The Development Impact of Workers' Remittances in Fiji

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Abstract

Remittances by international migrants have become an important source of finance for livelihood development amongst the households in Fiji. This is substantiated by the country's rising migrant stock as a result of unstable political environment and the increasing economic opportunities for skilled manpower. It has been noted that the flow of remittances to Fiji excelled the amount of other capital inflows such as foreign aid and foreign direct investment and have surpassed commodity export earnings in the recent years. This has made remittances the second largest foreign exchange earner in Fiji after tourism.

This thesis examines the developmental impact of workers' remittances in Fiji, particularly its impact on economic growth, financial sector development, welfare development of the recipient households and an examination of the sustainability of remittance flows. Using an extended neoclassical framework, the empirical evidence finds a positive impact of remittances on economic growth and financial sector development. The welfare development hypothesis is tested using the Household Income and Expenditure Survey (HIES) data. This is analyzed first, by examining the expenditure patterns of the remittance-recipient households, the poverty and inequality effects followed by an assessment of human capital development impact of remittances.

The empirical results show that households which receive remittances do not only expend their remittance income on basic consumption but have other substantive uses such as that on education of children, housing and expenditure on durables and non-durables. The poverty and inequality reducing effects of remittances, employ two counterfactual methodologies to estimate first, what the poverty and inequality indicators would be in a scenario where remittances are treated as an exogenous addition to household income. Second, it tests the effect in a scenario without migration and remittances, which treats remittances as a substitute for migrants' foregone earnings. The results show strong poverty reducing effects of remittances irrespective of the methodology used while the effects on income distribution are not unambiguous. The results obtained for the human capital development analysis indicate the positive

role of remittances in providing education opportunities for children in the recipient households.

In noting these positive effects of remittances, it must however be acknowledged that the flow of remittances has to be sustainable overtime for households to benefit from human development. From a survey of Fijian-New Zealander migrant households, this study examines the remittance-sustainability debate. The results suggest that a combination of factors such as income of migrants, acquisition of higher education prior to migration and the intention to inherit assets from families in Fiji contribute to continued flow of remittances. These results do not support the hypothesis of remittance decay amongst Fijian migrants in New Zealand but reflect a strong altruistic motive of remittances sent to households in Fiji as insurance against economic shocks. This highlights the importance of development policy in facilitating the flows of migrant remittances for the socio-economic progress of Fiji.

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List of Abbreviations

ADB	Asian Development Bank
ADF	Augmented Dickey Fuller
ALTA	Agricultural Landlord and Tenant Act
ANZ	Australia and New Zealand Banking Group Limited
ARDL	Autoregressive Distributed Lag
ATM	Automatic Teller Machine
AUSAID	Australian Agency for International Development
BAF	British Armed Forces
BNPL	Basic Needs Poverty Line
EU	European Union
ECM	Error Correction Model
FIBOS	Fiji Islands Bureau of Statistics
FDI	Foreign Direct Investment
FTIB	Fiji Islands Trade and Investment Bureau
GDP	Gross Domestic Product
HDI	Human Development Index
HIES	Households Income and Expenditure Survey
IBRD	International Bank for Reconstruction and Development
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
MFNP	Ministry of Finance and National Planning
MSG	Melanesian Spearhead Group
NELM	New Economics of Labour Migration
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PACER	Pacific Closer Economic Relations
PICS	Pacific Island Countries
PICTA	Pacific Island Countries Trade Agreement
RBF	Reserve Bank of Fiji
RDH	Remittance Decay Hypothesis
SPARTECA	South Pacific Regional Trade and Economic Cooperation Agreement

UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
WTO	World Trade Organisation

CHAPTER 1

Introduction

1.1 Background to the Study

One of the many facets of globalisation is the perpetual movement of people across countries. Throughout history, individuals and households have migrated for survival or for an improvement in economic, social and political status. Men and women, particularly from the developing countries, given their circumstances, perceive the opportunities of the developed countries as better and hence make the decision to leave home and seek work abroad. Recently the opportunities for migration have become more accessible for people in the developing nations with the need for inexpensive labour in developed countries. This is more pronounced in the case of skilled workers from developing countries. The process of international migration, amongst other things is facilitated by the low costs of transportation and communication that allow migrants easy access to new locations and the development of treaties, which allow for freer movement of labour between countries in some regions of the world (Rosen, 2007).

The widespread movement of people between the developing and developed nations transforms not only the lives of migrant population but also influences the lives of non-migrant population. For instance, when migrants settle in the destination countries their personal lives and of those who are left behind in the countries of origin change not only economically, but also socially and culturally. Whilst this change is inevitable, the migration of highly skilled and professional labour has for an extended period of time been a major concern to developing countries as it is perceived as brain-drain and a loss of potential economic resource. The process of identifying the positive and negative consequences of skilled migration in both sending and receiving countries has no doubt received substantive social and political attention and remains an intensely debated area amongst the academics. One reason for the proliferation of discussion on the effects of migration in the development agenda of developing countries is the growing significance of income transfers from migrants to their families back home, i.e. international migrant remittances (Lopez-Cordova and Olmedo, 2006).

The case for Fiji presents an interesting setting of migration and remittances, particularly driven by the political instabilities arising from the coups of 1987. This has caused permanent migration of its citizens, mainly the movement of Indo-Fijians. The coups of 2000 and 2006 have further accelerated the process of international migration to destinations such as Australia, New Zealand, the United States (US) and Canada. In addition, Fiji's migrant stock is also made up of temporary workers', i.e. the Fijians who are longstanding participants in the United Nations peacekeeping forces, contract workers in Iraq and professional rugby players in Australia, New Zealand and Europe.

The opportunities for nursing in the US and seasonal employment opportunities in Australia and New Zealand also substantiates temporary migration from Fiji. Remittances from these migrants are a crucial source of foreign exchange given the declining contributions of agriculture and manufacturing sectors. Recently, migrant remittances have exceeded the receipts of sugar and garment exports and stands as the country's second largest source of foreign exchange earner after tourism. The consistent flow of workers' remittances is also noteworthy in the case of Fiji when compared with the flows of official aid and foreign direct investment. The latter two financial flows are conditional upon political stability and as such have declined due to the coups. Comparatively, the flows of migrant remittances have increased as Fiji faces political crises.

Given the growing prominence of remittances it is then natural to ask whether it improves development prospects in Fiji, or as Kapur (2004) states whether remittances are simply a "new development mantra", a fad that may soon subside. While remittances may not be the silver-bullet that, by themselves, will raise the recipient country's development indicators, they can help overcome some of the factors hindering economic progress of developing countries by equalizing the distribution of income, reducing poverty, financing education, health, entrepreneurial development and by providing a stable source of foreign currency (Lopez-Cordova and Olmedo, 2006).

In assessing the development impact of remittances two issues must be noted. First, is the study of remittances any different from that of migration? Second, how is the study of remittances different from the impact of any other source of additional income? The first issue arises since the process of migration and remittances are intertwined, i.e.

remittances cannot happen without migration. To this effect, McKenzie (2005) states that the attention should be broader and focus on characterizing the overall effects of migration instead of concentrating only on remittances. However, as Lopez-Cordova and Olmedo (2006) argue, one may devote particular attention to remittances as policies aimed at facilitating international income transfers and harnessing their developmental impact are likely to be more politically palatable than policies seeking to facilitate (or curtail) migration flows. On the second issue, remittances are countercyclical than other sources of income such as wages or government transfers and thus allow households to diversify risk and smooth consumption. The insurance against income shocks, is indeed one of the reasons of migration and remittances. Thus, it can be said that migration and more specifically remittances play an important role in the development process, and is a key focus of this study.

1.2 Objective of the Study

The objective of the study is to empirically examine the development impact of workers' remittances in Fiji. More specifically, the objective is to assess the impact of remittances on economic growth and financial sector development. Remittances are financial flows that can affect the recipient households and national economy through a wide range of channels, such as that working through savings and investment, entrepreneurial activities and human development channels. These have implications on remittances-growth nexus. The proliferation of money transfer institutions, such as Western Union and the increase in banking services in response to the surge in remittances also highlights the development prospects of the financial sector in Fiji.

The other objectives of the study are as follows: first, to evaluate the expenditure patterns of remittance-recipient households. This is appropriate given that remittances are normally assumed to be used for household consumption and less on productive investments. Second, based on the uses of remittance income, establish the poverty and inequality reducing effects of remittances. The economic hardships as a result of the political coups, series of natural disasters and the expiry of land tenure problems highlight the important role of workers' remittances in the livelihood sustenance of the affected households in Fiji. Third, it examines whether remittances contribute to human

capital development by facilitating high school education opportunities in the recipient households. Fourth, the study ascertains the sustainability of remittance flows from Fijian-New Zealander migrant households by testing the remittance decay hypothesis.

1.3 Data and Methodology

This study utilises primary data obtained through household surveys, and the secondary time series data for the period 1968 to 2007 to estimate various hypotheses. In particular, remittances data is from the Reserve Bank of Fiji (RBF) through personal communication. The other secondary data sources are the World Bank (2008a, 2008b), the International Monetary Fund (various), Organisation for Economic Cooperation and Development (OECD) (2008) and the Fiji Islands Bureau of Statistics (FIBOS) (various). The study also utilises Household Income and Expenditure Survey (HIES) data for the period 2002/03. The HIES dataset is obtained from FIBOS through personal communication. In addition to this, primary data was also collated from a survey implemented in New Zealand on Fijian-New Zealander migrant households, and a survey undertaken in Fiji on remittance usages.

Appropriate econometric procedures have been employed throughout the study. For the time series data the Auto Regressive Distributed Lag (ARDL) approach to cointegration is used to assess the impact of remittances on economic growth and financial sector development. For the welfare impact analysis of remittances using the household survey data, the ordinary least squares (OLS) technique is employed. In testing for the sustainability of remittances, a Tobit regression analysis has been appropriately used. The details of these procedures are discussed in the relevant chapters.

1.4 Chapter Outline

This study is divided into seven chapters and proceeds as follows. Chapter 2 discusses the relevant literature on migration-remittances development. A review of the burgeoning literature on conceptualising migration is followed by a discussion of various theories of remittances. Specific emphasis is placed on the remittances-development nexus, particularly the impact of remittances on economic growth,

financial development, poverty and inequality, human capital development and the sustainability of remittances. In Chapter 3 an overview of migration and remittances is provided with a focus on regional trends and the factors affecting global flows of migrant remittances. The chapter also provides a macroeconomic overview of Fiji's economy in the post-independence period, in terms of economic growth, labour market performance, the role of international capital flows like foreign direct investment (FDI) and foreign aid, and migration and remittance flows. Chapter 4 empirically investigates the impact of remittances on economic growth and the financial sector development in Fiji. Discussion on the empirical models, data, methodology and the results are presented with a comparison to existing studies in the literature.

Chapter 5 continues the analysis with the empirical investigation of the effect of remittances on household expenditures, poverty and inequality and human capital development. Empirical contribution in this chapter involves the estimation of several equations on the 2002/03 household income and expenditure survey data. The empirical investigation of the sustainability of remittances is undertaken by testing the remittance decay hypothesis (RDH) in Chapter 6. The empirical analysis in this study provides comprehensive evaluations of the development impact of workers' remittances in Fiji and thus makes a contribution to the body of knowledge. The study concludes in Chapter 7 by summarising the empirical findings and presenting the overall conclusions and policy recommendations for Fiji. The areas for future possible research are also identified in the chapter.

CHAPTER 2

Literature Review

2.1 Introduction

A comprehensive understanding of the development impact of workers' remittances not only requires the application of the theories and empirical evidence of remittance usage, but also a more thorough understanding of why an individual chooses to migrate and then chooses to send remittances. The theories of migration and remittances provide a crucial understanding of the international inflows and outflows of human stock and capital because in order for a household to receive remittance the household must first allow an individual to migrate and that individual must subsequently remit.

In analysing the theories of migration this chapter sheds light on the complexity of the migration phenomenon and how migration thinking has evolved overtime. Migration is diverse and multifaceted and thus cannot be explained by a single theory or disciplines. Theories of remittance seek to explain the motivations why individuals remit. Understanding these motivations helps understand the private nature of remittances flows. Although remittances are regarded as private flows between individuals and their families, the effects of migrants' remittances are economy wide. There has been considerable debate on the development impact of remittances on receiving countries, particularly those characterised by intense outward migration. Remittances induce growth through various channels such as consumption, savings, investment, human capital development and poverty reduction.

These growth effects are discussed in detail in this chapter which will be empirically analysed in the case of Fiji in later chapters, in particular, the impact of remittances on economic growth, financial sector development, inequality and poverty reduction and human capital development. The chapter is organised as follows: Section 2.1 provides a discussion on the leading theories of the migration-development nexus. Section 2.2 looks at the various theories of remittances which seek to explain the various development impacts discussed in Section 2.3. Against the backdrop of the remittances

and development literature, the significance of the study is discussed in Section 2.4 and Section 2.5 presents the summary and concluding remarks.

2.2 Migration-Development Approaches and Theories

The maturity of migration as a topic for investigation is marked by the interdisciplinary ways in which the topic has been addressed. Historians, economists, sociologists, geographers and demographers among the other academics have undertaken the challenging task of conceptualising the causes and effects of the movement of people from developing to developed countries. The end result has been a string of separate, generally unconnected theories, models or frameworks developed largely in isolation from one another seeking to explain the phenomenon of human migration (Massey et al., 1993; Arango, 2000; Raghuram, 2005). While each of these theories offers explanation for part of the dynamics of migration, none exclusively can conceptualise the process as a whole. Massey et al., (1993) state that a full understanding of the contemporary migratory process will not be achieved by relying on the tools of one discipline alone, or by focussing on a single level of analysis but requires a sophisticated theory that incorporates a variety of perspectives, levels and assumptions. This raises the issue of an approach that can adequately explain and incorporate the complexity and multifaceted nature of international migration. Arango (2000) states that there is no such thing as a general theory of migration, however a discussion of the major contemporary explanations of migration is in order.

Neoclassical Explanation

The first theory of migration and probably the most influential so far emanates from neoclassical economics. The neoclassical migration approach, framed within the modernization approach of development and underdevelopment, basically posits an imbalance in the spatial distribution of resources (i.e., land, labour, capital), which through migration flows are adjusted until a new equilibrium has been reached (Lewis, 1954; Ranis and Fei, 1961; Harris and Todaro, 1970; Zelinsky, 1971; Todaro, 1976; Massey et al., 1993; Arango, 2000; van Naerssen et al., 2008).

According to this approach, people from areas characterised by resource deficiencies, unemployment, low wages and marginal productivity are attracted to areas characterised by relative labour scarcities but with abundant capital, resources and higher wages. The outflow of labour migrants from the underdeveloped and rural regions is beneficial because it will lead to a more balanced distribution of capital and labour that contributes to economic development in the out-migration region. International migration, therefore is a form of investment in human capital (Sjaastad, 1962; Massey et al., 1993). The neoclassical view predicts that human capital characteristics that raise the potential benefits of migration, and individual, social, or technological factors that lower costs, will lead to increased migration. This increase in migration fosters production in the destination country generating remittances and eventually the return of skilled migrants to the source area that stimulates economic growth thus eliminating spatial inequality and the wage differential that drives migration.

The decision to migrate is assumed to be voluntary and grounded in a rational, individual decision taking into account the expected income differentials and employment opportunities (Todaro,1969; 1976; Harris and Todaro, 1970). The theory implicitly proposes that the elimination of wage differentials will end the movement of labour and migration will not occur in the absence of such differentials. Another major tenet of the neoclassical approach is that it equates migrants with workers, and disregards all migration that is not labour migration, that is labour markets are the primary mechanisms by which international flows of labour are induced and other kinds of markets do not have important effects on international migration (Massey et al., 1993; Arango, 2000). The theories based on the neoclassical approach are rather optimistic about the impact of migration on sending areas since they expect that overpopulation, unemployment, and poverty will be reduced. As long as the benefits of staying and working abroad, for example in terms of wages, education, and prestige outweigh the costs, neoclassical theories assume that immigrants will not return (Constant and Massey, 2002).

This approach is based on a number of assumptions that can be challenged, particularly in the context of developing countries. First migration is not necessarily voluntary, as it is often induced by sheer necessity resulting from poverty, war, oppression, or restrictive state policies (Massey et al., 1993; van Naerssen et al., 2008). The

assumption of the rational cost-benefit calculating individual is also contestable. Non-migrants often stay for social reasons even when conditions at home are less favourable. Migration decisions are not taken individually, but prospective migrants are embedded in social units and hierarchical power relations, such as households, kinship systems, patron-client relations and gender roles, which constrain their autonomy and individual decision making power (ibid).

Moreover, it is assumed that potential migrants dispose of full knowledge about wages and job opportunities elsewhere on the basis of which they make their decisions. In reality, information on other countries is incomplete and often filtered by actors who have an interest in migration (van Naerssen et al., 2008). They note that in the worldwide migration industry, run by recruitment agencies, labour brokers and smuggling networks, information is often a valuable commodity that is manipulated for commercial purposes. In other words neoclassical theories are too economic in nature and leave out social, cultural and political dimensions that can potentially affect the movement of people.

The New Economics of Labour Migration

One of the new theories, probably the most migration-specific of all has been the new economics of labour migration (NELM), developed out of the neoclassical tradition that challenges both the neoclassical approach and the historical structural models of migration. The NELM shifts the focus of migration from the individual in microeconomic functional approach to one of mutual interdependence. Thus, migration is viewed as a family, household, or community strategy to diversify sources of income, minimize risks to the household, and overcome barriers to credit and capital (Stark, 1984; 1991). This does not suggest that the behaviour of individuals should be ignored, but rather that it should be studied in the context of the 'group' (Stark, 1991).

Stark (1984; 1991) argues that international migration is a deliberate means to enhance the household's productivity endeavours and increase income relative to others in the community by sending members abroad who will in turn remit earnings back to those at home. Indeed much of the literature on international migration supports this view (Thomas-Hope, 1986 on the Caribbean; Root and DeJong, 1991 on the Phillipines; Fletcher and Taylor, 1992 on Mexico; and Massey, 1990). Once the constraints are

overcome migration is assumed to have a positive impact on development in the long-run (Massey et al., 1993). Return migration is considered a logical outcome of the migration process under the NELM approach once the migrants have achieved their objectives in terms of meeting household needs, savings, insurance, and acquisition of investment capital and skills (Cassarino, 2004).

The new economics approach presents a number of improvements over the neoclassical theory. The central importance accorded to wage differentials in the neoclassical theory is considerably downplayed and it highlights the role of families and households. In addition, it underlines the role of remittances and pays more attention to information and to the complex interdependence between migrants and the context in which they operate (Arango, 2000). Lucas and Stark (1985) highlight that remittances are a part of a mutually beneficial arrangement between the migrant and his or her family at home. This clearly challenges the economic theory assumptions. As noted by Lucas and Stark (1985), if migrants' movements are solely designed to maximize income then logically they should endeavour to settle abroad permanently, cutting economic ties to their original communities. In addition, Arango (2000) states that the new economics approach is inapplicable to other dominant forms of international migration such as refugees, asylum seekers, illegal migrants' and in particular the movement of complete families. Such movements contradict the assumptions of the new economics approach.

Dual Labour Market Theory

Standing apart from the models of rational choice is the dual labour market theory of Michael Piore (1979). At the core of the dual market labour theory is the notion that migration is the outcome of the uneven spatial development resulting from colonial and neo-colonial relationships between developed capitalist economies and the underdeveloped peripheries (De Haan, 1999). In the light of this view, migration is not only a response to the inequalities resulting from underdevelopment but is also a social process by which it is reinforced (Goss and Lindquist, 1995). The process of underdevelopment creates the dual market at the global level (Piore, 1979). He argues that the dual labour market is sustained by the structural labour demand of the modern economies in destination areas. This leads to the stratification of the labour market where migrants are predominately in the secondary labour sector, which is characterised by low wages, low status and undesirable working conditions.

Accordingly, the dual market labour theory does not necessarily provide explanation of the causes of international migration but highlights the importance of structural demand for foreign labour. This is inherent in the economic structure of contemporary developed societies that demands and allows international migration of labour to occur, initiated by recruitment policies of employers and governments in destination areas. According to Arango (2000) because the theory is demand-driven, it excludes 'push' factors therefore explaining only a small part of reality. Essentially, this approach neglects the fact that the majority of migrants move on their own initiative rather than to fill specific job vacancies.

World Systems Theory

The world systems theory again focuses on the unequal relationship between developed capitalist 'centre' countries and underdeveloped/dependent 'periphery' countries, and the historical relationship between the formerly colonised and the colonisers (Breman, 1985; Portes, 1978; Safa, 1982). The thrust of this theory is the structure of the world market – notably the "penetration of capitalist economic relations into peripheral, non-capitalist societies which creates a mobile population that is prone to migrate abroad" (Massey et al., 1993).

