A re-examination of private consumption in Fiji

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The Reserve Bank of Fiji has claimed that private consumption expenditure in Fiji has grown considerably in recent years. For policy purposes, it is important to understand the determinants of consumption in Fiji. This article uses time series techniques to estimate the determinants of real private consumption for Fiji from annual data for the period 1975–2005. It is found that income and the availability of consumer credit are significant determinants of consumption.

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In the simple Keynesian consumption function, consumption depends solely on disposable income in the current period. It does not take account of the individual's expected path of income or time preference for consumption, which would be captured by the real rate of interest, representing the opportunity cost of spending. Therefore, there appear to be contradictions between the simple Keynesian consumption function and empirical evidence. Friedman's (1957) permanent income hypothesis (PIH) takes into account lifetime income and is more general than the Keynesian absolute income hypothesis (AIH). Many economists treat PIH and the life-cycle hypothesis (LCH) as equal. Hall's (1978) random walk (RW) model suggests that LCH and PIH are unsatisfactory and that further modifications should be made. Consumption makes up the largest share of aggregate expenditure and a thorough understanding of its determinants has implications for long-run growth policies.

The aim of this analysis is to estimate the long-run elasticities of real private consumption for Fiji. We have used the time series techniques of general to specific (GETS) and Johansen's (1988) maximum likelihood (JML) to estimate the consumption function for Fiji, using annual data from 1975 to 2005. The results imply that the income elasticity is about unity and the elasticity with respect to the availability of consumer credit at its mean rate of 4.11 per cent is about 0.2.

Trends in private consumption growth

The average growth rates of real private consumption ($\Delta \ln C$), real disposable income ($\Delta \ln Y$), the gross domestic product (GDP) deflator ($\Delta \ln P$) and the availability of consumer credit (R) are given for the period 1975–2005 and for two sub-periods, 1975–90 and 1991–2005 (Table 1).

For the period 1975–2005, consumption growth was quite volatile. Generally, demand for durables and non-durables fluctuated due to changes in market forces such as prices, product promotion polices and supply. The rate of inflation in Fiji was high, at 10 per cent, during 1975–90 due to the high global inflation rates caused by the two oil price shocks in the mid and late 1970s. The inflation rate declined subsequently to an average of 3.6 per cent. During the period 1975–90, the rate of growth of real private consumption was 3.5 per cent. In contrast, real private consumption grew at 5.5 per cent in the period 1991–2005. This clearly indicates that consumption expenditure has been rising in Fiji. On the other hand, between these two periods the rate of growth of disposable income declined by almost 1 percentage point, from 2.43 to 1.46, and the availability of consumer credit increased by about 2 percentage points, from 2.06 to 4.09. These figures neatly capture the reasons for the concern of the Reserve Bank of Fiji (RBF) about the rapid growth in consumption—consumption increasing much faster than income and being funded by credit.

The high growth rate of consumption spending led to high growth in imports. This is of concern because exports have not been increasing as fast, and have even been declining, and thus foreign exchange reserves have been under continuous pressure. In the past two years, the RBF has been raising interest rates (bank rates) to curtail consumption expenditure by households. From a policy perspective, it is of interest to see whether this policy action by the RBF has been successful in reducing consumption expenditure.

Empirical studies on consumption in Fiji

There has been extensive theoretical and empirical research on consumption in the industrial countries. Some influential works evaluating consumption functions in the industrial countries are Flavin (1981), Campbell and Mankiw (1990), Davidson, Hendry, Srba and Yeo (1978) and Molana (1991). Davidson, Hendry, Srba and Yeo (1978) and Molana (1991) used an error correction framework and inferred that there was a long-run relationship in consumption in the United Kingdom. Along similar lines, Flavin (1981) argued that consumption was deter-

Table 1 **Average rates of growth of real private consumption, real disposable income, GDP deflator and the availability of consumer credit, 1975–2005**

	$\Delta \ln C$	$\Delta \ln Y$	$\Delta \ln P$	R
1975–2005	3.75	2.15	6.31	4.11
1975–90	3.49	2.43	10.23	2.06
1991–2005	5.45	1.46	3.62	4.09

Source: Author

mined largely by income, which she claimed was excess sensitivity of consumption. Campbell and Mankiw (1990) investigated the PIH and found little support for the conjecture in the UK data. Recently, Campbell and Mankiw's framework has been widely used to evaluate consumption functions in industrial and developing countries.

