Savings, Investment and Financial Development in Fiji: An Econometric Analysis

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I dedicate this thesis to my parents, who have been and are always, enormously supportive.

Abstract

The vital role of savings, investment and financial sector development in the growth process has been at the heart of economic policy reforms in many developing countries. The key purpose of this study is to examine the determinants of savings (i.e. national and private), investment (i.e. private corporate and non-residential) and the relationship between finance and growth (i.e. causality, stock market development and McKinnon's complementarity hypothesis) for the case of Fiji. This study applies the Auto-regressive Distributed Lag procedure to cointegration and the modified WALD test for non-Granger causality to time series data for various models over the period 1961-2005. The study sets the economic growth literature in the historical perspectives for Fiji and undertakes a comprehensive empirical examination that will enhance the knowledge and future development of economic policies aimed at increasing economic growth.

The importance of savings, investment, and the financial sector in contributing to economic growth in developing countries has been clearly highlighted in the literature. Fiji has been chosen as the case study in this analysis due to poor growth performance during the past 20 years. The military coups of 1987 led to political instability and policy failures that had a disastrous impact on the economy through low levels of economic activities. The economic uncertainty experienced by the nation led to various negative effects on capital accumulation, savings, investment and the financial sectors development. This not only diminished business activities, but also affected the household sector in terms of consumption, savings, investment, higher prices and social development. In the wake of the 1987 political and economic crisis, extensive macroeconomic, financial and trade sector reforms were undertaken which represented a revolutionary break from the past policies of import protection, high rates of inflation, agricultural dependence and financial repression.

Given the devastating political, economic and social crises, and the poor performance of the economy, this study evaluates the key financial factors to enhance growth. In particular, savings, investment and financial sector development and the policy implications for long term economic growth are investigated. These considerations point to the need for

undertaking in-depth investigations to bring together theoretical and empirical analysis in the context of Fiji's economic development. First, the savings-growth performance is examined using an empirical framework based on the lifecycle model. Second, the analysis examines investment and the role of capital formation in growth acceleration in the post independence period based on the theoretical considerations of the neo-classical investment theories. Third, financial sector development and economic growth relationships are examined. In particular, the direction of causality between the financial sector and economic growth, the impact of stock market and financial liberalisation, and the applicability of McKinnon's complementarity hypothesis are investigated for Fiji. The political and economic turmoil that Fiji has experienced suggest various actions required to improve the performance of the economy and also the key economic factors necessary to enhance growth. The findings initiate a number of policy implications that require attention in order to address Fiji's poor economic performance. This is particularly important to reduce the high incidence of poverty which still remains a challenge for policymakers.

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List of Abbreviations

ADB	Asian Development Bank
ADF	Augmented Dickey Fuller
ANZ	Australia and New Zealand banking group limited
ARDL	Autoregressive Distributed Lag
CMA	Central Monetary Authority
CMDA	Capital Markets Development Authority
CPI	Consumer Price Index
DC	Developed Countries
DF	Dickey Fuller
EU	European Union
ECM	Error Correction Model
FDB	Fiji Development Bank
FIBS	Fiji Islands Bureau of Statistics
FDI	Foreign Direct Investment
FNPF	Fiji National Provident Fund
GDP	Gross Domestic Product
GDS	Gross Domestic Savings
GFCF	Gross Fixed Capital Formation
GNP	Gross National Product
IFS	International Financial Statistics
IMF	International Monetary Fund
LAR	Liquid Asset Ratio
LCM	Lifecycle Model
LDC	Least Developed Countries
MWALD	Modified Wald Test
MSG	Melanesian Spearhead Group
NBF	National Bank of Fiji
NIC	Newly Industrialised Countries
OECD	Organisation for Economic Co-operation and Development

OLS	Ordinary Least Squares
PACER	Pacific Closer Economic Relations
PICTA	Pacific Island Countries Trade Agreement
PIH	Permanent Income Hypothesis
R&D	Research and Development
RBF	Reserve Bank of Fiji
SEED	Social and Economic Equity for the Disadvantaged
SPARTECA	South Pacific Regional Trade and Economic Cooperation Agreement
SPSE	South Pacific Stock Exchange
ULAD	Unimpaired Liquid Assets Ratio
UN	United Nations
VAT	Value Added Tax
VAR	Vector Autoregressive Model
WB	World Bank
WOSED	Women's Social and Economic Development Programme
WTO	World Trade Organisation

