Determinants of Household Savings Behavior in an Emerging Economy: Market vs. Non Market Factors

by

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Abstract

Savings and investment are key requirements for growth and development. However, lack of savings and investment are common in developing countries. This research examined the savings behavior of the two ethnic communities in Fiji, Indo-Fijians and Fijians. It found that the Fijians generally do not save and those who save, their savings rate are low. On the other hand, most of the Indo-Fijians save and their savings rate are also high relatively. Apart from the identified market factors, Fijians have an added factor that tends to drain off any excess income that they can save.

Key words: Savings, Fiji, Consumption, Behavior, Household

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A. Introduction

The importance of savings in the growth and development process is well documented in the development economics literature. In developing countries, lack of adequate domestic savings is a common problem. To overcome this problem, foreign savings via unrestricted capital flows are encouraged. However, the recent Asian financial crisis has led to calls for more studies in the area of how domestic savings could be mobilized so that countries could be less reliant on foreign capital. The issue of low levels of domestic savings is a major problem in small developing states because of high unemployment, low wages, the engagement of a large proportion of the population in the informal sector and poor performance of the economy.

As a short-term solution to the lack of savings by the households, governments of developing countries are embarking on micro financing schemes to enable the households to venture into small business activities. However, these measures are not only costly but also not sustainable in the longer run if the society is not empowered to save themselves. This issue of lack of savings is quite strongly prevalent in the small islands nations of the South Pacific (Table 1).

Table 1: Gross National Savings as a % of GDP, 1985-2001.

Year	Fiji	PNG	Tonga
1985	14.4	5.9	-11.3
1986	20.6	9.2	-14.5
1987	13.8	9.4	-7.4
1988	12.3	14.7	-14.0
1989	14.1	7.3	-13.2
1990	9.3	12.3	-10.1
1991	3.4	14.2	-19.2
1992	6.9	18.5	-6.5
1993	8.1	26.5	-8.8
1994	9.3	35.2	-8.6
1995	18.6	37.7	-25.2
1996	20.0	26.6	-28.2
1997	19.2	18.0	-14.2
1998	15.9	18.2	-26.7
1999	14.9	9.2	-13.8
2000	12.6	--	-14.1
2001	14.5	--	-23.5

Source: ADB database, 2004.

Fiji, one of the leading island countries in the South Pacific region as a serious problem with respect to savings. Its savings rate as a percent of GDP is 8% which is well below what would be the required rate for sustainable growth and development. The previous Minister of Finance of Fiji recognised this problem when he noted the following in his budget address:

> To date, our investment performance has been poor by developing country standards. Investment as a proportion of GDP has been at a low level for some time now and is half of what we were able to achieve in the 1980s. As a community, we need to save more and direct our resources to capital rather than consumption spending. Government has an important role to play in this area, both by allocating its own spending appropriately and by providing a suitable policy environment for private sector investment (Koy, 1998:7).

Therefore, the long-term sustainable strategy to raise savings is not micro financing by encouraging micro savings. To promote savings at the household level, in-depth micro studies must be undertaken to identify the factors that lead impact the demand and supply of savings. These factors can then be acted on to encourage the households save. Unless households save and invest, it will be difficult to break them from the poverty trap that they are in. The situation in Fiji is a little more complicated given the two dominant ethnic groups, the native Fijians and the Indo-Fijians, living side by side but demonstrating contrasting behavior with respect to saving, investment and business. This contrasting behavior is noted quite distinctively by Powell (1998:88-89):

> "Fijian culture embodies a system of preferences common to most societies in the South Pacific. Compared to what is typically associated with highly commercialized economies, this system does not place as much emphasis on

future financial gain for the individual. For example, saving money for future financial security or receiving an education to increase one's value in the job market is not dominant economic objectives. The system rather emphasis the satisfaction of present desires and how one's actions contribute to traditional group solidarity. Compared to native Fijians (and other Pacific Islanders), Indo-Fijians exhibit economic behavior consistent with what is observed in more commercialized economies. Indo-Fijian culture places relatively more emphasis on long term individual financial gain, and therefore places more value on saving money, receiving an education, and making profitable investments".

