Done? *Policy Discussion Paper: PDP/00/4,* International Monetary Fund, Washington, D .C.

Jayaraman, T.K. (1996). Private Investment and Macroeconomic Environment in the South Pacific Island Countries: A Cross-Country Analysis, *Occasional Paper No.14,* Asian Development Bank, Manila

Kanaan, O. (1998a). Private Investment Under Uncertainty in the West Bank and Gaza Strip" in S. Barnett, N. Calika, D. Chua, O.Kanaan, and M. Zavadjil, *The Economy of West Bank and Gaza Strip*, International Monetary Fund, Washington, D.C.

Kanaan. O. (1998b). Uncertainty Deters Private Investment in the West Bank and Gaza Strip *Finance and Development*, June, pp. 34-37

Khan, M.S., and C.M. Reinhart (1990). Private Investment and Economic Growth in Developing Countries, *World Development*, 18 (1), pp. 19-27.

Kormendi, R.C. and P.G. Meguire (1985). Macroeconomic Determinants of Growth: Cross-country Evidence, *Journal of Monetary Economics*, 16, pp. 141-163.

McKinnon, R. (1973). *Money and Capital in Economic Development,* Brookings Institution, Washington, D. C.

Morling S. and G. Williams (1999). *Modelling Output Fluctuations in Fiji,* Reserve Bank of Fiji Working Paper 2000-01.

Ndikumana, L. (2000). Financial Determinants of Domestic Investment in Sub-Saharan Africa, *World Development*, 28 (2), pp.381-400.

Oshikoya, T.W. (1994). Macroeconomic Determinants of Domestic Private Investment in Africa: An Empirical Analysis, Economic Development and Cultural Change, 42 (3), pp.573-596.

Perron, P. (1988). Trends and Random Walks in Macroeconomic Time Series: Further Evidence from a New Approach, *Journal of Economic Dynamics and Control*, 12 (2/3).

Phillips, P and Perron (1988). Testing for a Unit Root in Time Series Regression, *Biometrika,* 75, pp.335-346.

Pollard S. and R. Qalo (1994). Development Sustained by Enterprise: Toward Policies for Economic Stimulation, *Pacific Islands Development Series No.2, East West Center Working Papers*, East West Centre, Honolulu

Shaw, E.S. (1973), *Financial Deepening in Economic Development*, Oxford University Press, New York.

Siwatibau, S. (1993). Macroeconomic Management in the Small Open Economies of the South Pacific, in R. Cole and S. Tambunlertchai, (eds.), The *Future of Asia-Pacific Economies: Pacific Islands at the Cross Roads?*, National Centre for Development Studies, Australian National University, Canberra.

Skully, M. (1997). The South Pacific: Finance, Development and the Private Sector, *International Development Issues No.48,* Australian Agency for International Development, Canberra.

Serven, L. and A. Solimono (1992). Private Investment and macroeconomic Adjustment: A Survey, *World Bank Research Observer*, 7(1),pp.95-114.

Thomas, R. L. (1997). Modern Econometrics, An Introduction, Sydney: Addison Wesley, pp.452.

Treadgold, M. (1992). The Economy of Fiji: Performance, Management and Prospects, *International Development Issues*

No.25, Australian Agency for International Development, Canberra.

Wai, T.U. and C.H. Wong (1982). Determinants of Private Investment in Developing Countries, *Journal of Development Studies*, (19) 1, pp. 19-36.

Weder, B. (1998). Africa's Trade Gap: What Should Africa Do to Promote Exports, *Paper presented at the Workshop on Asia and Africa in the Global Economy,* August 1998, United Nations University, Tokyo, Japan.

World Bank (1995). *Pacific Island Economies: Building a Resilient Base for the Twenty-first Century,* World Bank, Washington, D. C.