International migration is generated as land, raw materials, and labour in areas of origin is drawn into the world market economy and traditional systems are disrupted. The process is further encouraged by the advancement of transportation and technology. Consequently, international migration is inevitable - migrants are relocated by the restless drives of capitalism and thus have limited choice in the migration decision (Papastergiadis, 2000). Because of its focus on a macro perspective, the world systems theory is only applicable at the global level (Papdemetriou and Martin, 1991). The theory fails to acknowledge the importance of micro-level aspects such as individualism, family, gender and culture and the influence of these factors on the migration decision. The macro level of analysis adopted by the structuralist approach assumes that the real force driving migration is predominantly external to the actions of the migrants. Whether the migrant is being 'pulled' by the structural demands for cheap labour or the unrelenting drives of capitalism, his or her agency in the process is rendered insignificant and ultimately dictated by structural forces (Papastergiadis,

2000). Thus, the structuralist perspective also fails to incorporate other micro-level factors into the explanations of international migration.

Migration Networks

Migration networks, linked to the concept of social capital are a contemporary way of looking at the migration phenomenon. Migration networks can be defined as sets of interpersonal relations that link migrants or returned migrants with relatives, friends or fellow countrymen at home who convey information, provide financial assistance, facilitate employment and accommodation and give support in various forms (Arango, 2000).

The migrant network serves to reduce the costs and risks of international migration and thus increases the likelihood of movement. Networks are cumulative in nature, as they grow larger and denser with every move hence perpetuating international migration. All these interrelationships are connected to one another over space and time and encapsulated under the rubric of transnationalism (McHugh, 2000).[1] As such international migration entails the development and maintenance of multifarious economic and noneconomic relationships between home and host countries (van Naerssen et al., 2008). As diasporas and transnational communities tend to reproduce their socio-cultural practices abroad, they form an extended national market fostering the development of migrant businesses in the country of origin and the destination as well (ibid). They point out that these transnational businesses generate significant multidirectional flows of commodities, capital, skills, and ideas that contribute to social, political and cultural links in addition to economic impacts.

Systems Approach

The 'systems approach' focuses on both the macro and micro linkages between places linked by migration (Fawcett and Arnold, 1987; Kritz and Zlotnik, 1992). Macro level relations include political systems, economic dependency/dominance, immigration policy, and cultural/linguistic associations. On the micro level interactions include friendship and kinship resulting from the geographic dispersion of populations. Migration is conceived as a chronological process comprising of discrete phases of

[1] Transnationalism is defined by Duany (2002, p.357) as the "establishment of frequent and intense social, economic, political and cultural links between two or more countries."

decision, transition, and adaptation by the individual made within the context of general political economic and specific social relationships at each stage (Fawcett and Arnold, 1987).

The dynamics of migration moves from a consideration of movement as linear, unidirectional, push-pull, cause-effect movement to notions that emphasize migration as circular, interdependent, progressively complex and self-modifying systems in which the effect of changes in one part can be traced through the whole of the systems (Faist, 2000). This explains in part the cumulative causation of migration. However, despite the promise of the systems approach as a framework that enables integration of theoretical explanations and all the actors relevant in the process of migration (Kritz, Lim and Zlotnik, 1992), according to Arango (2000) it is no more than a desideratum which has never been fulfilled and has hardly gone beyond the identification of international migration, at a purely descriptive level.

Cumulative Causation

This strand of migration thinking conceptualises migration as a self-sustaining and self-perpetuating phenomenon. The basic idea is that migration changes reality in a way that induces subsequent moves through a number of socioeconomic processes. The most important of them all, the expansion of networks and other relevant mechanisms which stem from migration and which in turn induce further migration. This includes relative deprivation, the development of a culture of migration, a perverse distribution of human capital, and the stigmatisation of jobs usually performed by immigrants (Massey et al., 1998).

Significance of the theories

The theoretical approaches to migration have endeavoured to provide a clear understanding of the causes of migration and the mechanisms that contribute to its self self-perpetptuation. However, they are limited in the sense that they only try to explain why people move and not provide justifications as to why so few people move. Arango (2000, p.293) states that “theories of migration should not only look to mobility but also immobility”. Political dimension which has serious implications on the movement of people has also been neglected in the migration discourse. Most theories generally explain the notion of “labour” migration and ignores other forms of migration. This is a

considerable limitation of the migration theories in a contemporary scene where other forms of migrations are prominent. Migration is diverse in terms of forms, types, processes, actors, motivations, socio-economic and cultural dimensions thus the theories and approaches that seek to explain it are at odds. This implies a challenging task for social scientists to provide a concise and all embracive explanation of international migration.

According to Skeldon (1997, p.4), the implications of migration for development can vary according to the level of analysis – individual, family, community, nation, micro or macro level. Migration from a poor to a rich country generally benefits the individual migrant and the sending household. One such benefit is the inflow of remittances in the countries of origin. Remittances, amongst other things, add to the foreign exchange earnings of the recipient nations, helps in poverty reduction, develops the human capital base of the country by facilitating education and health services, provides opportunities for entrepreneurial development, contributes to the financial sector development and finally boosts economic growth of the recipient nations. The theories/motivations that seek to explain remittance flows are discussed in the next section.

2.3 Theories of Remittances

Migration and remittance decisions, although interdependent, are generally influenced by different sets of determinants (Funkhouser, 1995). In other words, remittance behaviour is not simply predicted by the migrants' characteristics but its analysis requires specific attention. One way of looking at the determinants of remittance flows is by analysing the motives that migrants have to remit money. The analytical literature on motives for remittances can be summarized in four approaches: pure altruistic motive, pure self-interest motive, informal agreements with family members left in the home country and portfolio management decisions (Stark, 1991; Funkhouser, 1995; Brown, 1997; Poirine 1997; Rapoport and Docquier, 2005; OECD, 2006).

However, Stark (1991) points out that no general theory of remittances exists. He states that studies which analyse this phenomenon provide useful descriptive evidence and results from empirical research which only explain it partly and are characterised by

certain geographical, socio-cultural and temporal limitations. Each of the theories of remittances is noted next.

Pure Altruism

One of the most intuitive motivations for remitting money back home is what has been characterised in the literature as altruism, that is, migrant's concern for family members left back at home. Under the altruistic model, the migrant derives satisfaction from the welfare of his/her relatives (Stark, 1991; Funkhouser, 1995; Brown, 1997; Poirine 1997; Rapoport and Docquier, 2005; OECD, 2006). This model is based on a number of hypotheses. First, the amount of remittances should increase with an increase in the migrant's income. Second, the amount of remittances should decrease as the migrant's family incomes increases domestically. Third, remittances should decline as the attachment to the family weakens overtime and the same should happen when the migrant permanently settles in the host country and family members follow (Stark, 1991).

The empirical investigation by Lucas and Stark (1985) in the case of Botswana give support to the first prediction. They found that a 1 percent increase in the migrant's wage, ceteris paribus, induced increases in remittances ranging from 0.25 percent at low wage levels to 0.73 percent at high wage levels. The correlation between remittance levels and home incomes was found to be insignificant thus altruism was found to be insufficient for explaining the motivations to remit in the case of Botswana. In studies on United States immigrants it was found that households with children at home are approximately 25 percent less likely to remit than households without children present (OECD, 2006).

Pure Self-Interest

Opposite to the altruistic motivation theory, the self-interest motive seeks to explain that a migrant may remit money to his/her parents driven by the aspiration to inherit assets. The ownership of assets in the home area may also motivate the migrants to remit money to those left behind, in order to make sure that the asset is taken care of (Stark, 1991; Brown, 1997; Poirine (1997); Rapoport and Docquier, 2005; OECD, 2006). Lucas and Stark (1985) note in the case of Botswana that wealthier parents received a larger share of remittances. Similarly, Brown (1997) explains that migrants are

motivated to remit for reasons of self-interest, particularly with a view to asset accumulation and investment in home countries. The intention to return home may also promote remittances for investment in real estate, in financial assets, in public assets to enhance prestige and political influence in the local community (OECD, 2006). Glytsos (1997) finds that remittance flows from Greek migrants in Germany were much higher experiencing a "return illusion" than from Australia and the United States experiencing a permanent settlement syndrome.

Implicit Family Agreement

Lucas and Stark (1985) explain the motivations to remit by a more eclectic model labelled "tempered altruism" and "enlightened self-interest". In this model, they suggest remittance determination is placed in a family framework of decision-making, with remittances being endogenous to the migration process. As such, for the household as a whole, there may be a superior strategy to allocate certain members as migrants and remittances should be the mechanism for redistributing the gains – risk spreading and investment in the education of young family members. The implicit contract between migrant and family is safeguarded against being breached by the family specific assets, that is credit and loyalty, but also by self-seeking motives of the migrant, that is aspiration to inherit, investment in assets in the home area and maintenance by family, and the intention to return home with dignity (Lucas and Stark, 1985).

The loan agreement model was theorised as displaying a "three waves" shape as follows: first, remittances are assumed to be the repayment of an informal and implicit loan contracted by the migrant for investment in education and migration costs; second, they are loans made by migrants to young relatives to finance their education until they are themselves ready to migrate; and the third stage, before returning to their original country, migrants invest accumulated capital at home, therefore the amount of remittances increases. Poirine (1997) found support for this model in the case of Tonga and Samoa while Brown (1997) found no evidence to this effect for Tongan and Western Samoan migrants in Sydney.

Portfolio Management Decisions

The three theories of remittances discussed above concentrated on the individuals motives to remit. There are however some macroeconomic factors both in the host

country and the home country that significantly affect the flow of remittances. Migrants' savings that are not needed for personal or family consumption may be remitted for reasons of relative profitability of savings in the home and host country and can be explained in the framework of a portfolio management choice. In contrast to remittances for consumption purposes, the remittance of these kinds of savings has an exogenous characteristic related to the system of migration. Such remittances are expected to depend on relative macroeconomic factors in the host and home country, such as interest rates, exchange rates, inflation and relative rates of return on different financial and real assets (OECD, 2006; Lucas and Stark, 1985). Straubhaar (1986) examines the case of Turkey for the period 1963 to 1982 and finds that neither interest rates nor exchange rates affect the amounts of remittance flows. Other studies conclude that microeconomic factors are more significant in determining remittance flows in the long-run while portfolio considerations are presumed to have only a short-term effect (OECD, 2006).

Some remarks

It should be pointed out that these numerous hypotheses trying to explain migration decision and remittances are not mutually exclusive. In fact, it may be the case that remittances are driven by all of these motives at the same time, each one explaining a part of the remittance amount or period of remitting practice. This implies the complexity of the remittance phenomenon and its determinants, and explains the challenges of developing a universal theory (El-Sakka and McNabb, 1999). The next section presents the discussion on the impact of migration, remittances and development.

2.4 Migration, Remittances and Development

International migration is becoming a central feature of globalisation and has emerged as a major factor in international relations. With classical distinctions between origin, transit and receiving countries becoming blurred, the transnational phenomenon of migration now affects more and more individuals, communities, countries and regions all over the world which presents some of the most complex interrelationships of policy concerns for the governments (Addy, Wijkstrom and Thouez, 2003). Against this

backdrop, remittances have become an increasingly important source of financial flows to developing countries. While foreign direct investments and capital market flows fell sharply in the last years due to the recession in the high income countries, migrant remittances continued to grow. The OECD (2006) notes that although the importance of remittances in compensating the human capital loss of developing countries was recognised as early as the 1980s, a wide range of issues including the transfer channels used and their economic impact on the receiving countries following the sharp increase in remittance flows have gained momentum, resulting in a mushrooming of the scientific literature. The development effects of remittances can be decomposed into its impact on savings, investment, growth, financial deepening, consumption, poverty reduction and income distribution and human capital development of the recipient countries. Some of these impacts are discussed in detail below.

2.4.1 Remittances and Economic Growth

The role of workers' remittances in the economic development of recipient countries is considered to be an important area of research. In particular, sound research in this area is crucial for policy makers that will enable them to formulate policies that channel the flows of remittances into more productive investments fostering growth and development. The inflow of remittances in receiving economies is likely to affect growth through savings and investment as well as short run effects on aggregate demand and output through consumption (Solimano, 2003). Also the indirect effect of migration on output depends on the productivity level of the emigrant in the home country before departure. Thus, the total savings effect of remittances comes from the sum of foreign savings and domestic savings effects. Workers' remittances are a component of foreign savings and they complement national savings by increasing the total pool of resources available to investment.[2] The investment effects of remittances are bound to be on small community projects (ibid). Ratha (2003) notes positive effects of remittances on investment in receiving countries such as Mexico, Egypt, and Sub-Saharan Africa. In these countries, remittances have financed the building of schools,

[2] See Lucas and Stark (1985), Hadi (1999) and Ahmed (2000) and references therein for increased savings and asset accumulation effects of remittances.

clinics and other infrastructure. In addition, return-migrants bring fresh capital that can help finance investment projects.

Similarly, Brown (1994) investigates the relationship between remittances, savings and investment in Tonga and Samoa basing on micro-level analysis of the use of remittances by households. He finds that remittances make a significant contribution to savings and investment in the island economies. Mesnard (2004) examines impacts of remittances on Tunisia using a life-cycle model and finds that workers who have limited access to the financial market tend to use such remittances to invest. Yang (2005) shows that remittances lead to improved child schooling, reduce child labour, increased education expenditure, and facilitate investment.

However, there are concerns whether remittances could have significant and positive impact on economic growth. A number of studies (Stark and Levhari, 1982; Ahlburg, 1991) point out that primary use of remittances has been for consumption with the remainder being used for house construction, debt repayment and the financing of future migration. According to this view, remittances have raised levels of consumption without creating a firm basis within the domestic economy. Even though remittances may increase investment, insurance provided by distant migrants tends to allow source households to engage in riskier income-generating investment activities (Stark and Levhari, 1982). Thus, the lack of investment in productive activities casts doubt on the role of remittances in generating economic growth.

However, this combined effect of remittances on investment and consumption can increase output and growth. Solimano (2003, p.7) states that "the sustainability of this effect is an open discussion. If remittances are a response to recent migration, remittances may be transitory and thus their effects on investment, consumption and growth can be more of a temporary basis. In contrast, if migrants form associations and their commitment to their home country becomes 'institutionalized' then, their positive developmental effects of remittances may become more permanent".

Existing evidence on the impact of international migration and remittances on economic growth is limited and provides mixed results. Faini (2002), for instance, has found that remittances have positive impact on economic growth, thus confirming the predictions

of the new economic migration literature, according to which remittances promote investment and entrepreneurial activities.[3] In his empirical analysis Solimano (2003), indicates a positive correlation between remittances and economic growth. He estimates empirical growth equations for selected Andean countries in which remittances (as a share of GDP) are included as a determinant of per capita GDP growth besides initial income, investment ratios, and terms of trade shocks. He finds positive effects of remittances on the per capita growth for Columbia and Ecuador. In a similar vein, Iqbal and Sattar's (2005) quantitative evidence for Pakistan for the period 1972-73 to 2002-03 shows that workers' remittances appeared to be an important source of economic growth.

The World Bank (2006a) using a sample of 67 countries, of which 21 are from Latin America and the Caribbean find that remittances have a positive and significant impact on growth, and that this effect is robust to the use of external and time varying instrumental variables to control for the potential endogeneity of remittances. All control variables are found to be significant and with the sign that would be a *priori* expected. That is, growth is found to be higher for countries with lower levels of income, higher levels of education, deeper financial markets, more trade openness, and better institutions, and to be discouraged by excessive government burden, higher inflation and real exchange rate overvaluation (World Bank, 2006a). These results improve upon previous estimates, which have either overlooked the issue of the possible endogeneity of remittances, or have addressed it using time-invariant instrumental variables (e.g. IMF, 2005) or internal instruments only (e.g. Giuliano and Ruiz-Arranz, 2006). Moreover, following Loayza, Fajnzylber and Calderon (2005), the study uses a wide set of control variables as potential growth determinants, thus reducing possible omitted variable biases.

Ang (2007) examines the relationship between workers' remittances and economic growth at the national and at the regional levels in the Philippines. Albeit data issues, he finds that at the national level remittances do influence economic growth positively and significantly. However, the results for the regional level analysis show mixed results. The results of Ang's study generally confirm the observations of Taylor (2006) and

[3] See Stark and Lucas (1988) and Taylor (1994) for a review of the new economic migration literature.

Ballard (2003) that while remittance may contribute to economic growth, there is a need for correct policies and nurturing environment for it to be an effective engine of development. In a similar vein, Jongwanich (2007) estimates the impact of remittances on economic growth using a panel data set of Asia Pacific countries for the period 1993-2003. Controlling for the endogeneity problem in the study, he finds that remittances have a positive but marginal impact on economic growth through the improvement of domestic investment and human capital. He further concludes that "remittances should not be regarded as the key instrument on par with traditional growth engines like exports and foreign direct investment in promoting long term economic growth and country's prosperity" (2007, p.12).

Ramirez and Sharma (2008) estimate the impact of remittances on the economic growth of selected upper and lower income Latin American and Caribbean countries. Their results suggest that remittances have a positive and significant effect on economic growth in both groups of countries. In particular, the interaction of remittances with a financial development variable reveal that remittances act as substitutes to other financial products in the countries concerned and the impact of remittances is more pronounced in the presence of the financial development variable.

In contrast, broader studies, such as the one using a sample of 101 developing countries over the period 1970-2003 conducted for the International Monetary Fund's (IMF) *World Economic Outlook* (IMF, 2005) finds that there is no significant relationship between remittances and growth in GDP per capita. The study establishes that there are no significant relationships between remittances and some of the variables like education and investment which are included as controls in the growth regression lending to Bouhga-Hagbe's (2004) observation that the growth impact of remittances might be felt most strongly in certain sectors such as residential real estate as migrants might be most willing to remit funds if these are used for purposes that reinforce their links to their home country.

Similarly, the empirical examination of a sample of 113 countries over the period 1970-98 by Chami et al., (2005) find a negative association between the growth rate of immigrant remittances and growth in GDP per capita. They claim that remittances transfers take place under conditions of asymmetric information in which the remitter

and recipient of the transfer are separated by long distances. This could lead to significant moral hazard problems where the latter is likely to be reluctant in participating in labour market, limiting their job search, and reducing labour effort thus affecting the labour market which has an adverse effect on economic activity (Chami et al., 2005). Giuliano and Ruiz-Arranz (2006) using a newly-constructed dataset for remittances covering about 100 developing countries find that the impact of remittances on growth is not significant when remittances are simply added as an explanatory variable in a growth regression. They find that the impact of remittances on growth may depend on some structural features of the economy and find evidence that remittances enhance growth in countries with less developed financial systems by providing an alternative way to finance investment and helping overcome liquidity constraints. Whether or not this happens, is the subject of discussion in the next section.

2.4.2 Remittances and Financial Development

The notion that remittances can lead to financial development in developing countries is based on the concept that money transferred through financial institutions paves the way for recipients to demand and gain access to other financial products and services, which they might not have otherwise (Orozco and Fedewa, 2005). At the same time, providing remittance transfer services allows banks to "get to know" and reach out to unbanked recipients or recipients with limited financial intermediation. For example, remittances might have a positive impact on credit market development if banks become more willing to extend credit to remittance recipients because the transfers they receive from abroad are perceived to be significant and stable. Furthermore, because remittances are typically large, recipients may need financial products that allow for the safe storage of these funds, even if most of these funds are not received through banks. For the households that receive remittances through banks, there are chances that these households learn about the potential financial products and thus demand for the same.

Remittances, on the other hand can create a dampening effect on the credit market as individuals may lower their demand for credit because their funding constraints have been met by the remittances (Aggarwal et al., 2006). The fact that remittances can also be used to finance government expenditure it may not lead to an increase in the private

sector credit. Finally, remittances might not increase bank deposits if they are immediately consumed or if remittance recipients distrust financial institutions and prefer other ways to save these funds.

The determinants of financial development and its effects on growth have been studied extensively. These include the level of inflation and its impact of financial development, the capital openness and the liberalization of domestic financial systems, geography and initial endowment of resources and financial development, and ethnicity and financial development amongst other issues (Aggarwal et al., 2006). Financial institutions perceive a positive impact of remittances on the financial sector development. This is evident from the recent attempts of the financial institutions to convert remittance recipients into bank clients by way of lowering money transfer fees and other financial products.[4]

Existing evidence of the impact of remittances on financial sector deepening is limited. Hunte (2004) uses cross-country panel data for 18 developing countries to uncover the positive and significant relationship between remittances and financial deepening. Aggarwal et al., (2006) use balance of payments data for over 90 developing countries for the period 1975-2003 to establish a positive relationship between remittances and financial development. However, this study looks at the combined effect on all developing countries and does not test whether this relationship holds across regions, especially for Latin America and the Caribbean.