This is indeed an interesting revelation and one, which is often heard, in public discussions. However, there is no scientific basis to this observation. To date, there has been no rigorous study done to demonstrate such behavior and its determinants. Furthermore, how consistent is this behavior with contemporary Fiji and what are the underlying factors that cause this behavior? It is these questions that this study sets forth to answer. The primary objective will be to examine the savings behavior demonstrated by the two ethnic groups and to identify the factors that determine such behavior. The study will also suggest policy measures to enhance micro savings based on finds from this study. The paper is outlined as follows. Section B of the paper will provide an overview of the savings, finance and growth nexus. Section C will detail the methodology used in this study. Section D will provide results and discussion and the Section E will provide a summary and conclusion.

B. Savings, Finance and Growth Nexus

A number of hypotheses has been stated and tested on the possible reasons for the fast economic growth of the East Asian economies. However, most of the findings converge on the prevalence of high rates of savings and investment in these countries. Savings allows the creation of a pool of finance available for investment. The relationship between savings and investment have been studied extensively following the seminal work of Feldstein and Horioka (1980). Leff and Sato(1980) produce econometric evidence showing the positive effect of real credit availability on the level of real investment and rate of growth in real GNP in Argentina, Brazil and Costa Rica. South Korea's savings rate averaged 3.3 per cent of GDP in 1950s and 60s. However, between the period 1990 and 1994, savings rate averaged over 35 per cent. Savings and investment are both determinants and are determined by the level and rate of economic growth (Fry, 1980). Growth raises the rate of savings, which provides the basis for long term-sustained growth through investment. The literature on savings is embedded in the general literature of finance and the importance of finance to growth has taken cue from the pioneering works of Goldsmith (1969) and Shumpeter (1932) and more recently of McKinnon (1973) and Shaw (1973). A detailed survey of this literature is provided by Levine (1997) and Thakor (1996). The survey of this literature provides three main views on the existence and direction of causality between finance and economic growth. The "supply-leading" view states that financial development has `a positive effect on economic growth. The proponents of this views argues that

financial intermediation contributes to economic growth through two main channels: (i) by raising the efficiency of capital accumulation and in turn the marginal productivity of capital (Goldsmith, 1969) and (ii) by raising the savings rate and thus the investment rate (McKinnon, 1973 and Shaw, 1973). A number empirical studies following these has supported this view (see for example Bencivenga and Smith,1991; Greenwood and Jovanovic, 1990 and Thakor, 1996). The second view advanced by Robinson (1952) states that financial development follows economic growth. This view termed as the "demand-following" view suggest that as economy expands, its demand for financial services increases, leading to expansion of these services. There is a large number of empirical support for this view as well (see for example Demetrides and Hussein, 1996; Friedman and Schwartz, 1963 and Ireland, 1994). The third view of the relationship suggests that the two variables are mutually causal (Demetrides and Hussein, 1996; and Greenwood and Smith, 1997). Even though a fourth view arguing that there is no causality between the two variables were forward by Lucas (1988), it did not take much notice as the important of finance for growth is deeply rooted in the economic theories of growth. The neoclassical growth theory postulates the relationship between growth and other variables amongst which features capital very strongly. The capital formation in an economy can only take place with savings, which either is domestically accumulated or attracted from overseas. Suto and James (1999) argue that the acceleration of growth rates in US and Japan towards "modern levels" was accompanied by acceleration in capital accumulation. They argue that FDI played a small role only and rather, it was a shift in the savings function due to growth in financial intermediaries, which was a principal factor behind the accelerated growth.