While research on consumption in developing countries has increased lately, there are few empirical studies on Fiji. Singh (2004) estimated a model to explain real private consumption in Fiji for the period 1979–2001 using the Engle-Granger time series approach. He found an implausibly low income elasticity of 0.43. For a developing country such as Fiji, the income elasticity is expected to be close to unity. Although Singh found wealth to be a significant determinant of consumption in his model, it is unlikely that wealth will have significant effects on consumption in a developing country because most consumers do not have sufficient wealth to influence their consumption expenditure. Generally, per capita income is low and volatile in Fiji and consumers face substantial difficulties in accumulating wealth.

Murphy (1992) estimated a consumption function for Fiji for the period 1974–86. His estimated equation is[1]

$$\ln C_t = \underset{(0.65)}{-0.063} + \underset{(c)}{1.000}\ln YD_t - \underset{(0.616)}{0.021}\,R_t - \underset{(2.68)}{0.012}\,TREND$$

$$SER = 0.054 \qquad (1)$$

in which C_t is real private consumption expenditure, YD_t is real disposable private income (computed as $YD_t = [(1-t_i)Y/(1+t_c)]$ in which t_i is the income tax rate and t_c is the consumption tax rate) and R_t is the credit availability proxy calculated as the spread of nominal short-term and long-term interest rates. Note that the constrained unit income elasticity has the expected sign and is of a plausible magnitude.

To verify the results attained by Murphy (1992), Rao and Singh (2004) estimated a Keynesian consumption function for Fiji for the period 1975–2002 using GETS and JML approaches. In the JML model, their co-integrating vector normalised on $\ln C_t$ is[2]

$$\ln C_t = 0.909\ln YD_t + 0.034\,R_t - 0.008\,TREND \qquad (2)$$

The implied income elasticity is about 0.9 and the elasticity with respect to the availability of consumer credit is about 0.3. These crucial estimates are significant and have the expected signs. The results from their short-run, dynamic model imply that expected inflation has significant adverse impacts on consumption.

Rao (2005) tested the significance of PIH and AIH for Fiji using data for 1974–2002. His estimated model with *p*-values in parentheses below the coefficients is

$$\Delta\ln C_t = \underset{(0.05)^*}{-0.068} + \underset{(0.05)^*}{0.753}\,\Delta\ln YD_t + \underset{(0.04)^*}{0.018}R_t - \underset{(0.00)^*}{0.053}\,VAT \qquad (3)$$

in which C_t is real per capita private consumption; YD_t is real per capita private income less income tax, computed as $YD_t = [(1-T_x)Y]$, in which T_x is the income tax rate and Y is the real per capita private sector gross income; R_t is the credit availability proxy; and *VAT* is the consumption tax dummy variable.[3] Rao found that the *VAT* seemed to have significant but temporary negative effects on consumption. He claimed that inter-temporal substitution was limited in Fiji because consumers had low and volatile per capita

incomes. His estimates show that current income is the main determinant (accounting for about 75 per cent) of consumption in Fiji. He also argued that the availability of consumer credit was an important determinant of consumption and therefore an effective tool for monetary policy in Fiji.