An extension to this study was done by the World Bank (2006a) in which the regional aspect specifically for Latin America was looked at and was also complemented with a micro level analysis. The macro level analysis suggests that overall remittances have a positive impact on the financial development of developing countries, but this effect is smaller for Latin American countries. The micro level analysis reveals that while there is evidence that the likelihood of using deposit accounts is higher among remittance recipients, no such effects are present thus far when it comes to bank credit (World Bank, 2006a). Gupta et al., (2007) similarly follow the specification of Aggarwal et al., (2006) and investigate the impact of remittances in Sub-Saharan Africa using an

[4] Orozco and Fedewa (2005) provide a summary of recent efforts by banks in Latin America to convert remittances recipients into bank clients.

unbalanced panel of 44 countries over six time periods. Their findings show that remittances which are stable, private flows have a direct poverty mitigating effect and promote financial development. Shahbaz et al., (2007) use annual time series data for Pakistan to test whether remittances promote financial sector's performance both in the short and long-run. They use ARDL and Johansen cointegration approaches for robustness of long-run relationships among the concerned variables and find that remittances promote the financial sector in the long run.

Overall, the literature on remittances-financial development nexus highlights that remittances impact the financial sector positively. This implies that remittance development policies must be aimed at banking the remittances which will eventually spur development in the financial sector and cause positive economy-wide effects. The next section looks at the impact of remittances on poverty and inequality.

2.4.3 Remittances, Poverty and Inequality

The implications of labour migration and remittances on poverty and inequality are becoming a global issue particularly for the developing countries as they experience a surge in remittance transfers. Therefore, it is not surprising that from a development point of view, remittances can potentially impact on local livelihoods and development in the receiving countries. More interesting however is the potential use of remittance flows for poverty reduction. Chimhowu (2003, p.3) notes that "remittances alone are unlikely to lift people out of poverty: rather it is their interplay with other economic, social and cultural factors which determine the scale and type of impact remittances can have on poverty reduction....the focus should be on what remittances can ADD to the process of moving people out of poverty or reducing their vulnerability to poverty". Adams and Page (2003) point out that it is the benefits of these additional resources, more precisely, what remittances enable poor and vulnerable households to do, which is of interest in the emerging discourse on remittance flows and poverty.

There are two main channels through which remittances can support poverty reduction efforts (Acosta et al., 2007). First, remittances could flow towards the neediest groups of the population and therefore directly contribute to poverty reduction. Thus, it is

possible that even if these flows are fully consumed, they have significant positive welfare effects. Second, with imperfect insurance and financial markets, remittances can also contribute to higher investment in human and physical capital (ibid). For example, these flows can remove some of the financial constraints faced by households and small-scale entrepreneurs that prevented them from investing. Similarly, remittances can provide insurance and therefore allow households and entrepreneurs to pursue more risky asset accumulation strategies. Thus in this regard, remittances may also potentially contribute to raising the country's long run growth potential through higher rates of capital accumulation.

Understanding the impact of remittances would be incomplete without the knowledge of how it also affects income distribution amongst the recipient households. Stark et al., (1986) in their seminal paper argue that the impact of migration and remittances on income inequality depends on the magnitude of remittances in relation to the income from other sources and upon the position of remittance-receiving households in the distribution of income. They state that when migration is incipient then remittances tend to have an un-equalizing effect on inequality as the migrants can be expected to come from better-off households given that migration costs and the related uncertainty are likely to be high. Overtime, however, as costs and uncertainty decline with the spread of information more households become a part of the migrant networks. Thus, increases in migration amongst the worse-off can have poverty and inequality reducing effects.

In practice, however, these potential positive impacts may be counterbalanced in cases where migrants do not come from the poorest of households so remittances do not flow towards the poorest. Moreover, Acosta et al., (2007; 2008) states that comparing observed poverty rates and inequality indicators with those calculated on the basis of non-remittances income may exaggerate the estimated development impact of these flows. They state that before leaving their home countries migrants are likely to have contributed to their households' income, which should be taken into account when calculating counterfactual poverty rates in a scenario of neither migration nor remittances. Adams (2004; 2006) argues that failure to correct for the reduction in income associated with the absence of migrants from their households can dramatically change the estimated poverty impact of remittances.

Remittances can also negatively affect domestic competitiveness by lowering the expected returns on capital. For example, remittances can exert pressure on the exchange rate and lead to a real appreciation, lowering the profitability of the tradable sector (see Amuedo-Dorantes and Pozo, 2004). Similarly, remittances may raise reservation wages and negatively affect labour supply (Rodriguez and Tiognson, 2001). In both cases, remittances would affect the investment incentives of households and entrepreneurs and lower the rate of capital accumulation. Given the potential counterbalancing effects it may be quite difficult to determine not only the potential development impacts of remittances but also even the direction of those impacts necessitating the need for empirical evidence to ascertain the signs and orders of magnitude of the different economic consequences of remittance flows. Cross-country and country-specific studies on remittances-inequality and poverty nexus are discussed below.

Cross-Country Studies

In a cross-section analysis of 71 developing countries by Adams and Page (2005), they estimate three counts of poverty measures, i.e. poverty headcount, depth of poverty and severity of poverty. This is estimated based on the function of three variables, i.e., income measured by GDP per capita, income distribution measured by the Gini coefficient and level of international migration or official remittances per country. Using this framework, they find that both international migration and remittances exert a strong positive impact in reducing the level, depth and severity of poverty. According to their estimates, a 10 percent increase in international migration and remittances leads to a 2.1 percent and 3.5 percent decline in the share of people living in poverty, respectively. Acosta et al., (2008) using a large cross-country panel dataset find that remittances reduce inequality and poverty in Latin American countries. They calculate poverty and inequality indicators using a counterfactual no migration-remittance scenario and use different instruments that attempt to correct for the potential endogeneity of remittances. They find that remittances has inequality and poverty-reducing effects, albeit of a smaller magnitude.

Jongwanich (2007), similarly estimates the impact of remittances on poverty by decomposing its effect into direct and indirect components. Using a panel data set for the Asia-Pacific countries for the period 1993-2003, he finds that remittances directly

reduce poverty through augmenting family incomes. The indirect impact on poverty reduction is seen through the growth and human capital effects of remittances. He further concludes that "remittances can generate income even for families who receive no remittances at all mainly through the multiplier effects of expanded spending and such multiplier effect can lead to poverty reduction even for some poor families that do not directly get remittance inflows" (2007, p.10).

The results of the above studies depict the vital role of remittances in alleviating poverty. However, there are few studies which present the contrasting view. These studies suggest that migration and remittances do not benefit the poor. To this effect, Stahl (1982) argues that because international migration can be an expensive venture, it is going to be the better-off households who will be more capable of producing migrants and thus receive remittances. He states that while poor households would not get the benefit from such remittance flows, they tend to generate inequality so that poverty tends to eventually increase. Cattaneo (2005) uses a data set from 149 labour-sending countries and estimates the average income of the poor as a function of the country's average income, income inequality, level of migration and remittances and other local factors. She finds that remittances do not have any impact on poverty while the stock of migrants per capita shows a strong dampening effect on poverty.

According to Acosta et al., (2007) the employment of cross-country regressions in investigating the effects of migration or remittances on poverty alleviation may be subjected to one major drawback. They state that countries may differ in their concepts, definitions and measurements of the variables that are used in the estimation. Hence, in order to get more reliable results, there is a need to carry out country-specific studies in which the above issue can be addressed.

Country-Specific Studies

The study on remittances and poverty reduction in Guatemala by Adams (2004) has utilised a different framework to examine this issue. Using a large, nationally representative household survey consisting of 7,276 household respondents and the predicted income functions, he compares the poverty headcount, poverty gap, and squared poverty gap of Guatemalan households that receive internal and/or international transfers with those of households that do not receive any remittance income. His

findings reveal that both types of remittances decrease poverty by creating a quantitatively larger effect on the severity of poverty measured by the squared poverty gap, rather than on the proportion of people living in poverty. For example, the squared poverty gap, falls by 21.1 percent when internal remittances are included in the household income, and by 19.8 percent when international remittances are included in such income. This greater poverty-assuaging effect exerted is attributed to the kind of income/expenditure groups receiving remittances. Adams (2006) conducts the same study in the case of Ghana and finds that remittances do reduce poverty.

Viet (2008) uses fixed-effect regression to investigate the impact of foreign remittances on poverty and inequality in Vietnam and finds that remittances decrease poverty slightly for the recipient households and increase income inequality, albeit at a small magnitude. Barham and Boucher's (1998) examination of the net effects of migration and remittances on income distribution in Nicaragua shows that migration and remittances increase income inequality when compared with the methodologically superior no-migration counterfactual scenario. This implies that a larger proportion of remittances accrue to the affluent households that are capable of producing migrants. Wodon et al., (2002) similarly finds that in Guerrero and Oaxaca, two southern Mexican states with significant international emigration and remittance inflows, the share of the population living in poverty is lowered by two percentage points due to remittance income. They argue that this poverty effect is similar in magnitude to that of many government programs in poverty reduction, education, health, and nutrition.

Similarly, Lopez-Cordova (2005) carries out a cross-section analysis of 2,400 Mexican municipalities for the year 2000 to evaluate the extent to which remittances and migration may prop efforts to augment certain welfare indicators such as infant mortality, educational outcomes, poverty and marginalization. He uses the percentage of population with income less than the minimum wage as the poverty measure. The results show that remittances are statistically significant in poverty reduction. Taylor et al., (2005) utilize a sample of 1,782 households in 14 states in rural Mexico and employing the poverty decomposition technique they conclude that overall remittances (both internal and international) reduce poverty, with the international migrant transfers exerting a greater impact on poverty reduction. In the case of rural Mexico they conclude that international remittances worsen income inequality while internal

transfers, on the other hand, are income equalizers. In addition, they note that the more the number of migrants, the greater is the poverty reducing effect of remittances.

In the Pacific context, Brown and Jimenez (2008) use household survey data to estimate the impact of migration and remittances on income distribution and poverty headcount and poverty gap for Fiji and Tonga. They find stronger effects of remittances on poverty alleviation using the counterfactual income approach while the effects on income inequality seemed ambiguous for both these countries. The findings of Ahlburg (1991), however, established that the receipt of remittances from migrants decreased inequality in Tonga. His study, which focussed on comparing the share of household income with and without remittances concludes that the poorest households received 6 percent of non-remittance income and 18 percent of remittances while the richest households received 43 percent of non-remittance income and only 29 percent of remittances. Brown and Connell's (1993) study on Tonga and Samoa using household survey data finds that remittances reduce income inequality in both the countries. They treat remittances as exogenous transfers to the households and compare Gini coefficients with and without remittance income.

The literature reviewed above supports the view that remittances induce poverty reduction in the recipient countries while the evidence on income distribution provides mixed views. This implies that households which are better-off may be the beneficiaries of the migration and remittances process, given that they are able to meet migration costs. On the other hand, those households in the lower income quintile do not receive remittances, hence, they remain poor. Whilst this remains a contestable issue there are other ways of looking at the issue of poverty such as the development of human capital. The effects of remittances on human capital development are discussed next.

2.4.4 Remittances and Human Capital Development

One of the most apparent downsides of migration and remittances on development is the reduction in the skills base of the migrant producing countries. Migration siphons off skilled workers causing considerable loss to countries of origin that invested in training the workers. The migration of household members that precedes the receipt of

remittances can also have disruptive effects on family life, with potentially negative consequences on the educational attainment of children (Hanson and Woodruff, 2003; World Bank, 2006a). Moreover, to the extent that in destination countries most migrants tend to work in occupations requiring limited schooling, the returns from investments in education may be lower for those that are envisaging international migration, which also could tend to reduce the schooling of children in migrants' families (World Bank, 2006a).

Notwithstanding the negative effects of brain-drain, the migration process benefits the source countries, amongst other things through the inflow of remittances that may improve health and education outcomes as they relax income constraints that limit optimal human capital investment. A first possible link between remittances and education can be established through the "repayment of loan" motive of remittances. Poirine (1995) states that "remittances mainly consist of the repayment of an informal and implicit loan taken out by emigrants during their youth...to secure a better education that later make them more productive in the modern sector. In a second stage remittances may come from money lent (implicitly and informally) by emigrant to future emigrants to pay for their education back home". Therefore, a natural interpretation is that it is the prospect of migration (rural to urban or international) that makes education a profitable investment for the family. In this way migration and remittances fosters human capital formation. This first link may be referred to as the "backward" linkage as remittances are targeted towards the generation that preceded the migrant himself (Rapoport and Docquier, 2005).

The second link between remittances and education emanates from the theoretical model of remittances whereby remittances ease the income constraints of the recipient households. A "forward" link is created when remittances are used to finance education. Since dollars are fungible and education has a relatively high income elasticity, one would expect remittances to have significant positive effects on the educational attainments of children from households with migrant members (ibid). However, Lopez-Cordova and Olmedo (2006) state that the specific impact of remittances on education is an empirical question and may be in all likelihood country specific, preventing any extrapolating conclusions from one context to the other.

Existing evidence on the impact of remittances on education (the forward link) is limited. For the rural Mexico, using the 2000 Mexican Census, Hanson and Woodruff (2003) find that remittances are associated with higher educational attainment, at least among 10 to 15 year old girls (categories of children traditionally at risk of being dropped from school) whose mothers have low levels of schooling. Their results show that children in households with a migrant member complete significantly more years of schooling, with an estimated increase that ranges from 0.7 to 1.6 years of schooling. These results are robust with respect to the identification procedure, that is when migration is treated as endogenous and the introduction of dummy variables for Mexican States (Rapoport and Docquier, 2005).

Lopez-Cordova (2005), using a cross section of Mexican municipalities' shows that remittances are associated with lower illiteracy among children, but the evidence on their impact on school attendance is mixed: the effect is positive only for 5 year olds, becoming insignificant among 6 to 14 year olds and negative for those aged 15 to 17. Similarly, McKenzie and Rapoport (2005) show that Mexican children aged 16 to 18 who come from households with migrants have lower levels of educational attainment. Their results show that this negative effect is even larger for those whose mothers have higher levels of schooling. The findings of the World Bank (2006a) similarly suggest that remittances are positively and significantly associated with the higher education attainment of the 10 to 15 year olds in El Salvador, Guatemala, Honduras, Ecuador, Haiti and Nicaragua. For countries like Mexico, Paraguay and Peru the study finds a greater impact of remittances on education when the schooling of the parents is low.

Cox-Edwards and Ureta (2003) and Acosta (2006) show that children from remittance-recipient households in El Salvador are less likely to drop out of school due to the relaxation of the income constraints of the family units. Their estimates of "survival functions" show that remittances significantly contribute to lower the hazard of leaving school. In the Pacific region, Brown et al., (2006) study the remittances-education nexus for Fiji and Tonga. Controlling for the possible endogeneity of the relationships in their analysis, they find that remittances influence the education attainment of children beyond 8 years provided by the government in Fiji with a greater impact noted for the Indo-Fijian ethnicity. In the case of Fiji, the study also finds a positive and significant relationship between the household's migration orientation and the probability that

individuals within that household have acquired tertiary level education. For Tonga on the other hand, no statistically significant relationship between migration intentions and acquiring tertiary education was established.

The studies noted above represent an important and encouraging step towards documenting the potential growth effects of remittances through human capital formation. Lopez-Cordova and Olmedo (2006) state that beyond the impact on education, remittances play an important part in countries where the public healthcare care system is not able to provide adequate treatment and health services. In analysing the case of Latin America, a region that receives relatively high levels of remittances they find that out-of-pocket expenditures amount to about 75 percent of all private expenditures on health. Moreover, they suggest that remittances have a positive impact in reducing infant mortality that works through better housing conditions – allowing mothers to stay home and provide care for their children and improving access to public services such as water. In Sri Lanka, the children in remittance receiving households have higher birth weight, reflecting that remittances enable households to afford better health care (Ratha, 2007). Whether or not remittances facilitate human capital development through education and healthcare financing remains an important policy concern for the recipient countries. However, such policy issues cannot be addressed in isolation from the issues of duration and sustainability of remittance flows. The issue of remittance sustainability is discussed next.

2.4.5 Sustainability of Remittances

The review of the contemporary migration and remittances literature suggests that workers' remittances have become an important source of finance in developing countries (Fajnzylber and Lopez, 2008; Terry and Wilson, 2005; World Bank, 2006a; Connell and Brown, 2005). On the whole, the development impacts of remittances are quite positive even though the estimated impacts vary from region to region and by individual country. The process of international migration and remittances is accelerating, driven by the forces of a global economy and a fully integrating labour market within the developed countries. In the Pacific island countries for instance, migration and remittances amongst the many factors are a result of the economic

opportunities whether temporary or permanent in nature available for the Pacific islanders. Push factors such as political instability also generate substantial migration and the eventual flow of remittances to the countries of origin. Consequently, these remittances have multiplier effects on the recipient nations.

However, the degree to which the recipient nations and the individuals who receive remittances benefit from these flows of funds and the duration of these benefits is dependent on the sustainability of remittances overtime. The sustainability of remittances is an important policy issue for many of the recipient nations as there has always been concern that remittances decline over time, in total and from particular households and individuals, due to lower migration rates, recession and a decrease in migrants' willingness to remit (Connell, 1990; Ahlburg, 1991; James, 1991; Campbell, 1992; Marcus, 1993; Brown, Foster and Connell, 1995). An important issue in the present context is whether remittance levels will decline as the migrants' length of absence increases and ties to their countries of origin weaken. Furthermore it has been suggested that, even with continued migration, the anticipated decline in remittance rates is likely to occur due to family reunification and greater integration of the migrants in the host communities (Fuka, 1985). This process, it is argued, reduces migrants' ability and willingness to remit: ability because of the increased number of dependents now living in the migrants' households, and willingness because of fewer kinship ties at home (Connell and Brown, 2004).

In light of the above issues, Maclellan and Mares (2006) state that it is dangerous for governments to base economic strategy on an ongoing flow of remittances, which will ebb and flow according to a range of factors such as migration policies, economic recession in receiving countries and the adoption of individualistic values that clash with communalist village traditions. These concerns have led to the empirical examination of the remittance decay hypothesis (RDH). The empirical testing of the remittance decay hypothesis requires microeconomic data because the time profile of aggregate remittances may bear no relation to the profile of a typical, individual migrant's remittance function (Simati and Gibson, 2001). As Brown (1998) points out, there is a time effect, a composition effect and a size effect in the aggregate level of remittances. If the size or composition of the migrant group is changing then aggregate

remittances will be affected, and the tendency for the remittances of an individual to increase or decrease over time may be masked.

Within the Pacific, the remittance decay hypothesis draws support for its arguments mainly from studies of migrants in other countries. Forsyth's (1992) study postulated a remittance decay function for the South Pacific based largely on evidence from an OECD study of remittance behaviour in Europe. He noted that the longer the duration of the migrants' stay abroad, and the greater the associated decline in the number of dependents at 'home', the weaker migrants' motivations to remit are assumed to become. Hence, the sustained high rates of remittance tend to be characteristic of migrants who intend staying in the host country for a relatively brief period and then returning home....but such rates are unlikely to be sustained if the period of residence is extended....[which] suggests a profile over time...with remittances reaching a peak soon after arrival in the host country then gradually declining (Forsyth, 1992, p.39). However other studies using migrants' income as a determinant of RDH find little evidence of remittance decay. In particular, studies by Massey and Basem (1992) in Mexico, Banerjee (1982) in India, Hoddinott (1994) in Kenya and Lucas and Stark (1985) in Botswana find evidence of a positive relationship between migrants' income and remittances. Standing (1984) cited three studies of Indian migrants which revealed that the level of their remittances did not decline with time, but rather plateaued at a positive and constant level.

In the Pacific context, the remittance decay hypothesis has received little empirical investigation as little is known about the Pacific island migrant communities, in terms of demography, education and occupation levels, socio-economic status, and their remittance behaviour and its correlates (Connell and Brown, 2004). They note that remittances can take many forms, including informal transfers in cash or in-kind, and can pass through many different channels and networks and as such there are clear obstacles to making definitive assessments of remittance behaviour. Vete (1995), albeit a small sample found that for Tongans in New Zealand there was a correlation between the number of dependents in Tonga and the amount of remittances. Tongamoa (1987) similarly noted the same amongst Tongans in Sydney whereby the level of remittances increased during the first few years of migration, up to around seven years, but then

began to decline, although migrants who had been in Australia for more than 18 years still sent remittances.

Loomis (1990) on the other hand, found little evidence of remittance decay among Cook Islanders in New Zealand. Brown (1997, 1998) subjected the remittance decay hypothesis to rigorous empirical investigation. He found that remittance decay hypothesis has no empirical validity for Tongan and Western Samoan migrants in Australia and that migrants' are motivated by factors other than altruistic family support, including asset accumulation and investment in home countries. The findings imply that there is no need for the number of new migrants to continually increase to maintain the same level of remittances to the island economies (Connell and Brown, 2004). Simati and Gibson's (2001) study of Tuvaluan migrants in New Zealand similarly renders no support for the hypothesis that remittances decrease with the length of time that migrants spend in the host country. They suggest that remittances may be a sustainable source of financing for the Pacific island economies.