Chapter 1
Introduction

1.1 Background to the Study

One of the most imperative discussions in the economic growth literature has been over the roles of savings and investment in spurring sustainable economic growth and improvements in income equality. Likewise, uncertainty regarding the role of financial liberalisation in the growth process has been a key issue in the debate amongst academics and policymakers. It is not difficult to exaggerate the importance of economic growth as it has the ability not only to effectively eliminate poverty but also to provide social and economic activities for welfare and development. Accordingly, macroeconomic theories addressing the savings-investment-growth nexus and the role of financial liberalisation have emphasised the vital contributions and linkages of these factors in the developed and developing nations' growth processes. This is because sufficient resources and efficiency in resource use are crucial in developing countries, as they often tend to suffer from capital deficiency. Also, it has generally been noted that the bulk of financial resources have to come from domestic sources (Little 1982; Lewis 1984), and thus domestic savings has an essential role to play in spurring increases in funds and thus promoting investment, higher profits and faster growth.

A considerable amount of theoretical and empirical work on the determinants of savings and investment, in both developed and developing countries, has been undertaken by the three major schools of economic thought; i.e. the Keynesians, neo-classicalists, and endogenous growth theorists. During the period of Keynesian dominance, investment was viewed as a consequence of "animal spirits" (Keynes, 1936), and savings was believed to be determined solely by the level of income. The neo-classical resurgence and the pioneering works of McKinnon (1973) and Shaw (1973) saw financial liberalisation brought to the forefront of the economic growth debate. The lifecycle and permanent income saving models emerged, highlighting the additional impacts of variables such as population growth and wealth on savings decisions. Additionally, the neo-classical investment theories surfaced which highlighted the importance of the cost of capital, real rate of interest and the role of the capital stock. The main emphasis was placed on both resource accumulation and efficiency of resource use. In more recent years endogenous growth theories, which highlight the importance of investment in human capital and new knowledge, have come to the forefront of the debate regarding the savings-investment-growth nexus. Overall, whilst the competing schools of economic thought do not necessarily consent over the theoretical basis of the savings-investment-growth nexus, they do agree over the existence of a positive relationship between the variables. As a consequence of this fact, and in light of the hardship associated with low levels of economic growth, it is an obvious policy decision to target savings and investment to improve growth prospects.

Athukorala and Sen (2002) note that there is a growing concern that the burgeoning empirical literature on the savings-investment-growth nexus is unbalanced, due to existing studies being primarily conducted using multi-county cross-sectional data. Likewise, failures by the competing schools to obtain a theoretical consensus over the key determinants and their relationship with savings, investment and economic growth, further highlights the importance of examining country specific determinants in order to target savings and investment via economic policy. Additionally, moves by many developing and developed countries towards financial liberalisation and the stance of the World Bank and International Monetary Fund on the matter, means that the effect of financial liberalisation on savings and investment is an important consideration.

The failure of small island economy's, such as Fiji, to improve their economic growth performance means that empirical consideration of the determinants of savings and investment provides an important basis for policymakers to implement key reforms. This is particularly true given that the United Nations millennium development goals provide a number of targets to be met by 2015 which many of the South Pacific Island nations will require external assistance to meet those goals (United Nations 2000). Fiji's first five year plan, drawn up at independence in 1970, set a number of goals, targets, and strategies towards achieving economic growth. During the period of political stability, i.e. pre-1987 period, targeted levels of economic growth were achieved in many of these years; however the two military coups in 1987 adversely impacted on the key growth factors that previously contributed to higher growth rates. The uncertainty generated by the political upheaval caused an outflow of skilled labour, reduction in foreign capital inflows, low agricultural output, a decline in tourism earnings, and low levels of tax revenue.

The adverse impact of the crucial growth factors created a unique economic system which failed to attract the required levels of savings and investment and therefore led to decline in many economic activities. Due to concerns over the poor performance of Fiji's economy the World Bank and International Monetary Fund (IMF) suggested a series of market orientated macroeconomic, trade and financial sector reforms that were implemented from 1990 onwards. While the reforms did begin to show some limited signs of success in terms of improving Gross Domestic Product (GDP) levels, another severely disruptive coup was staged in 2000 which had an immediate adverse impact on growth. Once again the country embraced the disastrous effects when economic activities failed to achieve higher levels of growth, poverty increased substantially, law and order began to fail, investment declined and land property rights were affected. Overall, the economy moved towards a fragile state. The most recent military coup of December 5th 2006 will exacerbate the economic, social and political crises experienced since the 2000 coup. Policy initiatives aimed at increasing various growth factors including savings and investment, as well as external assistance, is required to address the concerns in Fiji.