Specification and methodology

Specification

The specification adopted to explain real private consumption is

$$\ln C_t = \beta_0 + \beta_1 \ln YD_t + \beta_2 R_t + \epsilon_t \quad (4)$$

in which C_t is real private sector consumption including durables; YD_t is real private sector income net of income tax, computed as $YD_t = Y_t(1-T_x) + RGNT_t$, in which T_x is the average direct tax rate and $RGNT_t$ is the sum of grants and current transfers received by the private sector deflated by the GDP deflator; R_t is the availability of consumer credit proxy, computed as the spread between nominal short-term and long-term interest rates; and ϵ_t is an error term. The availability of consumer credit proxy is well known and can be derived from the *ISLM* model. When the money supply increases, *LM* shifts downwards, causing a decline in the nominal (short-term) rate of interest. Since more money means higher inflationary expectations, however, the nominal (long-term) rate of interest increases. Consequently, the spread between the short and long-term interest rates increases and thus it is a reasonable proxy for liquidity in the economy. Our *prior* expectations are that the income elasticity is about unity and the elasticity with respect to the availability of consumer credit is positive.

An important issue with respect to explaining private consumption is whether to include the rate of interest as an explanatory variable. Rao (2005) suggests that if consumers are weakly risk averse—that is, if the elasticity of inter-temporal substitution is high—financial variables will have significant impacts on consumption and saving decisions. This would be the case in industrialised countries. In developing countries, however, the elasticity of inter-temporal substitution is likely to be low and most of consumers have low and volatile per capita incomes. As a result, consumption is less likely to respond to changes in interest rates.

Microfit 4.1 of Pesaran and Pesaran (1997) was used for the estimation, which covered annual data from 1975 to 2005. The definitions of variables and sources of data are shown in the appendix.

Methodology

The London School of Economics–Hendry GETS approach was developed before the most recent developments in time series methods. It does not, however, conflict with the Cowles Commission approach, which is essentially based on partial-adjustment methods (PAM). GETS is an alternative and more attractive method for estimation of dynamic relationships. GETS was developed because the econometricians at the London School of Economics (LSE) were concerned with the methodological conflict between the static nature of equilibrium relationships and the data that were used to estimate them. It was argued that the real world was seldom in equilibrium. In addition, economic theory provides no guidance on how the dynamic adjustments take place. It is hard therefore to determine an equilibrium relationship with disequilibrium data. In the past, this gap was reconciled by arbitrary lag specifications such as the PAM and Almond lags. As Rao (2007)

notes, it is only appropriate to determine the dynamic adjustment structure by using the data so that these are consistent with the data-generating process (DGP).

GETS is popular because it can be easily conducted with ordinary least squares (OLS) or non-linear least squares (NLLS). GETS is a single-equation approach, which assumes that there is only one co-integrating vector. The three main steps in the GETS approach are

1. specification of the underlying error-correction model (ECM)
2. specification of a general (ARDL) dynamic scheme
3. search for a parsimonious equation.

The long-run specification of real private consumption is:[4]

$$\ln C_t = \beta_0 + \beta_1 \ln YD_t + \beta_2 R_t + \epsilon_t \quad (5)$$

Equation 5 can also be written as:

$$\Delta \ln C_t = \beta_0 + \beta_1 \ln C_{t-1} + \beta_2 \ln YD_{t-1} + \beta_3 R_{t-1} + \beta_4 \Delta \ln C_{t-1} + \epsilon_t \quad (6)$$

The general dynamic specification will have more lagged values of $\Delta \ln C$, $\Delta \ln YD$ and ΔR. The general dynamic equation can be specified as

$$\Delta \ln C_t = \beta_0 + \beta_1 \ln C_{t-1} + \beta_2 \ln YD_{t-1} + \beta_3 R_{t-1} + \sum_{i=0}^{n} \lambda_i \Delta \ln YD_{t-i} + \sum_{i=0}^{m} \gamma_i \Delta R_{t-1} + \sum_{i=1}^{j} \tau_i \Delta \ln C_{t-1} + \epsilon_t \quad (7)$$

β_0, β_1, β_2 and β_3 are the equilibrium long-run coefficients. We know that the level variables $\ln C$, $\ln YD$ and R contain unit roots and that their first differences, $\Delta \ln C$, $\Delta \ln YD$ and ΔR, are stationary. The error term will therefore be stationary, implying no violation of the classical assumptions.