Maclellan and Mares (2006) note that much of the sustainability debate has focussed on first generation migrants and there is little documentation about the remittance habits of subsequent generations. This is an important tenet of the sustainability debate as remittances are driven by specific motives. The empirical validity of the RDH in the case of Fiji is of significance given the permanent migration pattern of the last two decades and the recent spate of temporary migration arising from military employment, nursing and sports contracts overseas. Significance of the study is discussed next.

2.5 Significance of the Study

The role of international migration in facilitating development has been highlighted above. In particular, one of the positive effects of international migration, the inflow of remittances and its subsequent impact on the receiving country has been discussed in detail. The assessment of the empirical literature on the impacts of remittances on the migrant-producing countries noted in the previous section suggests the need for impact analysis at the country-specific level. International migration is a not a new phenomena for Fiji and neither the purpose of international migration for the country is any different

from the global view that people move across borders in search for better economic opportunities. Movement of people across borders has always been present in Fiji but since the political coups of 1987 the process of international migration has intensified. Permanent migration features prominently in Fiji's migration process while temporary migration mainly comprises of nurses employed overseas, sports and military personnel.

The review of literature provides significant evidence that remittances contribute positively to economic and social development of the recipient countries. As such, this study seeks to establish whether remittances have contributed to Fiji's socio-economic development in a similar manner and thus prescribes development enhancing policies. Very limited attention has been given to the analysis of remittances and development in the case of Fiji. Empirical studies by Connell and Brown (2005), Brown et al., (2006), Brown and Leeves (2007), Brown and Jimenez (2008) and Shaw (2007) have undertaken partial analysis of some areas of remittances and development in the case of Fiji. This study undertakes a comprehensive assessment of the developmental impact of remittances. In particular, it empirically examines the impact of remittances on economic growth, financial sector development, poverty and inequality reduction, human capital development and tests the sustainability of remittances flows to Fiji. Ultimately, the study bridges the empirical gap that currently exists with regard to the remittances-development nexus in the case of Fiji.

Fiji's poor political and economic performance of the last two decades reflects hardships for the nation which has been exacerbated by the exodus of skilled labour. The dwindling performance of the export sectors such as sugar, garments and gold have put further pressures on the foreign exchange earnings. This has essentially made remittances the second largest foreign exchange earner for Fiji. The inflow of remittances could further contribute to the development process if it is channelled into productive uses than being utilised for mere consumption purposes. This calls for appropriate policy response from the individual stakeholders given that remittances impact can positively affect economic growth, financial sector development, poverty reduction and human capital development. Consequently, this study is significant in contributing to the remittances-development policies in Fiji.

2.6 Summary and Conclusions

This chapter provides an overview of the theoretical and empirical evidences of the developmental role of migration and remittances. It focuses on the leading theories of the migration-development nexus and presents the various schools of thoughts in analysing the complex phenomenon of migration. Migration thinking has, no doubt evolved overtime in line with the patterns of migration and emerging new themes such as knowledge transfer, transnational entrepreneurship and diaspora development that are now part of the migration agenda. The literature guides us on four key theories/motivations of remittances. Whilst the empirical studies confirm that migrants remit due to these motivational theories, no particular theory is mutually exclusive in suggesting the conditionality of remittance flows. This implies the complexity of the remittance phenomenon and its determinants, and explains the challenges of developing a universal theory of remittances.

The economic impact of remittances and migration are diverse. There are various channels through which remittances can spur development such as savings, investment, consumption, poverty reduction, income distribution, financial sector development and human capital. The review of empirical literature suggests mixed results on remittances-growth nexus, poverty and inequality reduction while studies support the positive impact of remittances on the financial sector and human capital development. The sustainability of remittances is vital for economies that depend on it for foreign exchange and other financing needs. In this regard, the literature reviewed shows no empirical validity of the decay hypothesis.

Given the mixed views emanating from the literature, individual country case studies are vital in prescribing the appropriate remittance development policy. The next chapter will provide an overview of migration and remittances. This is then followed by an empirical assessment of the impact of remittances on Fiji's economic growth, financial sector development, poverty reduction and human capital development including the testing of the remittance decay hypothesis.

CHAPTER 3

Migration and Remittances: An Overview

3.1 Introduction

Remittances are a very important source of capital in developing countries. They ease the financial constraints of recipient households and induce a positive impact on their welfare as noted in the previous chapter, on theories of migration and remittances. This chapter undertakes a detailed analysis of migration and remittance flows in the global context and then in the case of Fiji, with a particular focus on various usages of migrant remittances. Examination of migration and remittance trends facilitates in understanding the importance of migrant dollars and its subsequent development potential in a recipient country.

Migration and remittance trends also raise major concerns. For instance, in response to the shortage of skilled labour in the developed countries, immigration policies may be geared to favour the entry of skilled workers, while penalizing the unskilled flows (Faini, 2003). Consequently, the sending countries will be restricted in their ability to rely on unskilled migration as an engine of growth and they will be deprived of most skilled and talented people affecting their development process. However, the subsequent flow of remittances which serve as a potential source of foreign exchange and the return of migrants after having acquired productive skills have beneficial impact on the growth process of the home countries. This highlights the complexity of the migration and remittance phenomenon.

The rest of the chapter is structured as follows. Section 3.2 provides a discussion on the global migration and remittance flows including the factors that affect remittance flows and the subsequent use of the migrant dollars by the recipients. To contextualize the case of Fiji, a brief overview of Fiji's macro-economy with a particular reference to trends in economic growth and labour market performance are discussed in Section 3.3. Section 3.4 provides an overview on migration and remittances flows to Fiji. A comparison of remittances with other foreign capital inflows such as foreign direct

investment and foreign aid is undertaken in this section including a survey analysis of various usages of remittances. Section 3.5 presents the summary and conclusion of the chapter.

3.2 Migration and Remittances: The Global Picture

Migration, the movement of substantial bodies of people from one location to another in search of improved opportunities of one sort or another, has always been a feature of human behaviour (Ballard, 2005, p.333). An analysis of migration trends indicate the emergence of a new global migration system in the last 50 years, or what Castles and Miller (2003) refer to as the 'age of migration'. Since the end of the colonial period, international migration has become a truly global phenomenon. Migration has seen a great increase in magnitude, density, velocity and diversity of global connections (Nyberg-Sorenson et al., 2002). The globalisation of migration means that all parts of the world are now affected, to a greater or lesser degree, by international migration. There is hardly a village, town or city that is untouched by international migration, either as a sender or recipient of migrants or, in many cases, both (ibid).

The absolute number of international migrants has increased dramatically in the last 50 years and is likely to continue to expand in the future. The global migrant stock increased from 75.5 million in 1960 to 190.6 million in 2005 (see Table 3.1).[5] In the developed world, the increase was from 32 to 115 million while the developing countries noted an increase from 49 to 86 million. All major geographical regions, with the notable exception of Latin America, experienced significant growth in their migrant stock. In noting this trend Crush and Frayne (2007) state that globalization of migration is associated with greater diversity both in the countries from which international migrants originate and in their countries of destination.

According to Ratha (2006), migration is expected to intensify as income and demographic differences between sending and receiving countries persist. He states that

[5] The most common proxy measure of international migrant flows is the United Nations concept of 'migrant stock', defined as the number of foreign-born residents in the population at the time of the most recent census (UNDESA, 2006).

migration is not only a South-North phenomenon as commonly believed but South-South migration may be as large as South-North migration. He further states that South-South migration is mostly temporary in nature and driven primarily by economic motives. Skeldon (1997, p.9) rightly points out that "migration is not a simple move from an origin to a destination but is far more likely to consist of a complex sequence of moves that may involve several destinations…". In 2005 the top migration corridors included Mexico-United States, Bangladesh-India, Turkey-Germany followed by India-United Arab Emirates and the Philippines-United States in the fifth spot (see Figure 3.1).[6]

Table 3.1 Global Migrant Stock by Region of Destination (in millions), 1960–2005

Region	1960	1970	1980	1990	2000	2005
World	75.5	81.3	99.3	154.9	176.7	190.6
Developed countries	32.3	38.4	47.5	82.4	105.0	115.4
Developing countries	49.5	50.2	60.9	83.5	81.5	85.7
Regional						
Africa	9.1	9.9	14.1	16.3	16.5	17.1
Asia	28.5	27.8	32.1	49.9	50.3	53.3
Latin America and the Caribbean	6.0	5.7	6.1	7.0	6.3	6.6
Northern America	12.5	13.0	18.1	27.6	40.4	44.5
Oceania	2.1	3.0	3.7	4.8	5.1	5.0
Europe	14.2	18.8	21.9	49.4	58.2	64.1

Source: UNDESA, (2006).

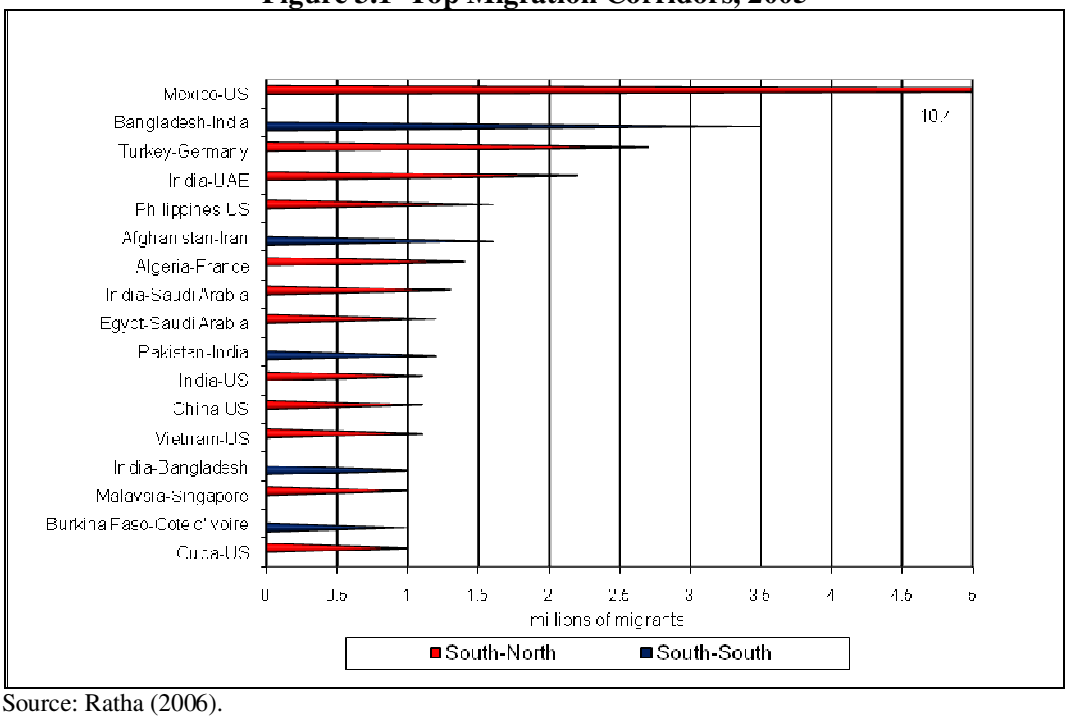
In the South Pacific region international migration in the last three decades has become widespread. The Micronesian and Polynesian island countries such as the Cook Islands, Tonga, Samoa, Niue and Tokelau have experienced sizeable migration flows of their people (Mohanty et al., 2005). However, the trends in Melanesia have not been the same with the exception of Fiji. Whilst unstable political environment, as a result of coups, explains the substantial migration from Fiji, migration rates of other Pacific island countries are due to increasing economic opportunities for Pacific island migrants in destination countries. This has essentially caused Pacific island migrants to be settlers rather than temporary migrants (Brown and Jimenez, 2008). What is noteworthy, however, among the Pacific islands migration is the emigration of their educated

[6] The Former Soviet Union corridors such as the Russia-Ukraine (Ukraine-Russia) and Kazakhstan-Russia (Russia-Kazakhstan) are among the largest South-South corridors (Ratha, 2006).

population. In 2000, 8 out of the top 10 countries with the highest rate of emigration of tertiary educated in East Asia and the Pacific region were from the Pacific with Tonga in the lead at 74.2 percent followed by Samoa at 66.6 percent and Fiji in the third place at 58.7 percent (World Bank, 2008a).

This intensity of global migration emphasizes the importance of remittances and reflects its crucial role as a potential source of development fund in recipient countries. Many of the migrant men and women make the difficult decision to leave home and seek work abroad. After gaining employment, most of these workers begin to send money to their families at home. These remittances are typically made in small amounts, yet collectively these flows dwarf official development assistance and surpass the value of leading exports in many countries (Terry and Wilson, 2005).

Figure 3.1 Top Migration Corridors, 2005



Source: Ratha (2006).

3.2.1 Global Remittance Flows: Volume, Growth and Stability

Remittances are the portion of international migrant workers' earnings sent back from the country of employment to the country of origin (Puri and Ritzema, 1999). As the

most widely used definition in contemporary remittances literature, this definition includes cash amounts and not periodic transfers of goods such as computers and household appliances that can serve as investment goods in the informal microenterprises, which is a major economic sector in all developing countries (Terry and Wilson, 2005). According to the International Monetary Fund (IMF) (2004), remittances are recorded in three different sections of the balance of payments: (i) compensation of employees are the gross earnings of workers residing abroad for less than twelve months, including the value of in-kind benefits (in the current account, subcategory "income", item code 2310); (ii) workers' remittances are the value of monetary transfers sent home from workers residing abroad for more than one year (in the current account subcategory "current transfer", item code 2391); and (iii) migrants' transfers represent the net wealth of migrants who move from one country of employment to another (in the capital account, subcategory "capital transfers", item code 2431).

While the IMF categories are well defined, there are, however some methodological differences in the accounting of remittances that have prompted studies to use different remittance calculation methods.[7] As such the exact amount of remittance transfers world-wide remains difficult to be calculated with certainty because of differences in national reporting practices. In addition, migrants often resort to informal channels to transfer funds in order to avoid financial and other costs associated with formal transfer mechanisms. Consequently, the accounting of global flows does not capture substantial informal transfers (Addy, Wijkstrom and Thouez, 2003).

The global flows of international migrant remittances have been estimated at around US$276 billion in 2006 up by a substantial 88 percent from the 2001 level of US$147 billion (see Table 3.2). In particular, developing countries' share of total global remittances was estimated at around US$207 billion in 2006 which doubled from US$96 billion in 2001 with India, Mexico and China being the top three remittance

[7] The central bank in the Philippines (Bangko Sentral ng Pilipinas) records almost all migrants' remittances under compensation of employees even for migrants who are abroad for more than twelve months while other central banks like the Czech National Bank and the Bulgarian National Bank do not record workers' remittances separately but pull them together with other private transfers under "other current transfers of other sectors" (OECD, 2006, p.140-141).

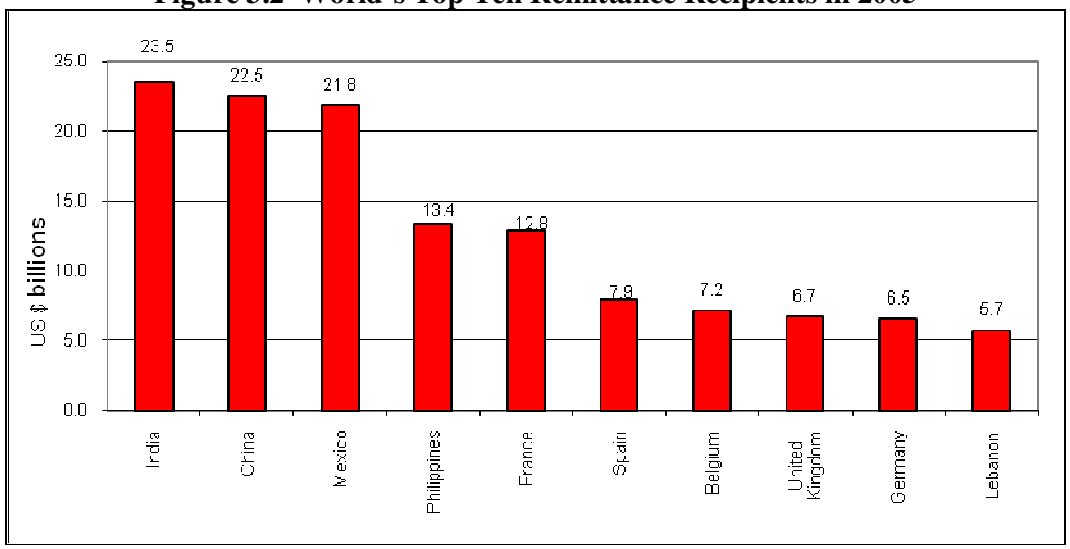
recipients in the world in 2005. Collectively, these three countries received a total of around US$68 billion of recorded remittances in 2005 (see Figure 3.2). Specifically, regions such as East Asia and the Pacific, Latin America and the Caribbean, and South Asia experienced substantial inflows of migrant remittances over the period 2001-2006. This surge in workers' remittances in developing countries supports the view of Russell (1986) that international migration and remittances have now come to play an increasingly important role in international economic relations between the poorer, labour-exporting, less developed countries and labour-scarce, richer countries.

Table 3.2 Global Inflows of International Migrant Remittances (US$ billions)

	2000	2001	2002	2003	2004	2005	2006e
All Developing Countries	**85**	**96**	**117**	**145**	**165**	**193**	**207**
Low-income countries	22	26	32	40	42	48	55
Middle-income countries	63	70	85	105	123	145	152
East Asia and the Pacific	17	20	29	35	39	45	47
Europe and Central Asia	13	13	14	17	23	31	32
Latin America & Caribbean	20	24	28	35	41	48	53
Middle East & North Africa	13	15	16	20	23	24	25
South Asia	17	19	24	31	31	36	41
Sub-Saharan Africa	5	5	5	6	8	9	9
High income OECD	46	50	52	59	66	68	68
World	**132**	**147**	**170**	**205**	**233**	**262**	**276**

Source: Ratha (2007). *Note*: e is the estimate.

Figure 3.2 World's Top Ten Remittance Recipients in 2005



Source: Ratha (2007).

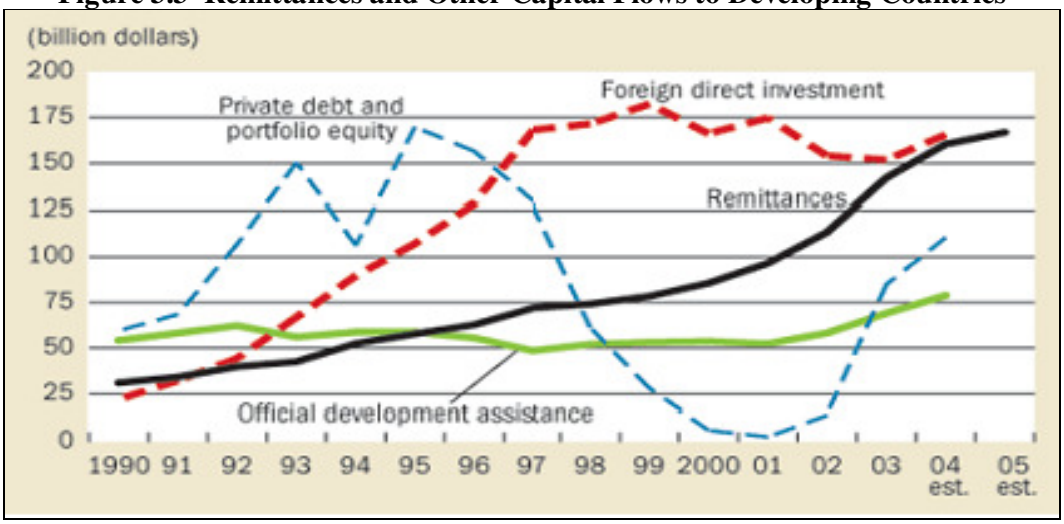
For smaller countries, remittances as a share of GDP in 2005 were equivalent to 32 percent in Tonga, 27 percent in Moldova, 24 percent in Lesotho and 22 percent in Haiti (Ratha, 2007). Furthermore, as a share of GDP and other economic indicators remittances were larger than: (i) 10 percent of GDP in 20 largest recipients; (ii) capital flows in 36 developing countries; (iii) merchandise exports in 12 countries; and (iv) the largest single commodity exports in 28 countries in 2005 (Ratha, 2007). The United States and Saudi Arabia are the largest sources of migrant remittances to developing countries. Other top sources are Germany, Belgium and Switzerland (ibid).