1.2 Aims and Objectives

This study empirically analyses savings, investment and financial liberalisation in Fiji over the period 1961-2005. The purpose of this research is to provide a comprehensive assessment of the trends, patterns and determinants of savings, investment and the financial sector. In particular, this study assesses the impact of shifts towards financial liberalisation on economic growth both directly and via savings and investment. The other objectives of the study are as follows: first, to summarise the important features, determinants and implications of the differing stances regarding savings, investment and financial liberalisation in the literature. Second, to preview Fiji's economy since independence in 1970, whilst paying particular attention to the reforms undertaken since 1987. Third, to examine whether those determinants highlighted in the literature such as financial liberalisation indicators, population growth, remittances, dominance of the agricultural sector, capital stock, cost of capital, private and public investment, wealth, and political instability impacted significantly on Fiji's savings and investment levels over the period of study.

Few studies have been undertaken which address only some aspects of savings, investment and growth nexus for Fiji; therefore the success of the financial sector reforms undertaken since the late 1980s has yet to be sufficiently assessed. Likewise, a complete understanding of the determinants of savings and investment in Fiji is yet to have been achieved. The comprehensive analysis for the savings, investment and financial sector development undertaken in this study, using several theoretical literature and empirical evaluation, have not been previously done. It is anticipated that the findings of this study will enhance the knowledge of the determinants of savings and investment and financial sector in Fiji. The results will provide an indication of whether further financial sector reforms would initiate benefits for growth and therefore provides key policy lessons to remove harmful effects to enhance growth.

1.3 Data and Methodology

The primary data used in this study has been collected during visits to the Reserve Bank of Fiji (RBF), South Pacific Stock Exchange (SPSE) and Fiji Islands Bureau of Statistics (FIBS). The secondary data sources are the World Bank (2005b) *World Development Indicators*, the International Monetary Fund (various) *International Financial Statistics Yearbook*, the Organisation for Economic Cooperation and Development (2005) *Geographical Distribution of Financial Flows to Developing Countries,* FIBS (various) *Current Economic Statistics* and the FIBS (various) *Census of Industries.* A comprehensive data set has been constructed through these primary and secondary sources. The data for the rate of depreciation of capital stock has been estimated using Rao and Rao (2005). The investment values for the period 2002 to 2004 have been estimated by the RBF. The data period for the models estimated in this study is for the period 1961-2005, however the estimation period for various models differs based on the availability of the data for the variables utilised in each model.

Time series procedures have been utilised and the appropriate econometric methodlogies have been employed throughout the study. In particular, the Auto Regressive Distributed Lag (ARDL) approach to cointegration has been used to assess the key determinants of savings, investment, and financial liberalisation in Fiji. This methodology has the advantage for small sample size properties (Pesaran and Pesaran, 1997). Additionally, the recently developed modified WALD test for Granger non-causality and the Vector Autoregressive methodologies have been used to assess the relationship between financial liberalisation and economic growth models. The technical details of these procedures have been discussed during the relevant chapters of this study.

1.4 Chapter Outline

The structure of this study is as follows: Chapter 2 provides a review of the relevant literature surrounding the savings-investment–growth nexus during the three key periods of economic thought; i.e. Keynesian, neo-classical and new growth. A review of the burgeoning literature addressing the impact of financial liberalisation is also undertaken. Specific emphasis is placed on the works of McKinnon (1973) and Shaw (1973) and their views on financial repression. Chapter 3 presents an overview of the performance of Fiji's economy in the post-independence period in terms of labour market, trade and financial sector performance, capital accumulation, investment, savings, and economic growth. Particular emphasis is placed on discussing the reforms undertaken in the macroeconomic, trade and financial sectors. Chapter 4 makes an empirical contribution to the knowledge on savings. The private and national savings models, data employed, ARDL methodology and empirical results for savings in Fiji over the period 1970-2004 are presented. A detailed discussion of the results and a comparison to existing studies in the literature is provided.

Chapter 5 continues the analysis by looking empirically at private sector investment in Fiji over the period 1970-2004. The empirical contribution in this chapter involves the estimation of regression equations on time series data for private corporate sector and non-residential business investment. A discussion of the results once again ensues. An empirical assessment of the direct effect of financial liberalisation on economic growth, the impact of stock market development, and the applicability of McKinnon's complementarity hypothesis is undertaken in Chapter 6. The three-pronged assessment provides a comprehensive evaluation of Fiji's financial sector and thus makes an important empirical contribution. The study concludes in Chapter 7 by summarising the empirical findings and presenting the overall conclusions and policy implications for Fiji. It also suggests areas for future possible research.