The JML co-integration technique is a variant of the vector auto-regression (VAR) approach. Unlike the VAR, however, in the JML approach all coefficients are identified and close attention is paid to the underlying economic theory. JML is also the most widely-used approach in applied time series studies and the routines are found in most econometric software. In JML, pre-testing of variables for unit roots is important and all variables are assumed to be endogenous before exogeneity is confirmed through formal tests. The test for the existence of the co-integrating vector(s) is conducted with a procedure that allows for an (un)restricted intercept and restricted/no-trend options for the VAR. In the JML, the null hypothesis of no co-integration can be rejected/not rejected with the computed Eigen value and trace test statistics, which are detailed in standard econometric texts or software manuals.

Further, the exogeneity tests for block Granger non-causality, with the null hypothesis that the coefficients of the lagged values of dependent variables are insignificant in the equations of independent variables, are conducted. The computed LAR test indicates if there is endogeneity bias—that is, whether the dependent variable Granger causes the independent variable(s).[5] Identification is tested by regressing the first difference of each variable on the one-period lagged residuals normalised on the respective variables. It is confirmed if the respective ECMs are significant with the correct negative signs in their own equations.

Empirical results

The GETS approach

To determine the nature of the relationship described by Equation 4, the three variables in the consumption equation—that is, real private consumption, real disposable income and availability of consumer credit—must be tested for the presence of a unit root. The unit-root hypothesis is tested using the augmented Dickey-Fuller (ADF) test. The ADF test is applied for both levels and their first differences with an intercept and a trend. The time trend is included because it is significant in the levels and first differences of the variables. The results indicate that they are non-stationary in levels but are stationary in their first differences (see Appendix Table 1A). There is no point applying more sophisticated unit-root tests because, compared with the ADF test, other unit-root tests such as the generalised least squares ADF test and the Elliot, Rothenburg and Stock test have more power against the unit root null hypothesis.

Now, we detail the results obtained with the GETS approach where the consumption equation has been estimated with a lag structure of four periods. The lags were later reduced to more parsimonious versions (Table 2). The coefficient on the *VAT* dummy variable is negative and highly significant, implying that in the early stages of its introduction the *VAT* reduced consumption expenditure mildly but this was not a lasting effect. Similarly, the growth in expected inflation ($\Delta^2 \ln P$) seems to have significant but temporary negative effects on consumption.

It is noteworthy that the estimated coefficient on the availability of consumer credit proxy is positive and highly significant, implying that an increase in liquidity stimulates consumption expenditure mildly. The implied income elasticity of consumption is unity. When we tested for the constraint that the income elasticity was unity using the Wald test, the constraint was accepted at the 5 per cent level as the computed X^2 test statistic and p-value in parenthesis 0.526 (0.468) were insignificant. In equation GETS(1), the coefficients of $\Delta \ln C_{t-2}$, $\Delta^2 \ln P_t$ and $\Delta^2 \ln P_{t-1}$ are close and, when tested for constrained values, the null hypothesis is easily accepted as the Wald-computed X^2 statistic (with p-value in parenthesis) of 2.367 (0.12) is insignificant. Thus, GETS(2) in Table 2 is the preferred equation with these constraints.

The $\bar{R}^2$ in the preferred equation indicates a fairly good fit.[6] The X^2 summary statistics indicate that there is no serial correlation, functional form misspecification, non-normality or heteroscedasticity in the residuals. The preferred equation GETS(2) in Table 2 was tested for temporal stability and neither the CUSUM nor CUSUM SQUARES test showed any instability. The CUSUM SQUARES stability test is given in Appendix Figure 1A.