In the Pacific region, importance of remittances is evident in Tonga, Samoa, Fiji, the Solomon Islands and more recently in Vanuatu, where migrant remittances are a potential source of livelihood development. For example, in Vanuatu remittances have risen to be the country's second largest foreign exchange earner as a result of its success in the New Zealand seasonal work scheme (World Bank, 2009). According to the World Bank (2008a), Fiji, one of the top ten recipients (in actual monetary magnitude) of remittances in East Asia and the Pacific region, received US$0.2 billion in remittances in 2007. As a share of GDP in 2006, Tonga received 32.3 percent, Kiribati 9.9 percent, Solomon Islands 6.3 percent, Fiji 5.8 percent and Vanuatu received 2.8 percent of remittances (ibid).

The substantial flows of remittance income to developing countries reflects the importance of this financial flow compared to other sources of capital inflows such as foreign direct investment and overseas development assistance. In 2004, recorded remittances were the second largest source of external financing in developing countries, after foreign direct investment, and amounted to more than twice the size of official aid (see Figure 3.3). It is evident that remittances are less volatile than most other sources of foreign exchange earnings in developing countries. While other capital flows tend to rise during upswings of economic cycles and decline in bad times, remittances are countercyclical relative to recipient economies (Ratha, 2005). In other words, remittances tend to rise when the recipient country suffers an economic downturn after a financial crisis, natural disaster, and/or political conflict, as migrants transfer more funds to assist their families and dependents. Based predominantly on the altruistic motive, remittances tend to smooth consumption of households and contribute

to the stability of recipient economies by compensating for foreign exchange losses resulting from macroeconomic shocks (World Bank, 2006a).

Figure 3.3 Remittances and Other Capital Flows to Developing Countries



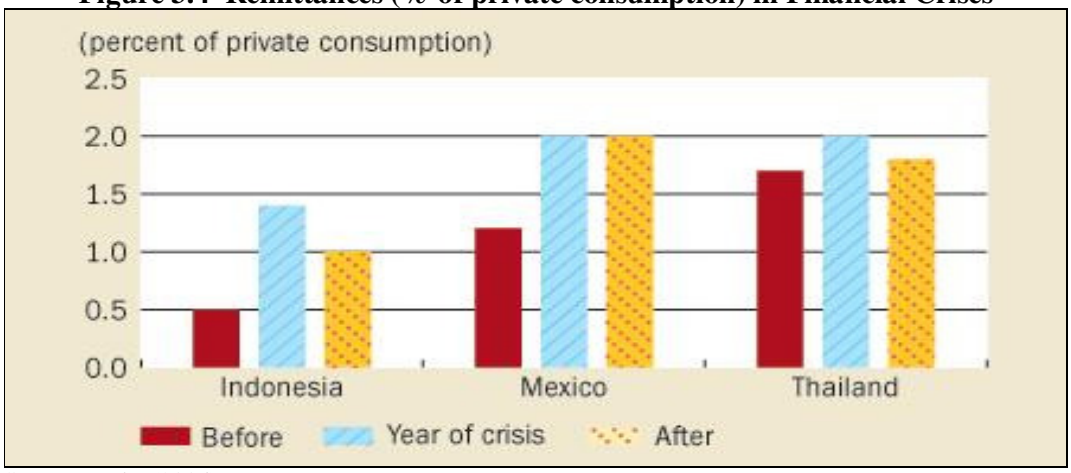
Source: Ratha (2005).

Figure 3.4 demonstrates the resilient nature of remittances and its tendency to increase in times of crisis. It shows the level of remittances (measured as a percentage of private consumption) in the pre-crisis, crisis and post-crisis periods for Mexico during the 1995 financial crisis and for Thailand and Indonesia following 1997 Asian financial crisis. The flows of migrant remittances increased substantially in these countries following the financial shock. Similarly, Deshingkar and Aheeyar (2006) in the case of Sri Lanka note the countercyclical behaviour of migrant remittances that flowed generously immediately after the tsunami of December 2004 that destroyed many lives and homes. The World Bank (2006a) study also notes the increase in volume of remittance flows (as a share of personal consumption) after natural disasters in Bangladesh, Dominican Republic, Haiti and Honduras. In the case of Ecuador and Armenia, Kapur and Mchale (2003) note the crucial role of remittances when these countries faced serious economic downturn.

The role of remittances in these countries suggest that in addition to bringing the direct benefit of higher wages earned abroad, migration and remittances therefore help recipient households to diversify their sources of income and thus reduce their vulnerability to risks. It is this aspect, i.e. the countercyclical behaviour of remittances

that distinguishes migrant remittances from other forms of capital flows and thus serves as a powerful source of development funds for the recipient nations. Given the compensatory role of remittances in times of crises, it is important therefore to understand the factors that influence the flow of migrant remittances and how these funds are transmitted to the recipient countries.

Figure 3.4 Remittances (% of private consumption) in Financial Crises



Source: Ratha (2005).

3.2.2 Factors Influencing Remittance Flows

The substantive flows of migrant remittances to the developing nations, noted in the previous section, is a result of the increasing world migrant stock. In addition to this, several other factors explain the recent upsurge in the growth of migrant remittances. The increased scrutiny of capital flows by immigration and finance authorities in many high-income countries after the terrorist attacks of September 2001 has resulted in doubling of the amount of remittances noted in the recipient countries (Ratha, 2007). This has taken place as undocumented migrants responded to increased uncertainty and risk or deportation or other legal action by remitting a larger share of their savings or income (World Bank, 2006a).[8] The reduction in remittance costs and expanding networks in the remittance industry has also aided in the formalization of remittances. Moreover, the depreciation of US dollar (which raises the value of remittances

[8] This factor has reportedly been important in Pakistan, which recorded the tripling of remittance receipts from 2001 to 2003 (World Bank, 2006a).

denominated in other currencies) has also contributed to the sizeable flows of migrant remittances in recipient countries (Ratha, 2007) .

Improvements in data recording by the central banks, in response to growing recognition of the importance of remittances by national authorities have also generated sharp increases in remittance flows in some recipient countries (World Bank, 2006a). Moreover, opportunities for employment and the cost of living in host countries has a great bearing on future flows of remittances given that these factors determine the surplus of funds that could be remitted. Other factors such as the mix between temporary and permanent workers (temporary workers are believed to remit a larger share of their income) and the skill mix (low-skilled workers tend to send a higher portion of their lower incomes) are likely to contribute to the growth in the flows of migrant remittances (ibid).

The role of remittance transfer channels has a significant impact on the volume and subsequently on the developmental impact of remittances. Migrants use a wide variety of informal and formal channels to remit money. These include hand deliveries and less regulated mechanisms such as "hundi" or "hawala" to electronic transfers through postal services, banks, credit unions and money transfer companies.[9] The informal systems of money transmission are based on low-cost technologies and are faster, cheaper, less bureaucratic and more convenient than formal systems like banks and credit unions that require remittance senders to open up a current account with the bank in the host countries to electronically transfer money (Kapur and Mchale, 2003). In addition to this, high transactions costs, in the form of money transfer fees and dual exchange rates reduce the use of such formal systems (Freund and Spatafora, 2005). This implies that policies and regulations pertaining to bank fees and charges, multiple exchange rates, restrictions on holding foreign exchange deposits and black market premium need to be addressed to raise the use of formal money transfer mechanisms.

[9] The informal channels such as the *hawala* are prominent in the Middle East, Afghanistan, and Pakistan while the *hundi* system is closely associated with India. The *fei ch'ien* symbolises the Chinese informal system while in Thailand and Vietnam the system is referred to as *phoe kuan* and *hui* respectively. In South America, the system is called *encomenderos* and the "Black Market Peso Exchange" (Kapur and Mchale, 2003).

3.2.3 Uses of Remittances

A large number of studies have examined the role of remittances in the purchase of consumption and investment goods by comparing accumulation of goods by households that receive remittances versus similar households that do not. However, given the fungible nature of money, it is not strictly possible to identify the precise use of remittance income. Generally, if remittance receiving households show an increase in the intake of consumption goods then it can be concluded that remittances lead to an increase in consumption levels. The same can be said about aggregate investment spending. In this regard, Rosen (2007) states that when studying the impact of financial transfers one should not generalize findings for specific countries and households as valid for all households across the globe. He states that households from different regions or countries have different needs and thus their expenditure pattern may differ.

In analyzing a number of studies related to agricultural production, Stark (1978) notes that households with a *priori* information of new technology tend to use migration and remittances as a way to facilitate accumulation of new capital. Production in migrant households switches into more capital intensive agricultural production allowing higher yield or more valued crops. Some examples include Pakistani households switching production into cash-crops, Ugandan households purchasing new working capital, and households in Papua New Guinea changing agricultural production from subsistence potatoes to coffee or cattle ranching (Rosen, 2007).

Remittances and migration thus appear to be a catalyst in purchase of new capital. However, several studies find a greater consumption-inducing and lower investment effect of migrant remittances. In the state of Punjab in India, Oberai and Singh (1980) find that 75 percent of households use their remittance income for consumption goods and only 6.1 percent of households use remittances for productive investments. The study on Mexican households by Durand and Massey (1992) notes that high risk of business failure and possible legal issues with land acquisition prevent migrant households from using remittances for productive investments, causing most of the remittances to be used for consumption. In the case of India, Pakistan, Bangladesh, the Philippines and Thailand, Stahl and Arnold (1986) note that a considerable portion of remittance income is devoted to consumption of basic needs. They state that the loss of

a young worker to international migration decreases income derived from domestic sources and as such remittances are utilized to maintain the household's level of consumption. Similarly, in the case of Tonga and Western Samoa, Ahlburg (1991) finds that remittances are not saved but used to fund immediate consumption.

The low investment-inducing impact of remittances is explained by Stahl and Arnold (1986) who state that although households have a greater saving potential they are reluctant to invest in productive ventures given that most migrants are workers and not risk-taking entrepreneurs. They state that migrants are cautious about failure of investments resulting in little or no investment of remitted funds. While this argument is reasonable, there is, however, an inevitable investment effect of remittances in the recipient economies. The increased consumption due to remittances is translated into increased demand for consumer goods. This new demand is met by local industries that increase production levels by investing in capital goods. This supports the view of Addleton (1984) and Stahl and Arnold (1986) that while migrant households did not invest in capital, their increase in consumption has led to capital development in local industries.

The use of remittances in housing development including land acquisition is also widespread. In the case of Guatemala, Adams (2006b) finds that remittance-recipient households spend lower share of their remittance income on food and other non-durable goods and higher on housing, and other expenditure items like education and healthcare financing. The study by Adams (1998) finds that acquisition of land by migrant Pakistani households is vastly greater than households that do not receive remittances. In the Pacific context, Brown (1994) notes that remittance-recipient households in Tonga and Western Samoa have much higher savings rate that facilitates investment in land and housing. For Asian economies, Stahl and Arnold (1986), similarly note a substantive expenditure on housing, home improvements and purchase of land by remittance-recipient households. They state that in developing countries families with low incomes live in poorly constructed, cramped houses with few basic conveniences and as such addition of rooms, introduction of piped water and use of electricity amongst other things become the priority of households as remittances become a part of income of these family units.

The use of remittance income for debt repayment is also substantial amongst migrant producing families. In their analysis of Asian economies, Stahl and Arnold (1986) find that debt repayment is a relatively important item in the expenditure profiles of the remittance receiving families. They state that migrant producing families incur substantial debt in the process of securing overseas employment which is settled eventually with remitted funds. For Pacific island countries, Connell and Brown (2005) similarly note the usage of remittances in debt repayment. This finding is valid given that households in Pacific countries are characterized by low incomes that often seek financial assistance for migration purposes, which is later repaid with remittances of migrants. The social and community uses of remittances have also been noted in various remittance-recipient countries. In the case of India, Pakistan and Bangladesh, Stahl and Arnold (1986) note that remittances are chiefly used to finance wedding expenditures, dowries and purchase of jewellery. This trend has also been noted by Lal (2003) in the case of Indo-Fijian families in Fiji. In other Pacific island countries, Connell and Brown (2005) note the increasing use of remittances in community-based activities such as construction of village halls, churches and community centres.

Migrant dollars are also being increasingly used for education attainment and healthcare financing. In the case of El Salvador, Cox-Edwards and Ureta (2003) find that the likelihood to leave school is lowered when remittance income is utilized to finance education related expenditure. Similarly, Durand and Massey (1992) find that the hazards of leaving school are lessened with remittances, allowing children greater access to attainment in human capital. They find that the effects of remittances are larger for girls than boys and for older children than the younger group in Mexico. On access to health services, Lopez-Cordova and Olmedo (2006) note that remitted funds help families acquire better health services when public health systems are inadequate.

The effects of remittances on entrepreneurial development have also been noted as remittances provide opportunities for households to invest in self-business ventures. In the case of Philippines Yang (2005) finds that an increase in remittances raises the likelihood of a household to setup a business. In a similar vein for the case of El Salvador, Lopaz and Seligson (1991) find that over a third of new businesses are funded and supported by remittances. They state that if for some reason remittances stopped, the businesses would probably go bankrupt. However, Amuedo-Dorantes and Pozo

(2004) find that remittances do not help in the formation of new businesses in Dominican Republic as the flows of remittances are not large enough to overcome capital and credit constraints of starting a new business.

Overall, the common theme emerging from the studies on remittance usages in various countries suggests that migrant remittances are private flows directed to improving the quality of lives of the recipient families. The use of remittances in more productive investments and livelihood generating activities depends on opportunities available to the receiving households and policies aimed at facilitating development through remittances. Whilst these and several other factors govern the use of remittances, its economic effects are widespread such as that on economic growth, financial sector development, poverty and inequality reduction and development of human capital in recipient nations. These development impacts of remittances are empirically examined in the case of Fiji in the next chapters. However, to contextualize Fiji's migration and remittance flows, a brief macroeconomic overview is provided next.

3.3 Overview of Fiji

The Republic of Fiji Islands is a small island economy located in the South Pacific. It comprises over 300 islands of which some 110 are populated. The landmass of 18,333 sq km includes two main islands, Viti Levu, 10,249 sq km, and Vanua Levu, 5,559 sq km (FIBOS, 2006). In 2006, the population was estimated at 853,000 (World Bank, 2008a). About 70 percent of the population lives on the main island of Viti Levu, another 17 percent lives on the island of Vanua Levu, with the remainder scattered across the smaller inhabited islands. Despite its small size and the geographical isolation constraints, Fiji has a relatively higher standard of living amongst the South Pacific Island nations.

Fiji is classified as a lower middle-income country with the GDP per capita of US$3,300 in 2006 (World Bank, 2008a). The literacy rate is 71.5 and the life expectancy at birth is 68.5 years. Fiji's Human Development Index (HDI) in 2006 was 0.743, which gives the country a rank of 103rd out of 179 countries (UNDP, 2008). This HDI value ranks Fiji as third amongst the South Pacific Island countries with Tonga at

85, followed by Samoa at 96, Vanuatu at 123, Solomon Islands at 134 and Papua New Guinea at 149 (ibid).

3.3.1 Macroeconomic Performance

Fiji's economic growth performance has been erratic and sluggish over the last two decades, partly due to political instability caused by the coups of 1987. In the period 1961 to 2007, Fiji's real GDP growth rate averaged around 3.2 percent per annum while real GDP per capita grew by around 1.8 percent annually. This rate of growth has been insufficient to deliver the jobs needed, nor has it been sufficient to provide the social and economic infrastructure necessary for development (Government of Fiji, 2002). The rise in growth levels in the immediate pre- and post-independence era (Figure 3.5), were largely due to rapid expansion of the public sector, high levels of consumer confidence, strong labour market growth and increasing exports of sugar and copra coupled with large inflows of foreign capital, and increases in domestic investment rate.

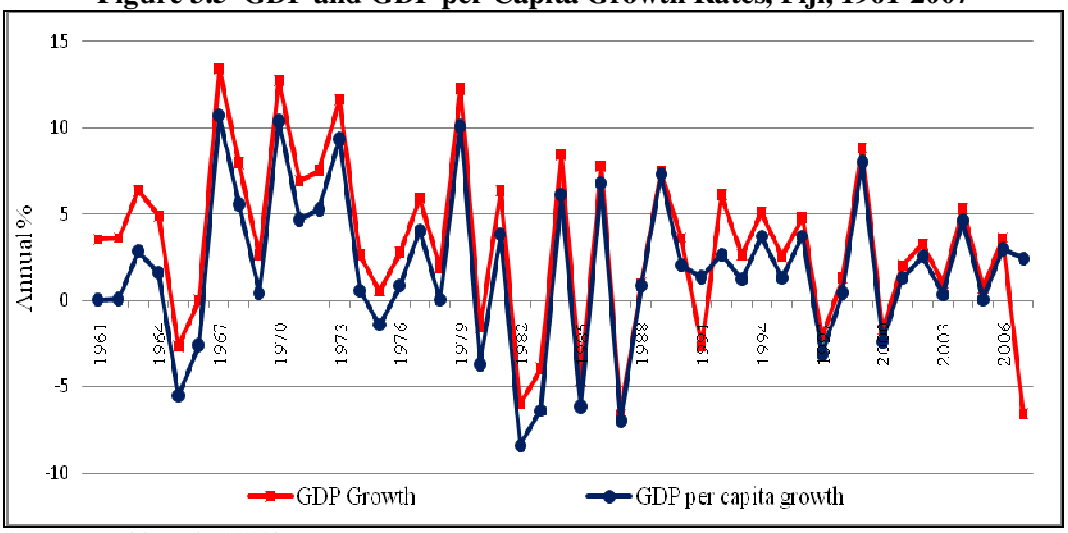
Throughout much of this early period, the Government pursued an inward-looking economic development policy with a strong emphasis on import substitution, self-sufficiency, and economic diversification. In the late 1980s higher growth rates were due to expansionary fiscal policy in 1986, the devaluation of the currency after the 1987 coups and the subsequent expansion of garment industry in 1989. The strong growth in 1999 was due to the devaluation of Fiji dollar in January 1998 causing a boost in exports and recovery in sugar sector following the 1997/98 drought.

The troughs, however, were due to adverse effects of cyclones in early January 1985, two coups in 1987, Cyclone Kina in 1993, Asian Financial Crisis and El Nino effects in 1997 and more recently due to coups in 2000 and 2006. Due to political instability, the post-1987 period has been characterised by a marked downturn in investment with economic growth generally being spurred by higher consumer spending, compared to pre-1987 period where economic growth was investment-led (Government of Fiji, 2002).[10] The coups precipitated a collapse in business confidence as tourist arrivals

[10] In the period 1970 to 1981 total investment rates were over 20 to 25 percent of GDP, which declined substantially to 10 to 15 percent during the period 1990 to 2001, a rate that is low by developing country standards (Gounder, 2005).

plummeted, sugar production fell sharply, and there was a flight of both capital and skilled workers out of the country (Gounder, 2002, 2005). These developments necessitated a series of reforms. In the aftermath of the 1987 coups, the Government began to restructure the economy to give it a more outward-looking orientation. The main reforms involved a reduction in industry protection to open the economy to international competition, provision of export incentives, reform of the tax system and reform of labour market (ADB, 1999; AusAID, 1995).

Figure 3.5 GDP and GDP per Capita Growth Rates, Fiji, 1961-2007



Source: World Bank (2008b).

Additionally, Fiji also retained preferential treatment under international trade agreements, which resulted in improved growth performance.[11] Broad-based reforms in the financial market such as the relaxation of foreign exchange controls, expansion of bank branches and establishment of new banks and other financial institutions such as Western Union to facilitate money transfer operations were also introduced. These reform efforts have generated competition and efficiency gains in the financial market and have also facilitated the flow of migrant remittances. The effects of the coups in 2000 and 2006 have been equally detrimental to Fiji's socio-economic environment. While all parts of the economy were affected by the downturn, tourism, garment and construction sectors were most directly affected by the crisis. Since 2001 the main

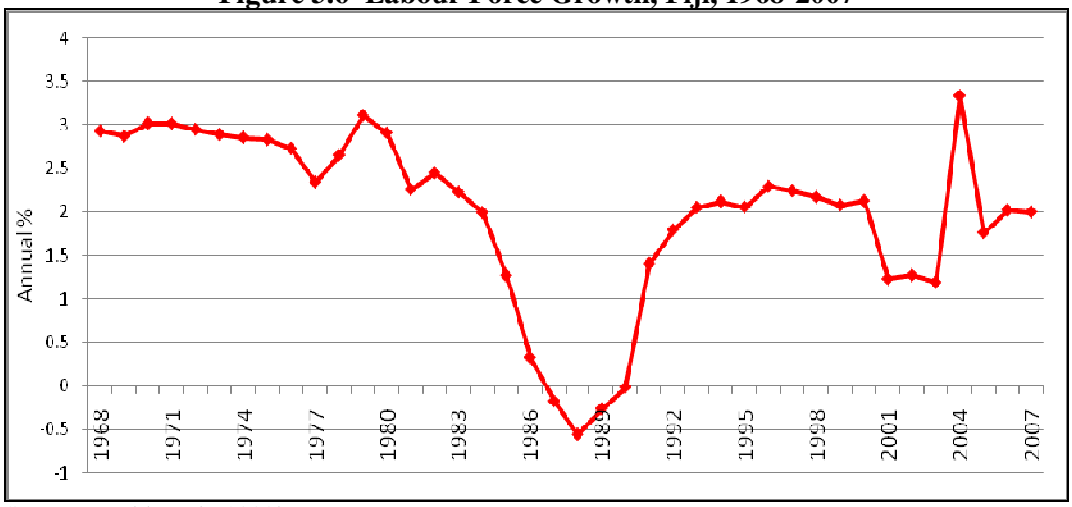
[11] The trade agreements include that with the United States (garments), the European Union's Lome Convention and the South Pacific Regional Trade and Economic Co-operation (SPARTECA) with Australia and New Zealand.

drivers of demand-driven growth has been growth in visitor numbers, increased lending for consumption and strong growth in migrant remittances. The growth has generally been positive, however it has failed to transform into overall improvements in standard of living with benefits being unevenly distributed across the population (Narube, 2005a). Overall, limitations in access to global markets, political uncertainty and natural disasters pose major impediments to growth and development in Fiji.