C. Determinants of Household Savings: Theory

The theoretical literature groups households savings motives into four categories, (i) to provide resources for retirement and bequests; (ii) to finance expected large lifetime expenditure; (iii) to finance unexpected losses of income; and (iv) to smooth the availability of financial resources over time to maintain a more stable consumption profile. Empirical studies have examined the factors that affect each of these motives which in turn affect the household savings. Some of these factors that have been empirically established are government savings, corporate savings, growth rate, household wealth, unemployment, real interest rate, inflation and terms of trade (see Aghevli, *et,. al.* (1990) and Masson, *et,. al* (1995). The empirical findings of these studies have also been supported by a number of theories, in particular, the Life Cycle Hypothesis (LCH). The LCH suggests that higher income growth would, for a given savings rate in each group, raise aggregate savings by increasing the incomes of those in work relative to those not working. It is also possible for savings rates within the working population to decline if workers anticipate higher future income and thus increase their current consumption. Another implication arising out of the LCH is that the higher the old age dependency ratio, the lower will be aggregate household saving, as these people dissave in retirement.

D. Methodology

Data on household savings behaviour was collected from households in Fiji's main island, Viti Levu using structured questionnaire. The primary data was collected in Suva, Nadi, Lautoka and Ba. The study was limited to these three areas due to finance and time constraints. However, Suva and Lautoka are the only two cities in Fiji while Nadi and Ba are the other two largest Towns in Fiji. They vary quite considerably in size, but together account for about approximately 70% of all of Fiji's population.

The survey was administered over a 9 week period in November/ December 2003 and January, 2004.June/July 2001. A total of 610 households were interviewed out of which, 515 questionnaires were retained for analysis. The rest of the questionnaires were either incomplete or data on key variables were missing due to refusal of the households to co-operate. The survey was carried out with the support of undergraduate University students.

A wide range of households was interviewed and the various employment types and no are provided in Table 2 below. The farmers were randomly picked for interviewing from a list of village names prepared by the researcher. From each village, the household heads were chosen at random. The other category of workers were interviewed in town picked in random from street to street surveys on Saturdays.

Table 2: Employment type of the Head of the Household in Sample.

Employment Type	No	Percent
Professional (Teachers/Accountants/Doctors, etc)	111	21.6
Farmers	145	28.2
Tradesman	88	17.1
Clerical Workers/Admin Staff	105	20.4
Casual laborers	66	12.8

A summary profile of the respondents are provided in Table 3 below. The mean age of the respondent 46.7 year with mean education level of 4 years of formal schooling. The sample comprised of 70% indigenous Fijians while 30% were Indo-Fijians. Most of these were married. However, the gender decomposition of the sample reveals that very few females responded. The main reason for this was there unwillingness to take part in the survey. This is common in developing countries where traditional and culture is strong and women tend not to be very forthcoming.

Table 3: A Summary of variables used in Survey.

Variable	Observation
Mean Age (years)	46.7
Mean Formal Education (years)	4.1
Ethnicity (%) Fijian	70.1
Indo Fijian	29.9
Marital Status (%): Married	90.1
Single	2.7
Divorced/Separated	1.6
Widowed	5.4
Mean Household Size	5.3
Gender (%): Male	67.2
Female	32.8

Source: Data obtained from the primary survey of the informal sector activities.

Theoretical Model

This study will utilize descriptive statistics and econometric analysis to examine the savings behavior of households in Fiji. There exists a significant number of studies estimating savings function at the national level (Deaton, 1995; Schmidt-Hebbel and Serven, 1998, 2000). The studies indicate that income level and economic growth are important determinants of savings. The life cycle theory suggests that age also has an impact on savings. The young and the retired dissave. Therefore, the higher the dependency ratio of a nation, the lower will be the savings rate thus implying what is called the level effect of the life-cycle theory. For econometric analysis, the Tobit model is adopted to analyze the factors affecting savings amongst the two ethnic groups in Fiji. The application of ordinary least squares (OLS) regression to a binary dependent variable model leads to a heteroscedastic error structure and inefficient parameter estimates (Goldberger, 1964; Pindyck and Rubinfeld, 1983). Furthermore, due to a non-normal error structure, classical hypothesis tests such as the t-test are no longer appropriate (Shakya and Flinn, 1985). Therefore, the alternative is to use probability models, which allow the fitted values to lie within the 0-1 interval. This type of behavioral model accounts for a dichotomous dependent variable such as adopting or not adopting a modern crop variety. In general, this type of model is known as "adoption behavioral model". A general adoption behavioral model can be stated as follows:

$$S_i^* = \beta' X_i + u_i \sim N(0, \sigma^2) \qquad (1)$$

Where

$$S_i^* = \begin{cases} S_i^*, \text{ if } \beta' X_i + u_i > 0 & \text{(the observed values)} \\ 0, \text{ otherwise} & \text{(the unobserved values)} \end{cases}$$

where S_i denote the dependent variable. The variable S takes a value non zero value (S>0) such as savings amount or takes a value zero (S=0) when the respondent does not save. Since the dependent variable is truncated at zero, S=0 for non savers, while savers display a certain level of saving, the tobit model is used. Empirically, the tobit savings function can be specified as follows*

$$S_i^* = \beta_0 + \beta_1 ETH_i + \beta_2 HS_i + \beta_3 Age_i + \beta_4 Edu_i + \beta_5 Y_i + \beta_6 BACC_i + \beta_7 Gen_i + \varepsilon_i \quad (2)$$

where:

S_i^* = measures the amount of savings (in F$);
ETH_i = measures the ethnicity of the respondent (0=Indo-Fijian, 1=Fijian);
HS_i = measures the size of household (in no of members);
Age_i = measures the age of the respondent (in years);
Edu_i = measures the education level of respondent (in years of formal schooling);
Y_i = measures the gross income of the respondent (in F$);
$BACC_i$ = measures whether the person has a bank account (0=has a account, 1=does not have a account);
Gen_i = measures the gender of the respondent (0= male, 1=female);
ε_i = is the error term.

E. Results and Discussion

The results from the study reveal some interesting facts of the savings behavior in Fiji. The two ethnic communities demonstrate stark differences in their savings behavior. As shown in Table 4, only a small proportion of the Fijians save (38.2%) while a large proportion of the Indo-Fijian community engage in savings. Furthermore, the descriptive stats reveal that the savings rate of savers in the two communities also differ with Fijians having a much lower savings rate, 5% than Indo-Fijians, 9.1%.

Table 4: Savings Behavior

Savings Behavior	Fijians	Indo-Fijians
Respondents who save (%)	38.2	79.1
Savings rate (%)	5.0	9.1
Variance of savings rate	13.3	87.6

However, this behavior must be examined along with other variables such as income, education, age, the use of bank account, household size. Also, gender dimension would also be important. Therefore, as stated in the methodology section, the tobit model is used to examine the various factors that determine the behavior demonstrated above.

The maximum likelihood estimates of the tobit model used to investigate the determinants of savings behavior are presented in Table 5. The Pseudo-R^2 values for the models is rather low, 29.9%, but such low R^2 is common in this type of analysis. The result from the estimated model is quite revealing. The variables Gender,

Ethnicity, Income and Bank Account is highly significant while the other variables are not significant. As revealed by the descriptive stats, the probability to save increases for Indo-Fijians relative to the Fijians. The significant gender variable is also a very important finding. The negative coefficient indicates that females have higher probability to save. This revelation can be quite useful because to promote savings by households, the success rate could be much higher if females are targeted in educational programs. The income variable's significant effect on savings indicates the obvious that unless income levels are high enough, there won't be any savings. This is common in developing countries where income levels are low and thus, there is no savings and investment. Thus households tend to remain trapped in poverty forever. The other interesting findings is that having a Bank Account raises the probability of savings. Now given the fact that a large number of people are engaged in informal sector activities, and those working in low paid jobs are paid cash rather then their wages being deposited in the bank accounts, indicates that these people do not engage in savings because they do not have a bank account. This findings raises serious questions on efforts to raise savings because an earlier study on Fiji by Sharma and Reddy (2003) reveal that changes in the Banking industry has led to more exclusion rather then inclusion in Fiji. Fore example, on of the bank in Fiji requires F$1000 deposit to open a savings pass book account. This will immediately exclude a large proportion of the population given that around 30% earn below poverty line income. Therefore, this finding suggests that if banks do not ensure that their policies do not allow people to have a bank account, then savings will be discouraged.