The JML approach

We now compare the GETS results with the systems-based JML approach. The optimal lag length of the VAR was tested with a fourth-order model. The Akaike information criteria (AIC) and Schwartz Bayesian criteria (SBC) were used to select the lag length of the VAR. We argue that SBC and AIC often give different lag lengths; however, in this case, both indicate a lag length of four periods. Using the unrestricted intercept and unrestricted trend option, the Eigen values rejected no co-integration at 90 per cent while the Trace test rejected no co-integration at 95 per cent. Both tests did not reject the null hypothesis of a long-run relationship. Details of the Trace and Eigen values statistics are in Appendix Table 2A. The implied co-integrating vector (CV) normalised on $\ln C_t$ is:

Table 2 **Consumption results obtained with GETS and JML**

	GETS(1)	GETS(2)	JML(1)	JML(2)
Intercept	0.036	0.033	–0.294	–0.338
	(8.41)[a]	(8.18)[a]	(4.13)[a]	(5.01)[a]
λ	–0.335	–0.349		
	(5.03)[a]	(5.14)[a]		
$\ln YD_{t-1}$	0.894	1.000		
	(13.98)[a]	(c)		
R_{t-1}	0.052	0.050		
	(4.59)[a]	(4.61)[a]		
$\Delta \ln C_{t-2}$	0.521	0.593	0.711	0.782
	(7.73)[a]	(11.01)[a]	(13.56)[a]	(24.48)[a]
ΔR_t	0.013	0.014	0.011	0.012
	(5.30)[a]	(5.37)[a]	(4.04)[a]	(4.62)[a]
$\Delta^2 \ln P_t$	–0.598	–0.593	–0.795	–0.782
	(11.38)[a]	(c)	(24.28)[a]	(c)
$\Delta^2 \ln P_{t-1}$	–0.570	–0.593	–0.768	–0.782
	(9.43)[a]	(c)	(18.07)[a]	(c)
VAT	–0.042	–0.047	–0.040	–0.050
	(2.17)[a]	(2.39)[a]	(1.79)[b]	(2.25)[a]
$ECMC_{t-1}$			–0.102	–0.119
			(3.82)[a]	(4.67)[a]
$\bar{R}^2$	0.963	0.972	0.950	0.957
SEE	0.033	0.033	0.044	0.042
X^2_{sc}	(0.788)	(0.655)	(0.818)	(0.444)
X^2_{ff}	(0.136)	(0.183)	(0.130)	(0.110)
X^2_{n}	(0.220)	(0.679)	(0.545)	(0.573)
X^2_{hs}	(0.578)	(0.507)	(0.424)	(0.433)

[a] indicates significance at the 5 per cent level
[b] indicates significance at the 10 per cent level
Notes: Absolute *t*-ratios for coefficients and *p*-values for X^2 tests are in parentheses; λ is the speed of adjustment in the model.
Source: Author's calculations

$$\ln C_t = \underset{(2.61)^*}{0.804}\ \ln YD_t + \underset{(3.20)^*}{0.059}\ R_t \qquad (8)$$

The implied income elasticity of consumption is 0.8. The elasticity with respect to the availability of consumer credit at the mean rate of 4.11 per cent is 0.24. These elasticities are highly significant with the expected signs. As is required, however, we subjected the Equation 8 results to further tests. First, we tested for identification by regressing the first difference of each variable on its respective one-period lagged residuals obtained by normalising the CV on the respective variables. When the CV is normalised on real consumption, its residual is denoted as $ECMC_t$. Similarly, $ECMYD_t$ and $ECMR_t$ are the residuals of the CV normalised on disposable income and the availability of consumer credit, respectively. The results suggest that the implied long-run relationship represents consumption since only the $ECMC_{t-1}$ term is significant with the correct negative sign in the $\Delta \ln C_t$ equation. $ECMYD_{t-1}$ and $ECMR_{t-1}$ were insignificant in their respective regressions. The computed coefficients for each of these lagged ECMs with their *t*-ratios in parentheses are reported in the appendix (Table 3A).

Following Enders (2004), another set of ECM equations was estimated to test for endogeneity. It was found that $ECMC_{t-1}$ was significant with the correct negative sign only in the equation in which the dependent variable was $\Delta \ln C_t$. In other words, the one-period lagged error correction terms of income and the availability of consumer credit are insignificant in their respective models. Therefore, we can treat $\ln YD_t$ and R_t as being weakly exogenous variables in the consumption equation. Further, the closeness of the estimates from the GETS and JML models is an indication that there is no endogeneity problem.