3.3.2 Labour Market Performance

An efficient, productive and mobile labour force is crucial for sustained economic growth and development of exports and investments in any economy. In the case of Fiji, this is evident from the growth rate of GDP in the immediate pre- and post-independence period, noted in previous section, which was based partly on the availability of skilled labour. The political coups of 1987 caused a major dip in the labour force growth rate of Fiji causing serious brain-drain of skilled labour, loss of jobs and reduction in working hours in many sectors of the economy (Kasper et al., 1988) (see Figure 3.6). Between 1986 and 1996 (the two most recent census years), Fiji lost more than 50 percent of its stock of professional, managerial, technical and clerical workers through emigration (MFNP, 2006a). These losses have put heavy pressure on the country's skill generating institutions as well as on Fiji's ability to meet normal growing demand for skilled workers, both in private and public sectors.

Figure 3.6 Labour Force Growth, Fiji, 1968-2007



Source: World Bank (2008b).

The effects of emigration are more pronounced in education and health services that have deteriorated due to the loss of doctors, nurses and teachers. The crises has intensified following the political disturbances of 2000 and 2006. The growth in formal sector employment is hampered by shortages in managerial, professional, and skilled trade occupations. The non-competitive salaries offered for managerial and professional positions in public sector and job creation for 17,000 new entrants in the job market each year are some of the key issues affecting growth in Fiji's effective labour force (MFNP, 2006a).

3.4 Migration and Remittances: The Case of Fiji

Emigration of people from Fiji has been an important population dynamic since the 1970s. However, this movement of people did not receive much attention before the coups of 1987 that resulted in intense outward migration. Fiji's migration pattern has been described in three phases by Mohanty (2005). First, the phase of mass immigration from 1879 to 1919 and from 1920 to 1936 that saw the arrival of indentured laborers' from India to work on sugarcane plantations as well the Gujarati traders. Second, the phase of permanent labour migration from 1970 onwards after Fiji gained independence from the British rule and the third phase is that of new temporary labour migration and contemporary immigration from 1990s resulting from political disturbances of 1987. In the 1970s losses from migration were due primarily to insecurity and uncertainty associated with Fiji's independence from the British rule (Narayan and Smyth, 2006). However, for the period after 1987 Fiji's political turbulence sets the context for understanding the complex dynamics of its citizens' emigration.

The incidences of coups have been identified as the key driver of international migration from Fiji (Mohanty 2005; Gani 2000; Narayan and Smyth 2003; 2006). Other factors such as expiry of land tenure and increasing economic opportunities for skilled manpower overseas have also exacerbated international migration. In noting Fiji's emigration trend, Chandra (2005, p.249) states that "emigration from Fiji is fundamentally the consequence of deficits in human development, especially in relation to human insecurity encompassing political exclusiveness and socio-political and economic insecurity arising from discriminatory socio-economic policies."

As a result of these factors, the total official outflow of Fiji citizens between 1987 and 2004 was over 91,000 (Table 3.3). This is substantiated by the permanent emigration of Indo-Fijians which constitutes around 89 percent of the total outward migration. Another 7 percent are accounted for by the Fijians while the rest belongs to other ethnic groups. The annual average rate of migration showed a varied pattern over the years. Before the 1987 coups, the annual average migration rate was 2,300 migrants a year, which increased to 4,900 during 1987–99, and to 5,800 migrants a year during 2000–03 (Mohanty, 2001). This increasing migratory pattern has been marked by the outflow of skilled labour. In the period between 2000 and 2004, Fiji lost more than 3,800 professionals, technical and related workers with teachers being the dominant professional group leaving the country.

Of the total professionals emigration between 2000 to 2002, teachers accounted for over 35 percent, accountants 20 percent, architects engineers and related technicians 17 percent and medical, dental, veterinary and related workers 14 percent (Mohanty et al., 2005). This rate of skilled emigration has been detrimental to the long-term development of Fiji causing serious shortages of trained professionals in the medical field, teaching and other specialized services.[12] The increase in migration is likely to continue due to unresolved political issues and absence of democratic rule (Narayan and Smyth, 2006).

Table 3.3 Emigration of Fiji Citizens by Ethnic Group and Professional Workers, 1987–2004

Year	*Fijians*	*Indo-Fijians*	*Others*	*Total*	*Annual Avg. Emigration Rate*	*Professionals*	
						Total	*Annual Avg.*
1987–1999	3,926	57,159	3,124	64,209	4,939	6,869	528
2000–2004	2,373	23,585	1,126	27,084	5,413	3,826	765
1987–2004	6,299	80,744	4,250	91,293	5,070	10,695	594

Source: FIBOS (various), Mohanty (2005).

The bulk of emigrants from Fiji go to New Zealand, Australia, Canada and the United States (US). In 1980, about two-thirds of Fiji's emigrants entered Canada and the USA

[12] One report indicates that on average Fiji is losing US$25.4 million, about 2 percent of its GDP annually through immigration from expenditure on education, training and immigrant's transfers and legacies alone (BBC Asia Pacific Monitoring, October 20, 2002 cited in Narayan and Smyth, 2006).

and another 29 per cent went to Australasia (Mohanty 2001). However, since 1987 this trend has seen a reversal due to factors such as geographic proximity, skilled labour demand, family reunion and the changing immigration policies of receiving countries (ibid). As a result, New Zealand and Australia together accounted for over two-third of Fiji's emigrants in the year 2002 with the USA and Canada accounting for 21 percent and 9 percent, respectively (Mohanty et al., 2005, p.154). Norton (2004) states that the successful settlement of Fiji migrants in these host countries has been facilitated by good English language competency and possession of specialized occupational skills and/or financial capital mainly by the Indo-Fijian migrants.

In addition to the continuing permanent Indo-Fijian emigration from the country, Fiji has been witnessing new trends in temporary migration, mostly from the indigenous Fijians who are longstanding participants in the United Nations peacekeeping forces, security personnel in the Middle East, nurses and sportspeople. It is estimated that over 3,000 Fiji Islanders are serving in the British Armed Forces (BAF) with around 1,995 in the British Army in the United Kingdom (UK) and 80 in the Royal Navy (Tuisawau, 2006). Apart from joining the British Army, Fiji's soldiers have been playing a prominent role in international peace and security and in the process of nation-building in conflict-laden countries such as Afghanistan, Angola, PNG (Bougainville), Croatia, East Timor, Iraq, Kosovo, Kuwait, Lebanon, Namibia, Zimbabwe, Rwanda, Egypt (the Sinai), Solomon Islands, Somalia and, recently, Sudan (Mohanty, 2005). The movement of nurses to other Pacific countries, to the UK, the US and Dubai is also substantial (Fiji Sun, 2009; Rokoduru, 2002, 2004; Mohanty, 2005). Another crucial source of remittances has been the seasonal workers that worked in horticulture sector in Australia and New Zealand, however this scheme has been stopped due to the sanctions by these Governments against undemocratic governance in Fiji (Gounder, 2007).

The globalization of migration has generated substantial personal remittances that play a vital part in the social and economic development of Fiji. Migrants maintain active contacts with their families at home and pay periodic visits and send remittances of money and goods (Lal, 2003). Remittances from migrants help finance weddings, schooling expenditure, home improvement, purchase of land together with debt payments and medical expenditures amongst other things (ibid). The volume of

remittance flows to Fiji and its comparison with foreign aid and foreign direct investment are undertaken next.

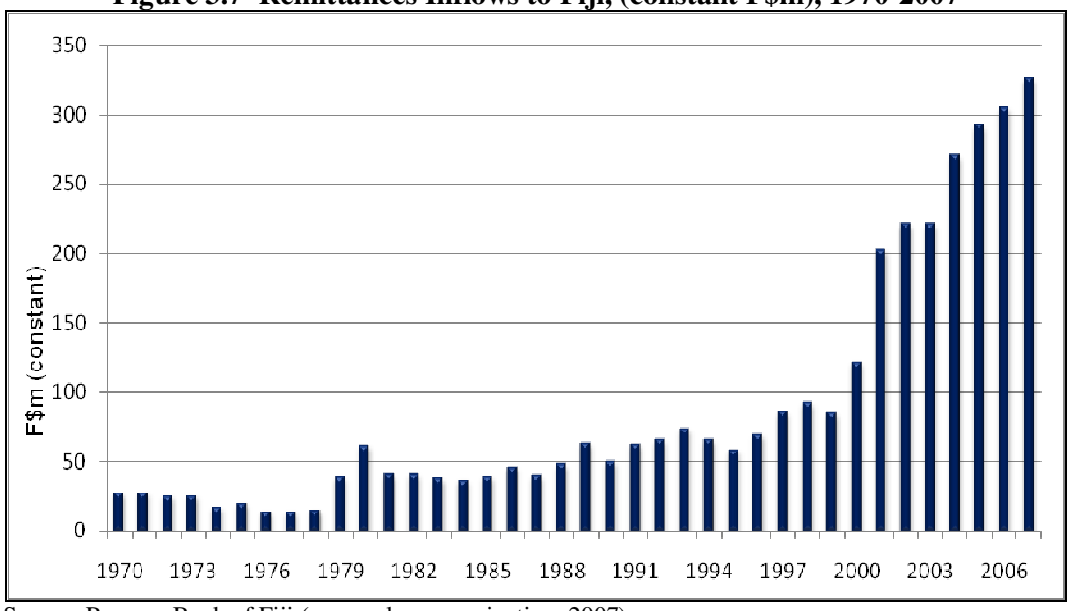
3.4.1 Remittances, Foreign Aid and Foreign Direct Investment: A Comparison of Major Capital Flows

The flows of remittance to Fiji demonstrate a similar trend to that of the global trend noted in Section 3.2.1. For Fiji, between 1996 and 2005 remittance flows grew from F$61.9 million to a substantial F$326.7 million in 2005, equivalent to 6 percent of GDP (see Figures 3.7 and 3.8). In terms of percentage change, the growth is a significant 427 percent, recording a marked increase after 2000. Over this ten-year period remittances as a share of GDP averaged around 5 percent. This, however does not include the substantial flows of informal remittances. Narube (2005b) states that while remittances flows to Fiji have shown a marked increase, i.e., remittances transmitted through commercial banks and other financial institutions like Western Union, it is estimated that unrecorded remittances are over F$150 million, which if captured in the formal statistics could increase total remittances above retained tourism receipts.

The increasing trend from 2000 is noteworthy. As a share of GDP, remittances were around 4 percent in 2000 which increased further to 6.4 percent in 2001 and 6.7 percent in 2002. This increasing trend, however is no different from the sizeable inflows experienced in other developing countries given the increased scrutiny of financial flows after the terrorist attacks of September 2001.

Compared to foreign aid and foreign direct investment (FDI), growth in remittances has been far more substantial. In the period 1996 to 2005, remittances as a share of GDP averaged around 5 percent while foreign aid flows and FDI averaged around 2.1 percent and 1.6 percent, respectively (see Figure 3.8). This demonstrates the stable nature of remittance flows. Sampson, (2005) notes that despite the large and vital role of multilateral and bilateral donor agencies in Fiji, aid to GDP levels, for an extended period of time has been the lowest amongst the Pacific island nations. This has further deteriorated due to political instability affecting growth in social and economic infrastructure, and production sectors.

Figure 3.7 Remittances Inflows to Fiji, (constant F$m), 1970-2007



Source: Reserve Bank of Fiji (personal communication, 2007).

Foreign direct investment, on the other hand has also been crucial in Fiji's development process. FDI inflows, as a non-debt creating flow, not only supplement domestic savings, but also contribute to fostering domestic managerial skills and transfer of technology (Jayaraman, 1998). However, these FDI flows were highly susceptible to political conditions as evidenced by their decline soon after the 1987 and 2000 coups (Figure 3.8). Fiji has many attractions for foreign investors such as preferential market access to Australia, New Zealand and other markets, easy repatriation of capital and profits, a well balanced package of financial and other incentives and good air and sea links with overseas markets. However, both foreign and domestic investors are affected by over-bureaucratic procedures and a lack of support in facilitating the investment process (Government of Fiji, 2002).

Whilst foreign aid and FDI flows are subject to economic and political environment, migrant remittances exhibit a countercyclical nature. The flows of migrant remittances rise in times of shocks created by natural disasters, coups, and other economic crises. This is driven by an altruistic motive of migrant remittances, a behaviour noteworthy in the case of Fiji. In 2000, when Fiji experienced a political coup, remittances in that year were around F$121.9 million (3.8 percent of GDP), which was a significant increase of 43 percent from the 1999 level of F$84.2 million (2.6 percent of GDP) (see Figures 3.7

and 3.8). In contrast, foreign aid declined by about 11 percent in the magnitude of dollar value (from the 1999 level of 1.9 percent to 1.7 percent of GDP in 2000). The growth in remittances has also been noted in times of natural disasters such as Cyclone Kina in 1993. The expiry of land tenure that commenced in 1997 has also incurred significant inflows of migrant remittances in Fiji. These trends are in convergence with the theory of altruism whereby migrants provide greater support to their families in countries origin as insurance against economic hardship.

Given that remittances are more resilient and stable in nature, it serves as a crucial source of development fund for Fiji. The importance of migrant remittances as a valuable source of foreign exchange has been increasingly noted (The Fiji Times, 2008a, 2008b; Ministry of Finance and National Planning, 2005, 2006a, 2006b, 2007; Gounder, 2007; Brown and Leeves, 2007; Narayan and Smith, 2006; Narube, 2005b; Mohanty, 2005). There is also concern of the development potential of remittances at the policy level. The Minister for Finance and National Planning in the 2006 Budget Address states:

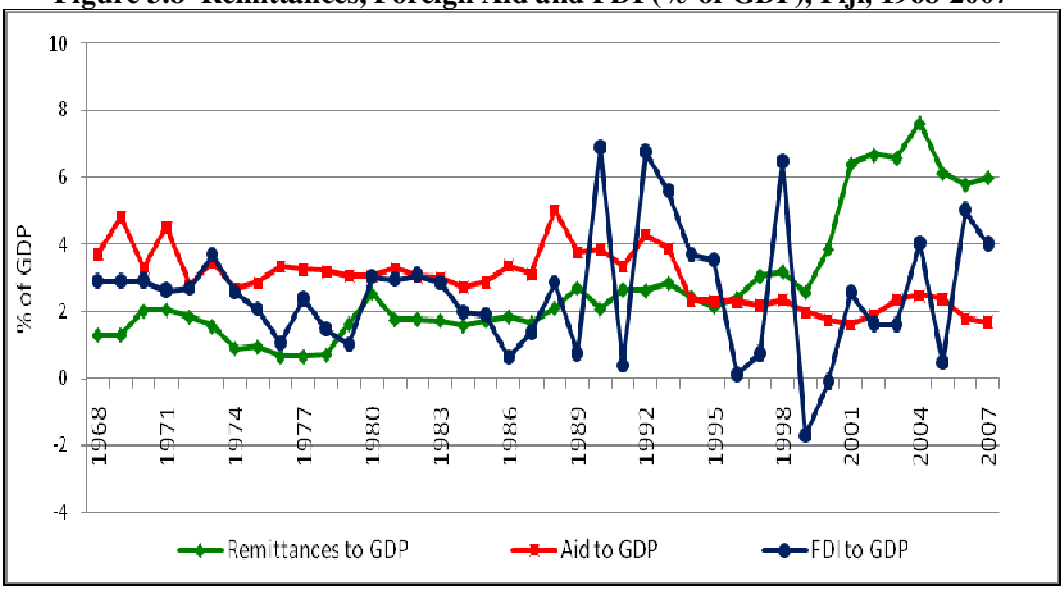
> "Mr. Speaker Sir, I am glad to say that increased remittances have been a boon in terms of foreign exchange earnings. Remittances have continued to increase over the last four years reaching $300 million in 2004 from $50 million five years ago. Remittances are now equivalent to 7% of GDP, and this has become the second largest source of foreign exchange earnings for Fiji. …Government recognises the important role that remittances now play in our lives…I understand that a large portion of our rural communities benefits from these remittances. They are a useful source of livelihood for our low income families…help fight against poverty. In the next twelve months, Government will examine ways in which we can better understand the nature of these flows, facilitate their transactions and re-channel their use to investment, businesses and micro finance"

(Honourable Ratu Jone Kubuabola, 2006 Budget Address, MFNP, 2005, p.12).

The developmental potential of remittances is also reflected by the inclusion of household level remittances data for the first time in the Household Income and Expenditure Survey conducted in 2002/03. Such policy development measures and

statistical improvements will facilitate the impact analysis of workers' remittances in Fiji.

Figure 3.8 Remittances, Foreign Aid and FDI (% of GDP), Fiji, 1968-2007



Source: World Bank (2008b), Reserve Bank of Fiji (personal communication, 2007).

3.4.2 Uses of Remittances: A Survey Analysis

The uses of remitted funds are largely undocumented in the case of Fiji although there are immense evidences of the many uses of migrant dollars and its effects on the welfare of recipient households. A study by Connell and Brown (2005) generalizes the use of remittances in Pacific Island Countries (PICs) which in many ways are applicable to Fiji given the smallness of the island states and their migration patterns.[13] The study finds widespread use of remittances for debt repayment, household consumption, savings, expenditure on airfares (for the other members of the family who are envisaging future migration), education and for investment purposes including other social and community uses. The usage of remittance income in these ways are well established in the contemporary remittance literature, which is based predominantly on the view that remittances are private flows targeted for specific uses that improve the

[13] Factors that cause migration in the island states are similar. For example, economic disparities between the island states and the host countries have generated substantial amount of migration in Tonga and Fiji (Browne and Mineshima, 2007).

quality of life of the recipients. The expectation in a migrant producing family is that those members who migrate will assist those who are left behind (Lal, 2003). In such cases remittances will have specific uses as the migrant (the remitter) is aware of the needs and circumstances of household members in the home country.

To establish the usage of remittance income in Fiji's households, a survey was implemented between June and July 2008 (see Appendix 3.1 for the survey questionnaire). A total of 121 remittance-recipient households were surveyed in the Suva-Nasinu corridor and Sigatoka area. This survey employs snowball sampling technique where one contact leads to another.[14] The respondents, i.e. the head of households were informed of the aims and objectives of the survey and thereafter a self-administered questionnaire was completed. The survey required respondents to provide details on the number of migrants in the households, their employment and education details including the flow of remittances. Respondents were also requested to provide details on how they receive money from overseas and how they expend the remittance income. The questionnaire, presented in Appendix 3.1, has been designed to reflect observations from the socio-economic needs and usages of remittance income.

From the total number of households that report receiving remittances, 46 percent of the households (i.e. the head of household) are professionals employed as nurses, teachers, bank and government employees. For the casual and unemployed category, the proportion of households is 39 percent and 15 percent, respectively (Table 3.4). While the receipt of remittances by the casual and unemployed category is acceptable given their low incomes, the high proportion of professional workers receiving remittances is noteworthy. This supports the argument that the beneficiaries of remittances are households that are able to meet migration costs and explore the income earning opportunities in the host countries.

The second observation relates to the number of migrants in the household. Of the total sample about 91 percent of the respondents indicate having at least a member of the immediate family in overseas countries like Australia, New Zealand and the US. The case of no migrant yet receive remittances is also evident from the survey with about 9

[14] Snowballing is an important method of sampling whereby an initial contact leads to other contacts. This is important when the nature and the size of the population are unknown (Heckathorn, 1997).

percent of households having no immediate family members overseas. These households receive remittances from extended families and well wishers residing abroad. This reflects the strong cultural, family and kinship ties maintained by the emigrants from Fiji, mainly those leaving after the political coups. In terms of employment status of migrants in the host countries, 69 percent of the households indicate that the migrant member of the family is in formal sector employment ranging from professions such as teachers, nurses, electricians and accountants in the destination countries. The proportion having migrant members in contractual work is 26 percent. This category includes those migrants working as caregivers, military personnel and sports people.