Table 5: Tobit Regression Results Explaining Determinants of Savings in Fiji.

Coefficient	Coefficients
Constant	0.2513
	(0.82)
Gender	-0.2625*
	(-2.2)
Ethnicity	-1.1097*
	(-8.6)
Household Size	-0.0092
	(-0.39)
Age	-0.0044
	(-0.79)
Education	0.0111
	(0.9772)
Gross Income	0.0001*
	(10.48)
Bank Account	-1.1394*
	(-5.0527)
Pseudo-R^2	29.8%
σ	128.0
Sample size	515
Log Likelihood	-1721.00

1) [a] (*) denotes statistical significance at the 5% level.

To gain further insight into some of the qualitative aspects of the savings behavior of the two communities, the respondents were asked what were some of the most important reasons for them not being able to save. The responses of the two ethnic groups are reported in Table 6 below.

Table 6: Reasons for not savings (% of response)

Reasons for Not Saving	Fijian Most important reason	Second most important reason	Indo-Fijian Most important reason	Second most important reason
1. Own family expenditure commitment	14.1	0	1.9	0
2. Extended family commitment	35.3	44.7	5.2	29.2
3. Community commitment	8.0	17.1	0	6.1
4. High cost of living	26.5	33.3	71.2	41.5
5. Income is low	9.4	0	21.6	13.4
6. Luxury lifestyle	4.9	3.3	0	6.1
6. Debt commitments	1.6	1.4	0	3.7

For the Fijians, the three most important reasons were, (i) their extended family commitments, (ii) high cost of living, and (iii) own family commitments. However, for the Indo-Fijians, it was quite different. It is mainly, high cost of living and low income. Taking into account the second reasons of the two ethnic groups, for Fijians, and Indians, community commitment also matters. So what can be concluded from this results is that, for Fijians, its mostly their cultural habits that determine savings behavior along with market factors while for Indo-Fijians, it is mostly market factors such as low income and high cost of living.

The respondents were also asked some of the things government could do to ensure that the individuals and households could save part of their income. A summary of their responses is presented in Table 7 below.

Table 7: Response to Question on Ways Gov't Can Help.

Response	Most Important Thing	Second Most Important Thing	Third Most Important Thing
1. Provide free education and medical	24.1	23.7	11.6
2. Reduce cost of living	8.6	19.8	29.5
4. Remove VAT	48.5	4.4	0
5. Increase salary	2.9	7.8	16.1
6. Provide finance/loan	0.8	1.5	7.1
7. Pension for all retired people	2.3	5.3	7.1
8. Educate people on how to save	0.8	0	0
Number responded	340	206	112

The response presented in the above table reveals that consumption taxation, cost of living and low income are the three most important areas that government could intervene to promote savings at the micro-level. Given that poverty and inequality is quite high at the lower income bracket, an effective strategy to break these households would be ensure that they save and invest. For this to happen, their income must rise, cost of living should be low and tax should be moderate.

F. Summary and Conclusion

This research examined the savings behavior of the two ethnic communities in Fiji. It found that the Fijians generally do not save and those who save, their savings rate are low. On the other hand, most of the Indo-Fijians save and their savings rate are also high.

An examination of this behavior reveal that amongst the market factors, high cost of living, consumption taxation, access to banking services and income level are the key determinants of such behavior. On the other hand, the Fijians have an added factor, that of extended family and community commitment that tends to drain off any excess income that they can save.

While cultural factors may be difficult to change, but could be managed well to allow the Fijians to set limits, a lot can be done to improve the market induced factors. Banks have to ensure that their operations do not lead to exclusion as having a bank account plays a very important role in savings. Government should ensure that cost of living is kept at a minimum and workers are able to raise their income gradually via training, skill upgrading and education. Unless there is concerted effort by all to create an environment conducive for savings, it will be difficult to break the households from the poverty trap.

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