Since the identification and weak exogeneity tests were satisfactory, we estimated short-run dynamic consumption equations. Adopting the lag-search procedure used in the GETS equation in the second stage, we arrived at the parsimonious JML equations reported in Table 2. The X^2 summary statistics of the JML equations in Table 2 are reasonable. The coefficients of the lagged error term ($ECMC_{t-1}$) have the correct sign and are significant at the conventional level. This implies the presence of a negative feedback mechanism and, in particular, if there are departures from equilibrium in the previous period, the departure is reduced by about 10 per cent in the current period. The growth in expected inflation ($\Delta^2 \ln P$) and *VAT* seems to have significant temporary negative effects on consumption. Further, we tested if the coefficients of $\Delta \ln C_{t-2}$, $\Delta^2 \ln P_t$ and $\Delta^2 \ln P_{t-1}$ in JML(1) were close. The null was easily accepted as the Wald-computed $X^2(1)$ statistic (with *p*-value in parenthesis) of 2.470 (0.12) was insignificant. Therefore, the estimates in JML(2) are our preferred estimates with these restrictions. When we tested the preferred JML(2) equation for stability, neither the CUSUM nor CUSUM SQUARES test showed any instability. The CUSUM SQUARES test is shown in Appendix Figure 2A.

Conclusion

Previous research explaining consumption in Fiji was reviewed. Studies by Rao and Singh (2004) and Rao (2005) are meaningful and can be useful for policy in Fiji. We have, however, applied the time series methods of GETS and JML to estimate consumption functions for Fiji. The results imply that a co-integrating relationship between real private consumption, real disposable

income and the availability of consumer credit exists in Fiji.

The major finding is that the income elasticity is unity and the elasticity with respect to the availability of consumer credit at its mean rate of 4.11 per cent is about 0.2. These crucial elasticities are significant and have the expected signs. Stability tests show that the consumption function is stable. Our interpretation of the results is that the availability of consumer credit can stimulate consumption expenditure even in a small developing country such as Fiji with a significant urban population. Increases in expected inflation and in the value-added tax appear to have a significant but temporary negative effect on consumption expenditure. Therefore, the results support similar findings about private consumption by Rao and Singh (2004).

Growth in consumption expenditure has been increasing even though growth in disposable income has been declining. During 1975–90, the rate of growth of consumption was 3.5 per cent and rose to 5.5 per cent in the period 1991–2005. Between these two periods, however, the rate of growth of disposable income declined by almost 1 percentage point (from 2.43 to 1.46).

The RBF has been using the rate of interest as a monetary policy instrument to reduce consumption expenditure. There has, however, been no significant change in consumption spending by households. This is because in a developing country such as Fiji, the elasticity of inter-temporal substitution is probably low and consumers have low and volatile per capita incomes. Therefore, interest rates will have insignificant effects on consumption. We recommend that it would be worthwhile for the RBF to use the availability of consumer credit to target consumption expenditure.

C_t = Nominal private consumption expenditure, including durables and non-durables, deflated by the GDP deflator (IMF 2005; ADB 2005).P_t = Real GDP deflator (IMF 2005; ADB 2005).

YD_t = Real private sector disposable income. YD_t is computed as: $Y_t * (1 - T_x) + RGNT_t$, in which Y_t is the real GDP at factor cost, T_x is the average direct rate and $RGNT_t$ is the sum of grants and current transfers received by the private sector deflated by GDP deflator (Fiji Islands Bureau of Statistics various years; IMF 2005; ADB 2005).

R_t = Consumer credit availability proxy, computed as the spread between the nominal short-term RBF 91-day bond or treasury bill rate and the long-term interest rate on five-year government bonds (RBF various years; IMF 2005).

VAT = Temporary VAT dummy for the introduction of the value-added tax in Fiji. Data constructed as 1 from 1992 to 1994 and 0 in other periods.