Table 3.4 Recipient Household Characteristics and Remittance Usage

	No. of Households	*Percentage of Households*
Occupational Category of Head		
Professional	56	46
Casual	47	39
Unemployed	18	15
Number of Migrants		
At least one migrant member	110	91
No migrants	11	9
Migrant Employment Status		
Formal	84	69
Contractual	32	26
No response	5	4
Migrant Education		
High school	47	39
Technical and Tertiary	60	50
No response	14	12
Frequency of Remittances		
Weekly	4	3
Fortnightly	22	18
Monthly	41	34
Yearly	7	6
Others	47	39
Channels Used*		
Formal systems	74	61
Informal systems	91	75
Expenditure Category*		
Food and utilities	52	43
Education	88	73
Housing	43	36
Health	26	22
Savings	48	40
Entrepreneurial activities	4	3

Notes: Total number of households surveyed was 121. * There is an overlap of households.

Some reflections on the level of education attainment of migrants supports the skilled emigration from Fiji after the political coups of 1987. From the survey findings, about 50 percent of the households indicate that the migrant member of the family has tertiary qualification. This reflects the employability of Fiji's migrants in overseas labour markets and consequently their ability to remit. The proportion of households having migrant members that have high school education is 39 percent. With regards to the frequency of remittances, majority of the households indicate receiving monthly remittances (34 percent) while those receiving fortnightly and weekly remittances are noted at 18 percent and 3 percent, respectively.

The channels used in remittance transfer to these recipient households are also noteworthy. The survey results reflect a significant overlap in the formal and informal means of money transfer. About 61 percent of the households receive remittances through formal means, i.e. banks and Western Union. Some of these households also use informal means like hand deliveries by travelling relatives and transfers through postal letters. The proportion of households using informal mechanisms is 75 percent. This suggests that households do not maintain a rigid mode of money transfer but use a combination of formal and informal mechanisms to access remittances. These findings reflect the high costs associated in formal means of money transfer that contribute to large flows of informal remittances.

In regard to remittance usage the survey results reflect that households spread their expenditure of remittance income over a group of items such as consumption of basic needs, housing, health, education, small-scale business and savings. A substantial 73 percent of the households use remittance income on schooling of dependent children whereby remittances are used to pay for school fees, books and stationery (see Table 3.4). Expenditure on food items and payment of utility bills is also substantial. Of the total sample surveyed, 43 percent of the households indicate their use of remittances for the consumption of basic needs. Expenditure on housing and health related matters is about 36 percent and 22 percent, respectively. In particular, the housing expenditure relates to home improvements while the expenditure on health is for the payment of private medical fees of the elderly in the household. Connell and Brown (2005) in the case of other Pacific island nations note a similar pattern of remittance usage.

The savings ratio of the households is noteworthy. Of the total sample surveyed, 40 percent of the households indicate that they channel a proportion of remittance income into savings. The higher savings ratio implies that households perceive remittances as temporary financial transfers and therefore save a larger portion of the same as compared to their permanent household incomes. In the case of Fiji, Brown et al., (2006) similarly note a positive relationship between remittances and household savings. In terms of entrepreneurial development activities, only 3 percent of the households spend their remittance income in some form of income-generating activities. Broadly, these findings suggest that remittances are not sufficient as start-up capital for small-scale businesses and also reflect the limited access to opportunities such as micro-finance by the recipient households. This suggests that although remittances are intended for specific use, their ability to create multiplier effects within the economy and spur investment and growth is dependent on the facilitative infrastructure and institutions in Fiji.

3.5 Summary and Conclusion

The chapter analyzes the trends in migration and remittances first at a global level followed by the case of Fiji. Global trends in migration flows indicate an intense growth in migrant stock around the globe. As a consequence this has resulted in significant flows of workers' remittances between the host and origin countries. The voluminous growth in migrant remittances reflects the importance of this flow of funds as a valuable source of foreign exchange for developing countries. Whilst there are some methodological differences in the accounting side of migrant dollars, remittances have proven to be stable compared to other sources of finance like foreign aid and foreign direct investment.

The case of Fiji also presents an interesting and growing incidence of migration and remittances. The country's economic growth and development since 1970 has been marked by periods of prosperity and dismal growth that have necessitated a series of reforms, particularly after the 1987 coups. In the post-1987 period emigration of skilled labour has been substantial that has contributed to lower levels of economic activities. Whilst permanent migration has intensified because of uncertain political climate, more

recently the issues of temporary labour migration has emerged which explains the country's rising migrant stock. Consequently, there has been an upsurge in the flow of migrant remittances.

Remittances are countercyclical in nature and provide a safety net for Fijian households in times of crisis. The mode of remittance transmission is an important factor that determines the size and volume of remittances received by Fiji. Remittances channelled through informal systems undermine the development impact of remittances as these remittances are not captured in the formal financial statistics. The widespread use of informal systems of money transfer is mainly due to the cost structures in the financial systems of both Fiji and the countries that host its migrants. The use of these private flows of remittances is conditional upon the economic and social circumstances of the receiving households. There is, however a general tendency for remittances to be used in household consumption and less in productive investments seen through the survey results. As a stable source of foreign exchange, remittances are a crucial source of finance for development in Fiji given that foreign aid and foreign direct investment have impeded due to unstable political environment. Migrant remittances are also important to the economy given the declining contributions of sugar and manufacturing industries. Hence an assessment of the development impacts of remittances is crucial, which are examined empirically in the following chapters.

Appendix 3.1

This appendix presents the questionnaire that was implemented in Fiji between June and July 2008 for the purpose of collecting data on uses of remittances by the recipient households.

Questionnaire on Remittances and its Development Impact in Fiji
(Directed to the Head of Household)

Name on Interviewee: _____

Town/City: _____

Male/Female **Years of Schooling:_____**

Occupation: _____

1. Do you have family members overseas – immediate (eating from the same pot) or extended family? If so, how many and how long have they been there? What are their country of residences?

2. What do they do in overseas – are they in formal employment or seasonal employment or work contracts?

3. What are their education/skills and other training attainments? Please elaborate on their age, education attainment and/or specialist training etc.

4. Do you have siblings dependent on you? If so, how many and what are their age profiles?

5. Do you receive money from overseas? If so, how often do you receive the money – please discuss the regularity of receipt of funds?

6. How do you receive remittances – through banks or other means?

7. Do you think it is expensive to receive money through banks and money transfer institutions like Western Union?

8. How do you use the received money? Is it for any specific purpose? Please discuss along the following categories:

    - Consumption – basic needs etc
    - Housing/home improvement/Land purchase/farm assets etc
    - Education
    - Health
    - Income generating activity/livelihood development/village stores etc
    - Savings if any

9. Suppose you were not receiving any money from overseas from your family members, how would you meet your ends – especially in relation to items mentioned in 8 above?

10. With the amount of money you are receiving, do you think you could possibly use it elsewhere more effectively? If so, where?

11. Any other views/issues with regards to remittances?

Thank You

CHAPTER 4

Remittances, Economic Growth and Financial Development

4.1 Introduction

International migration and remittances have become an important area of focus for many developing countries. Remittances by international migrants to their countries of origin constitute the largest source of external finance for several developing countries after foreign direct investment (Fajnzylber and Lopez, 2008; Ratha, 2007). With the increasing volume and stable nature of remittance flows to developing countries, assessment of the development impact of remittances along various dimensions such as economic growth, inequality and poverty, human capital and entrepreneurial development has gained growing interest. However, despite the increasing importance of remittances, the relationship between remittances and economic growth has not been adequately studied on specific country basis. This is because remittances are used mostly for consumption so they may have a minimal impact on long-term growth of the recipient country.

Fiji has experienced an exodus of skilled labour over the last two decades mainly due to political uncertainty. Permanent migration has become a common feature which stems as a factor in explaining the substantial inflow of remittances. There has also been a marked increase in the number of migrants taking up short-term overseas employment. Against this background, this study attempts to fill the gap in existing literature in two ways. First, the hypothesis whether remittances have any impact on Fiji's economic growth is tested using annual time series data. Second, the study empirically evaluates the impact of remittances on Fiji's financial sector development.

Whether and how remittances might affect financial development is a priori unclear. However, the notion that remittances can lead to financial development in developing countries is based on the concept that money transferred through financial institutions paves the way for recipients to demand and gain access to other financial products and services, which they might not have otherwise (Orozco and Fedewa, 2005). At the same

time, providing remittance transfer services allows banks to "get to know" and reach out to recipients with limited financial intermediation. The financial sector reforms in Fiji commenced in the 1980s. With an excessive migration since 1987 the investigation of the impact of remittances on financial development seeks to explain whether reforms in the financial sector have facilitated remittance inflows.

The econometric methodology applied to investigate remittances-economic growth nexus and remittances-financial development nexus is the Autoregressive Distributed Lag (ARDL) approach to cointegration. The rest of the chapter is organised as follows: Section 4.2 gives a brief overview of the theoretical aspects of the remittance-economic growth analysis which is followed by a discussion of the empirical models, data and the methodological approach utilised to test this hypothesis. The empirical results of remittances-economic growth are discussed next. In Section 4.3, the second hypothesis tests do remittances contribute to the financial sector development in Fiji. The section begins with a discussion on the theoretical considerations of the remittances-financial development nexus and discusses the model, data and methodology. The empirical results are discussed next followed by the concluding remarks in Section 4.4.

4.2 Remittances-Economic Growth Nexus: Theoretical Aspects

The seminal work of Solow (1956) has been the most dominant neoclassical framework for undertaking the theoretical and empirical evaluations of economic growth process in the post-world war II period.[15] The model, however, has been extended to include several endogenous variables to explain various factors that contribute to the new growth theory. In particular, Lucas (1998) extends the concept of capital to include physical and human capital (the latter consists of education and now health).

[15] The model is based on an aggregate production function with constant returns to scale, diminishing returns to inputs, and the positive elasticities of substitution between inputs. Thus, output (Y) is modelled as a function of capital (K), labour (L) and knowledge or the effectiveness of labour (A). The production function takes the form as follows:

$$Y_{(t)} = F(K_{(t)}, A_{(t)}, L_{(t)})$$

where t denotes time. See Solow (1956), Barro and Sala-i-Martin (1995), Aghion and Howitt (1998) and Barossi-Filho et al., (2005) for a discussion on the model dynamics.

In Chapter 2 several studies on remittances-economic growth nexus were discussed. Embedded in the neoclassical framework, these studies have provided mixed results. For example, Faini (2002), Solimano (2003), Iqbal and Sattar (2005), World Bank (2006a), Ang (2007), Jongwanich (2007), and Ramirez and Sharma (2008) find that remittances have a positive and significant impact on economic growth. However, a broader cross-sectional study by the International Monetary Fund (IMF, 2005) using a sample of 101 developing countries for the period 1970-2003 finds that there is no significant relationship between remittances and growth in GDP per capita.

Similarly, Chami et al., (2005) in a sample of 113 countries for the period 1970-98 find a negative association between the growth rate of immigrant remittances and growth in GDP per capita. They claim that remittances reduce the labour effort, thus affecting labour market which has an adverse effect on economic activity. In addition, Giuliano and Ruiz-Arranz (2006) using a newly-constructed dataset for remittances covering about 100 developing countries find that the impact of remittances on growth is not significant when remittances are simply added as an explanatory variable in a growth regression. They note that the impact of remittances on growth may depend on some structural features of the economy and find evidence that remittances enhance growth in countries with less developed financial systems by providing an alternative way to finance investment and helping overcome liquidity constraints.

4.2.1 Model Specification and Data: Remittances-Economic Growth Models

The review of the remittances-economic growth nexus literature in Chapter 2 and the theoretical aspects discussed in the previous sections notes the utilization of Solow-type neoclassical growth models to investigate the impact of remittances on economic growth. Utilizing this framework the empirical models for Fiji's remittance-economic growth nexus are presented below. The models are estimated using the ARDL method for the annual period 1968 to 2007.

The first hypothesis tests the remittance-growth nexus. The equation takes the following form:

$$\dot{Y} = \beta_0 + \beta_1 \dot{L} + \beta_2 IP + \beta_3 XG + \beta_4 REM + \beta_5 AID + \beta_6 DV + \beta_7 DCH + \mu_{1t} \quad (4.1a)$$

The second step of the remittance-economic growth nexus extends the model to include an interaction term, i.e. estimating the impact of remittances on growth through interaction with the financial sector. Extending equation (4.1a) that takes into account the interactive effect of the financial sector, the model is illustrated as follows:

$$\dot{Y} = \alpha_0 + \alpha_1 GF + \alpha_2 IP + \alpha_3 OPEN + \alpha_4 REM + \alpha_5 AID + \alpha_6 FinDev + \alpha_7 (REM * FinDev) + \alpha_8 DV + \mu_{2t} \quad (4.1b)$$

where $\dot{Y}$ is annual growth rate of GDP;

$\dot{L}$ is annual growth rate of the labour force;

IP is private investment to GDP ratio;

XG is the growth rate of exports;

REM is remittances to GDP ratio;

AID is aid to GDP ratio;

GF is fiscal balance of the central government as a share of GDP;

OPEN is log of exports plus imports as a share of GDP;

FinDev is the log of M2 to GDP;

*REM*FinDev* is interactive variable;

DV is dummy variable used to capture the effects of military coups; taking a value of 1 for 1987 onwards and 0 otherwise;

DCH is dummy variable employed to capture the effects of cyclones, droughts and hurricanes; and

μ_{1t} and μ_{2t} are the random error terms.

Equation (4.1a) represents the neoclassical growth model expanded to exports and non-export sectors and estimates the impact of Fiji's military coups on growth. Remittances have the potential to affect economic activity through a host of channels.[16] Equation (4.1b) examines a specific link between remittances and growth, specifically that working through financial markets. As such, the hypothesis to be tested (i.e. equation 4.1b) is whether the level of financial depth in the case of Fiji affects the impact of remittances on growth. This is done by interacting the remittances variable with the

[16] See Chimhowu (2003), Giuliano and Ruiz-Arranz (2006) and Ramirez and Sharma (2008) for a discussion on the growth effects of remittances through various channels.

financial depth indicator (i.e. log of M2 to GDP ratio) and testing for the significance of the interactive coefficient. A negative coefficient of the interactive term (i.e. *REM*FinDev*) would indicate that remittances are more effective in boosting growth in countries with shallower financial systems providing evidence of substitutability between remittances and financial instruments (Giuliano and Ruiz-Arranz (2006); Ramirez and Sharma (2008)). On the other hand, they state that a positive coefficient would imply that the growth effects of remittances are enhanced in deeper financial systems, supporting complementarity of remittances and other financial flows. Theoretical justifications of the selected explanatory variables in the above growth models and their data sources are discussed next.

Labour ($\dot{L}$) is a key input factor into the production process and is expected to have a positive impact on growth, hence β_1 is expected to be positive.[17] The data for labour force variable is sourced from the Reserve Bank of Fiji (RBF) *Quarterly Reviews* (various). Private investment (*IP*) which includes foreign direct investment plays a crucial role in facilitating technology, skills and market networks which are important ingredients for growth. Thus private investment is considered as the engine of a long-run sustained economic growth. Consequently, coefficients β_2 and α_2 are expected to be positive.

Private investment is used rather than total investment given that public investment comprises of large amounts of foreign aid. As aid is included as a separate explanatory variable in the model, private investment variable is used as it avoids the problem of multicollinearity. The strong positive association between investment and growth is well established in a number of recent studies.[18] Exports (*XG*) are regarded to contribute to economic growth through increased economies of scale, productivity, specialization and through technological advances. Thus the coefficient of β_3 is expected to be positive. The data source for private investment and exports is RBF (various).

[17] The Solow growth model shows how growth in labour force affects output (Solow, 1956).

[18] For example, Gounder (2005), Clements, Bhattacharya and Nguyen (2003), Khan and Kumar (1997), Easterly (1993), Easterly and Rebelo (1993), Barro (1991), and Khan and Reinhart (1990) found that increasing rate of physical capital leads to higher rate of economic growth.

According to several studies, remittances (*REM*) have contributed to economic growth and so it is expected that remittances may be positively associated with higher economic growth in the case of Fiji.[19] Narube (2005) acknowledges that remittances have displaced garments and sugar receipts to become the second largest source of foreign exchange earnings in Fiji. The expected sign of β_4 and α_4 are positive. The sources for remittances data is the RBF (personal communication). The remittances dataset used in most studies (including this study) is limited as it does not give a total picture of the size of remittances flows given that large sums of remittances are transmitted through informal channels. According to the 2006 Global Economic Prospects around 50 percent of the remittances are under recorded as they are transmitted through informal channels (World Bank, 2006b).[20]

Aid (*AID*) flows to Fiji has been substantial overtime. Gounder (2001) found that aid flows in various forms such as bilateral aid, grant aid and technical cooperation aid have a significant impact on economic growth in Fiji. The aid coefficients β_5 and α_5 are predicted to be positive. Foreign aid data is sourced from the World Bank (2008). Government Fiscal balance (*GF*) is the central government's (surplus/deficit) as percent of GDP and is a proxy for government consumption. A large body of theoretical and empirical studies find that growth is determined amongst other things by government consumption (for example, Barro, 1991 and 1997; Barro and Lee, 1993; Chen and Feng, 1996; Feng, 1997; Persson and Tabellini, 1992), hence α_1 is predicted to positively affect Fiji's GDP growth rate. Fiji Government's fiscal balance data is sourced from Fiji Islands Bureau of Statistics (various).

Most empirical growth studies have provided an affirmative answer that outward-oriented economies consistently have higher growth rates than inward-oriented

[19] Remittances are the sum of the following three items in the balance of payments statistics: workers remittances; compensation of employees; and migrant transfers (IMF, 2004). Workers' remittances, part of the current transfer in the current account, are the transfers made by migrants who are employed and resident in another economy. This includes those workers who move to an economy and stay there for a year or longer. Compensation of employees, on the other hand are part of the income component of the current account which comprises of wages, salaries and other benefits earned by non-resident workers for work performed for residents of other countries. Included in this category amongst the others are seasonal workers and embassy staff. Migrant transfers are a capital account item which includes financial items that arise from migration of individuals from one country to another.

[20] In the case of Fiji, Narube (2005b) states that unrecorded remittances are over F$150 million. The impact of remittances on the recipient countries can be much more pronounced if the informal remittances can be captured in the formal statistics.

countries.[21] Openness (*OPEN*) thus is expected to affect growth positively, and as such α_3 is predicted to be positive. Data for openness is sourced from the World Bank (2008). *FinDev* is the log of M2 to GDP ratio employed in the model as a proxy for financial development. There is a general consensus that financial development spurs economic growth. Mohan (2006:4) states that "financial development creates enabling conditions for growth through either a supply-leading (financial development spurs growth) or a demand-following (growth generates demand for financial products) channel". A large body of empirical research supports the view that development of the financial system contributes to economic growth (Rajan and Zingales, 1998 and 2003; King and Levine, 1993; and Levine and Zervos, 1998). The coefficient of *FinDev* in equation (4.1b) is predicted to be positive. Dataset for M2 to GDP share is from the World Bank (2008).

The dummy variables (*DV*) and (*DCH*) have been employed in the models to capture the effects of military coups; and cyclones, droughts and hurricanes experienced in Fiji. Growth literature suggests that political instability negatively impacts growth, affecting the productivity of the resources. Gounder (2001; 2002; 2005), Prasad and Reddy (2002) and Narayan and Prasad (2004a; 2004b) find negative impacts of coups in Fiji. Based on the findings of these empirical studies the coefficients of the dummy variable β_6 and α_8 are expected to be negative. Similarly, following Gounder (2005), the coefficient of the cyclone dummy β_7 is expected to be negative.

4.2.2 Methodological Approach

To determine the relationship described in equations (4.1a) and (4.1b), the methodology used is based on the ARDL framework (Pesaran and Pesaran, 1997; Pesaran and Shin, 1999; Pesaran et al., 2001). The ARDL approach to cointegration does not involve pre-testing of the variables. In other words, the ARDL approach to testing for the existence of a long-run relationship between variables (in levels) is applicable irrespective of whether the underlying regressors are *I*(0), *I*(1) or mutually cointegrated. The statistic underlying the procedure is the Wald or *F*-statistic in a generalised Dickey-Fuller type

[21] See Edwards (1993), Temple (1999) and Rodriguez and Rodrik (2001) and the literature cited therein for an extensive review of the empirical literature on the growth effects of openness.

regression, which is used to test the significance of lagged variables under consideration in a conditional unrestricted error correction model (ECM) (Pesaran et al., 2001). Amongst other advantages, the ARDL method of cointegration analysis is unbiased and efficient as it performs well in small samples. The ARDL approach is used as the long and short-run components of the model can be estimated simultaneously, removing problems associated with omitted variables and autocorrelations.