Notes

1 The author did not report the $\bar{R}^2$.

2 In which C_t is real private consumption expenditure, YD_t is real disposable private income and R_t is the consumer credit availability proxy; absolute *t*-ratios are shown in parentheses below the coefficients; * and ** indicate significance at the 5 per cent and 10 per cent levels, respectively.

3 The VAT dummy was used as 1 in 1992 and 1993 and 0 in all other years.

4 See Equation 4 for the definitions of the variables.

5 As explained by Rao (2007), the Granger causality test is not a cause and effect test but a test of precedence and in itself does not indicate causality as used in the more common way.

6 A regression between the real and fitted values of the change in logarithm of consumption gives an intercept of 0 and a slope of 1.

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Appendix

Table 1A **ADF unit root tests**

Lags	lnC_t	ΔlnC_t	$lnYD_t$	$\Delta lnYD_t$	R_t	ΔR_t
[0, 0, 4, 0, 4, 4]	2.032	5.399	1.926	5.449	1.311	4.265

Notes: The 5 per cent critical value for the ADF test is 3.567. Lag lengths for the variables were selected using the AIC and SBC criteria—for example, (0, 1) indicates that lags 0 and 1 are significant in the first and second variables, respectively.
Source: Author's calculations

Table 2A **JML co-integration tests**

	Eigen values			Trace		
	Test-stat	95%	90%	Test-stat	95%	90%
r = 0	22.840	24.350	22.260	40.587	39.330	36.280
r <= 1	15.814	18.330	16.280	17.747	23.830	21.230

Notes: r is the number of co-integrating vectors estimated with the JML procedure; r = 0 is rejected at 90 per cent by the Eigen values.
Source: Author's calculations

Table 3A **Identification and exogeneity tests**

	ΔlnC_t	$\Delta lnYD_t$	ΔR_t
$ECMC_{t-1}$	–0.119	0.014	1.402
	(4.67)[a]	(0.27)	(1.26)
$ECMYD_{t-1}$		0.061	
		(0.94)	
$ECMR_{t-1}$			–0.139
			(1.26)

[a] indicates significance at the 5 per cent level
Notes: The absolute *t*-ratios are reported below the coefficients. $ECMC_{t-1}$, $ECMYD_{t-1}$ and $ECMR_{t-1}$ are the lagged residuals of the co-integrating vectors normalised on consumption, disposable income and credit availability, respectively.
Source: Author's calculations

Figure 1A **Stability tests for consumption in Fiji (GETS), 1975-2005**

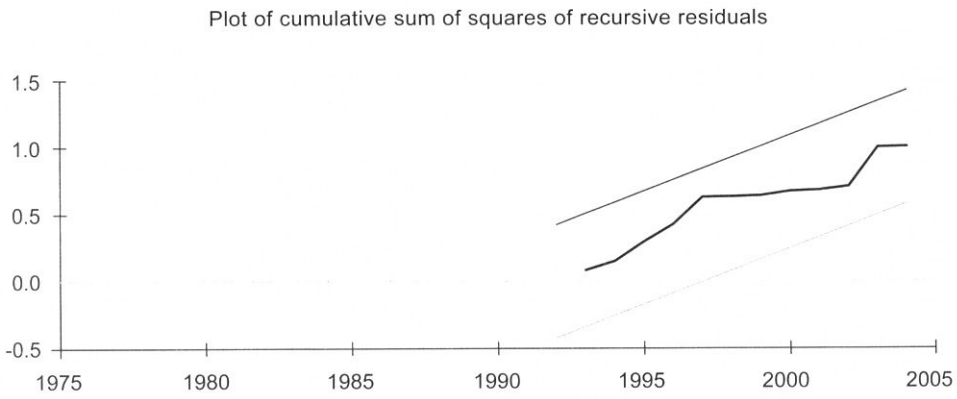

Figure 2A **Stability tests for consumption in Fiji (JML), 1975-2005**