A two-step procedure is used in estimating the long-run relationship: first, an initial investigation of the existence of a long-run relationship among the variables is preceded by an estimation of the short and long-run parameters. The second step is only possible if a long-run relationship is established in the first step. The *F*-tests are used for testing the existence of long-run relationships. When long-run relationships exist, the *F*-test indicates which variable should be normalised. The null hypothesis of no cointegration amongst the variables in the equation is tested against alternative hypothesis which is the existence of a unique long-run relationship amongst the variables. However, because the distribution of the *F*-statistic is non-standard, irrespective of the order of integration, Pesaran and Pesaran (1997) have tabulated the appropriate critical values for different number of regressors.

For every equation there is a band of all potential classifications of the variables into *I*(0) or *I*(1). If the computed *F*-statistic falls either above or below the critical values of the band then a conclusive decision can be made without knowledge of whether the underlying variables are *I*(0) or *I*(1). However, if the computed *F*-statistic is in the bounds of the critical values then information on the order of integration is required before making decisions regarding the long-run relationship of the variables. Unit root tests using the Augmented Dicky Fuller (ADF) methodology are undertaken to determine the order of integration for the variables used in the two growth models (see Table A4.1 in Appendix 4.1). The econometric package used to conduct the bounds test and to determine the long-run coefficients is Microfit Version 4.0 developed by Pesaran and Pesaran (1997).

4.2.3 Empirical Results: Remittances-Economic Growth Nexus

In the first step the existence of a long-run relationship among the variables in equations (4.1a) and (4.1b) are investigated. The estimated results of the bounds tests are presented in Table 4.1. The calculated *F*-statistic for equation (4.1a) is 5.14 which is higher than the upper bound critical value 4.78 at the 1 percent level, implying that the null hypothesis of no cointegration cannot be accepted and that there is a cointegration relationship amongst the variables in the remittance-growth model. Similarly, the computed *F*-statistic for equation (4.1b) is 5.60, higher than the upper bound critical value 4.03 at the 1 percent level which confirms that there is a unique long-run relationship between the regressors. As such, whether the variables are *I*(1) or *I*(0) in either of the equations is not a concern.

Table 4.1 Bounds *F* tests for Economic Growth Models

Equation	k	Critical Value Band Intercept and No Trend*		Calculated *F*-Statistic	Pass/Fail
		I(0)	*I*(1)		
Equation 4.1	5	3.52	4.78	5.14	Pass
Equation 4.2	7	3.03	4.03	5.60	Pass

Note: k represents the number of variables in the regression and * indicates the 1 percent significance level.

Having established the existence of a long-run relationship in both the models, equations (4.1a) and (4.1b) are estimated using the ARDL model based on the Akaike Information Criterion. A maximum of two lags are used. In terms of the model diagnostics, both equations perform well in terms of the adjusted R^2 and *F*-statistics. The adjusted R^2 values indicate a relatively higher level of explanatory power ranging between 45 percent to 53 percent and the *F*-statistics are significant at the 1 percent level. Tests for serial correlation, functional form, normality of the residuals and heteroscedasticity indicate no concerns. In order to facilitate the interpretation of the results, a summary of the data used in the regressions is presented in Appendix Table A4.2 (see Appendix 4.1). The estimated results for equation (4.1a) and equation (4.1b) are presented in Table 4.2 and Table 4.3, respectively.

First, the results of equation (4.1a) are discussed. All coefficients have the expected signs in the long-run. In both the short and the long-run estimates $\dot{L}$ is positive but not

significant. This result holds in the case of Fiji as the country faced an exodus of skilled labour following the coups of 1987. Significant outflows of skilled manpower, i.e. largely professionals and tradesmen continued through the 1990s and accelerated after the May, 2000 coup. Mohanty et al., (2005) note that the loss of skilled manpower from Fiji has had far-reaching social, cultural, economic and political implications which underpin the very foundation of sustainable development. Gounder (2001) reached similar conclusions in regard to the contribution of labour force to Fiji's economic growth.

Private investment (*IP*) coefficient is positive in both the short and the long-run but is insignificant in the former and significant in the latter. This highlights that the impact of investment is generally a long-term effect. Thus, a one percentage point increase in private investment is associated with an increase of GDP growth rate of 0.58 percent. This result is consistent with the findings of Gounder (2005) in the case of Fiji, Clements, Bhattacharya and Nguyen (2003), Khan and Kumar (1997), Easterly (1993), Easterly and Rebelo (1993), Barro (1991), and Khan and Reinhart (1990) who found that increasing rate of investment leads to higher rate of economic growth in developing countries.

Domestic resources such as exports (*XG*) exhibit positive and significant relationship to growth in the long-run. The positive contribution of exports to economic growth is a reflection of the adoption of outward-looking policies in the mid-1980s in view to diversify, increase efficiency and competitiveness of exports. More pragmatic approaches were adopted by the Government in the 1990s to integrate Fiji into the world trading system. The positive and significant exports coefficient suggests that export industries in Fiji have contributed significantly in terms of capital inflows, employment, utilization of domestic resources and widening the manufacturing base (Prasad, 2004). Consistent with the findings of Gounder (2001) total foreign aid (*AID*) contributes significantly to the long-run economic growth in Fiji. The results strongly suggest that aid is a major source for foreign exchange and development finance in the small island economy of Fiji. Although Fiji faced suspension of the aid programmes from major bilateral aid donors such as Australia and New Zealand due to the political events of 1987 and 2000, the impact of foreign aid on economic growth is more pronounced when compared to domestic resources such as labour and exports.

Remittances (*REM*) exert a positive and significant impact on economic growth in Fiji both in the short and the long-run. The results are consistent with that of Ramirez and Sharma (2008), Jongwanich (2007), Ang (2007), World Bank (2006), Iqbal and Sattar (2005), Solimano (2003), and Faini (2002). A one percentage point increase in remittances leads to 0.87 percent increase in economic growth. According to the altruistic motive of remittances migrants send money to their families for their well-being. Migrants tend to remit more when families are faced with hardships and the case for Fiji demonstrates this explicitly. Political crisis has been prevalent in Fiji for the last three decades and the country has faced numerous natural disasters since 1970 including the expiry of native land leases that has predominantly affected the Indo-Fijians. In such periods of crisis that adversely affect growth, remittances provide an immediate support to the affected households.

Coups and natural disasters have affected Fiji's economic growth adversely both in the short and long-run as indicated by the negative and significant coefficients of *DV* and *DCH*. The impact of political coups, however, is greater on growth and development as compared to natural disasters such as cyclones. Military coups caused an exodus of skilled labour, decreased private and foreign investment, reduced the foreign exchange reserves and caused currency devaluations. The results suggest that recovering from cyclones are faster as Fiji receives assistance (foreign aid) that helps the nation out of hardship in times of such disasters. On the other hand, foreign aid donors tend to withdraw aid in times of political coups thus it takes the economy longer to recover from the adverse impacts of military coups (Gounder, 2005).

The error correction term (ECM_{t-1}), measures the speed of adjustment to restore equilibrium in the dynamic model. Granger (2004) notes that the modern macro economy is large, diffuse, difficult to measure and control, as such the error correction models have become popular in understanding the diagnostics of the economy better. The negative sign associated with ECM_{t-1} implies the response to the imbalance is toward a restoration of the equilibrium. The estimated ECM coefficient is negative and statistically significant at the 1 percent level implying that the relationship is error correcting and the model is dynamically stable. The coefficient value of -1.32 implies that a deviation from the long-run growth rate in this period is corrected by about 32 percent in the next period.

Table 4.2 Results for Remittances-Economic Growth Nexus

Dependent Variable: Real GDP Growth rate				
	ARDL Estimates	**Long-Run Estimates**	**Short-Run ECM Estimates**	
Variable	**Coefficient**	**Coefficient**	**Variable**	**Coefficient**
$\dot{Y}_{t-1}$	-0.32 (-1.91)*			
$\dot{L}$	0.38 (0.38)	0.29 (0.38)	$\Delta\dot{L}$	0.38 (0.38)
IP	0.09 (0.25)	0.58 (2.76)***	ΔIP	0.09 (0.25)
IP_{t-1}	0.68 (2.11)**			
XG	0.10 (0.65)	0.23 (2.82)***	ΔX	0.10 (0.65)
XG_{t-1}	0.21 (1.19)			
REM	1.14 (1.92)*	0.87 (1.87)*	ΔREM	1.14 (1.92)*
AID	0.56 (0.45)	4.08 (3.90)***	ΔAID	0.56 (0.45)
AID_{t-1}	2.60 (2.34)**		ΔAID_{t-1}	-2.20 (-1.69)*
AID_{t-2}	2.21 (1.69)*			
DV	-6.11 (-2.61)**	-4.64 (-2.35)**	ΔDV	-6.11 (-2.61)**
DCH	-3.48 (-2.35)**	-2.64 (-2.08)**	ΔDCH	-3.48 (-2.35)**
Constant	-36.84 (-4.12)***	-27.98 (-4.00)***	ΔConstant	-36.84 (-4.12)***
			ECM_{t-1}	-1.32 (-7.94)***
Adjusted R^2	0.45			0.76
F-statistic	3.54			14.22
SC χ^2 (1) = 0.02, FF χ^2 (1) = 0.50, N χ^2 (2) = 0.40, H χ^2 (1) = 0.76				

Notes: *** and ** are the levels of significance at the one and five percent levels of *t*-ratios written in brackets. The description of the test statistics are as follows: Adjusted R^2 is the coefficient of determination, adjusted for the degrees of freedom. SC stands for serial correlation. FF is Functional Form. N is the normality of the residuals and H stands for Heteroscedasticity. The critical values of the chi-square distribution for the tests are as follows: χ^2 (1)=6.63, χ^2 (2)=9.21.

In the next step the results for remittances-economic growth including the interactive term are discussed. The estimated results are reported in Table 4.3. The impact of investment and foreign aid are similar to that discussed above, i.e. both have positive impact on growth. The estimated impact of remittances on economic growth by way of

interaction with the financial sector is 0.39.[22] The magnitude of the effect of remittances through interaction with the financial sector is positive. This result is robust compared to Giuliano and Ruiz-Arranz (2006) and Ramirez and Sharma (2008) as it takes into account the actual impact of the interaction effect. The studies by Giuliano and Ruiz-Arranz (2006) and Ramirez and Sharma (2008) do not interpret the interactive terms and thus claim that the effect of remittances is greater when it is interacted with the financial sector of the economy. The estimated interactive variable (*Rem*FinDev*) in the case of Fiji is positive implying that the growth effects of remittances are enhanced in deeper financial systems. It provides evidence that remittances are a complement to other forms of finance available in the financial system of Fiji.

Government fiscal balance (*GF*) defined as the ratio of central government fiscal balance to GDP is a proxy for government finance required for social and economic infrastructure. In the short-run *GF* is positive and significant however it is negative in the long-run. While the biggest expenditure component draining government finance is personnel cost for the Fiji Government, government finance has also been constrained largely by the political events and the natural disasters that has essentially led to the deviation of finance into corrective measures and infrastructures.[23] Consequently, there is a larger share of borrowing to finance development needs that cause further pressure on finance as interest payments on borrowing have to be met.

Openness (*OPEN*) of Fiji's economy contributes positively to economic growth as indicated by the positive and significant long-run coefficient. The results imply that economic growth is spurred by mobilizing resources into areas where there are comparative advantage. Edwards (1993) states that countries that are more open to the rest of the world are better able to absorb rapid technological advances of leading nations. He states that if the costs of technological imitation are lower than the costs of

[22] Equation (4.1b) has an interaction term (*Rem*FinDev*) and as such the coefficient of remittances (*REM*) is partially dependent on the coefficient of the interaction term (see Wooldridge, (2007) for a discussion on interaction terms). The interaction effect between remittances and financial development is calculated as follows: $\frac{\partial \dot{Y}}{\partial REM} = \alpha_4 + \alpha_7 * avgFinDev$, where α_4 = -9.1 and α_7 = 5.97, and average of *FinDev* = 1.59. The interaction effect is: -9.1 + 5.97*1.59 = 0.39.

[23] The size of the civil service and increments in salaries and wages contributes to a large operating expenditure of Government (Government of Fiji, 2002).

internally developed innovations, then a poorer country will grow faster than a more developed one. This faster rate of growth will continue so long as that country remains open to capturing new ideas until, at some point, equilibrium is reached and the rate of growth slows (Edwards, 1993; Chen and Feng, 2000).

Table 4.3 Results for Remittances-Economic Growth Nexus (with interactive term)

Dependent Variable: Real GDP Growth rate

	ARDL Estimates	**Long-Run Estimates**	**Short-Run ECM Estimates**	
Variable	**Coefficient**	**Coefficient**	**Variable**	**Coefficient**
$\dot{Y}_{t-1}$	-0.38 (-2.52)**			
IP	8.95 (1.65)	6.50 (1.68)*	ΔIP	8.95 (1.65)
REM	-12.54 (-1.39)	-9.10 (-1.73)*	ΔREM	-12.54 (1.39)
AID	2.27 (2.08)**	3.21 (3.39)***	ΔAID	2.27 (2.08)**
AID_{t-1}	2.15 (2.07)**			
GF	0.88 (2.20)**	-0.17 (-0.33)	ΔGF	0.88 (2.20)**
GF_{t-1}	-0.36 (-0.83)		ΔGF_{t-1}	0.71 (1.43)
GF_{t-2}	-0.71 (-1.43)			
OPEN	13.80 (1.62)	10.02 (1.73)*	ΔOPEN	13.80 (1.62)
FinDev	-116.22 (-3.03)***	-15.37 (-1.77)*	ΔFinDev	-116.22 (-3.03)***
$FinDev_{t-1}$	92.30 (2.89)***			
Rem*FinDev	8.21 (1.47)	5.97 (1.69)*	ΔRem*FinDev	8.21 (1.47)
DV	-4.39 (-2.23)**	-3.16 (-2.28)**	ΔDV	-4.39 (-2.23)**
Constant	-44.17 (-2.96)***	-32.08 (-2.94)***	ΔConstant	-44.17 (-2.96)***
			ECM_{t-1}	-1.37 (-9.224)***
Adjusted R^2	0.53			0.79
F-statistic	4.19			15.40
SC χ^2 (1) = 0.38, FF χ^2 (1) = 3.61, N χ^2 (2) = 2.96, H χ^2 (1) = 0.66				

Notes: ***, ** and * are the levels of significance at the one, five and ten percent levels of *t*-ratios written in brackets. The description of the test statistics are as follows: Adjusted R^2 is the coefficient of determination, adjusted for the degrees of freedom. SC stands for serial correlation. FF is Functional Form. N is the normality of the residuals and H stands for Heteroscedasticity. The critical values of the chi-square distribution for the tests are as follows: χ^2 (1)=6.63, χ^2 (2)=9.21.

The financial development (*FinDev*) measured by the log of M2 to GDP ratio is a proxy for financial development which includes the liquid liabilities of the financial system. It is considered as the broadest measure of financial intermediation and comprises of currency plus demand and interest bearing liabilities of banks and non-financial intermediaries. The estimated *FinDev* coefficient shows a positive impact on the long-run economic growth in Fiji.[24] The positive impact of the monetization variable also suggests that financial deepening has occurred since the finance sector reforms began in 1981. This is similar to the findings of Jayaraman (1996) and reinforces the significance of the financial sector and its contribution to growth. The coefficient of the error correction term is -1.37. This implies that a deviation from the long-run growth rate in this period is corrected by about 37 percent in the next period, an indication that once shocked, convergence to equilibrium is fast.

4.3 Remittances and Financial Development

The positive and significant impact of remittances on economic growth empirically established in the case for Fiji is in line with several other studies that provide evidence that remittances contribute to economic growth of the recipient developing countries. The results for Fiji shown above find that remittances exert positive impact on the growth rate of GDP when it is linked with the financial sector of the economy. The financial system of a country is important because it performs a number of key economic functions. In particular, Levine (1997) emphasizes four key roles of the financial sector that includes mobilizing of savings (thereby creating concentrations of capital that allow exploitation of economies of scale), allocation of capital (helping judge where returns are most likely to be obtained), monitoring the use of the loanable funds by entrepreneurs, and transforming risk by pooling and repackaging it. In this regard development of the financial systems has been shown to foster growth and reduce poverty (King and Levine, 1993; Levine, 1997; Rajan and Zingales, 1998; Beck, Levine and Loayza, 2000a, 2000b; Beck, Demirguc-Kunt, and Levine, 2004).

[24] In equation (4.1b), *FinDev* is interacted with *REM* and as such the total impact of *FinDev* on the GDP growth rate is partially dependent on the coefficient of the interaction term. The interaction effect, thus is calculated as follows: $\frac{\partial \dot{Y}}{\partial FinDev} = \alpha_6 + \alpha_7 * avgREM$, where α_6 = -15.37 and α_7 = 5.97, and average of *REM* = 2.75. The interaction effect is: -15.37 + 5.97*2.75 = 1.05.

Remittances are financial flows and therefore are inevitably linked with the financial systems. The literature review in chapter 2, discusses how remittances feature in the financial system with empirical evidence of the effect of remittances on financial development. The link between remittances and financial development is important for Fiji as the country undertook financial liberalization since the 1980s which saw interest rate deregulation, equity market development, removal of priority sector lending requirements, reduced controls over foreign entrants, and increased availability of bank credit amongst other things in pursuit of financial sector development.

Whilst these efforts encouraged growth and development in the economy, the late 1980s marked disturbances in Fiji due to political coups which continued over the next two decades. One of the principal effects of the 1987 coups was a serious outflow of skilled labour that accelerated following the 2000 and 2006 coups. Permanent migration as a result of political upheaval is one of the most important factors that led to the inflow of remittances to Fiji, mainly from Australia, New Zealand and the United States. As a positive by-product of the migration process, remittances have a vital role to play in Fiji's economy especially in the development of the financial system. Empirical studies that look at the relationship between remittances and financial development are discussed in the next section.

4.3.1 Remittances-Financial Development Nexus

The notion that remittances can lead to financial development in developing countries is based on the concept that money transferred through financial institutions paves the way for recipients to demand and gain access to other financial products and services, which they might not have otherwise (Orozco and Fedewa, 2005). At the same time, providing remittance transfer services allows banks to "get to know" and reach out to unbanked recipients or recipients with limited financial intermediation. For example, remittances may have a positive impact on credit market development if banks become more willing to extend credit to remittance recipients because the transfers they receive from abroad are perceived to be significant and stable.

Furthermore, because remittances are large, recipients may need financial products that allow for the safe storage of these funds, even if most of these funds are not received through the banks. However, remittances can also create a dampening effect on the credit market as individuals may lower their demand for credit because their funding constraints have been met by the remittances. In addition, remittances might not increase the bank deposits if they are immediately consumed or if remittance recipients distrust financial institutions and prefer other ways to save these funds.

These effects of remittances have only been recently evaluated by Hunte (2004), Aggarwal et al., (2006), World Bank (2006a), Shahbaz et al., (2007), Gupta et al., (2007) and Peria et al., (2008). These studies are discussed in detail in Chapter 2. Hunte (2004) uses cross-country panel data for 18 developing countries and finds a positive and significant relationship between remittances and financial deepening. Aggarwal et al., (2006) use balance of payments (BOP) data for over 90 developing countries for the period 1975 to 2003 also finds a positive relationship between remittances and financial development. However, in analyzing the cross-section of developing countries the study does not test whether this relationship holds across regions, especially for Latin America. The World Bank (2006a) extended the study on workers' remittances specifically on Latin America with a micro level analysis. Gupta et al., (2007) similarly follow the specification of Aggarwal et al., (2006) and investigate the impact of remittances in Sub-Saharan Africa using an unbalanced panel of 44 countries over six time periods. Their findings show that remittances which are stable private flows have a direct poverty mitigating effect and promote financial development.

The variables included in the studies by Aggarwal et al., (2006), World Bank (2006a), Gupta et al., (2007) and Peria et al., (2008) are the ratio of the bank credit to the private sector and the share of bank deposits expressed as a percentage of GDP to proxy for financial development. Other variables included in these studies are the log of real GDP as a measure of the country size, log of real GDP per capita to measure the level of economic development, inflation, the presence of dual exchange rate rates, trade openness, capital account openness (other flows to GDP ratio), corruption, internal conflict and political risk. Additionally, these four studies control for random and fixed effects and reach the same conclusions. However, in a time series analysis Shahbaz et al., (2007) use the lag of the dependent variable (ratio of the bank credit to the private

sector expressed as a percentage of GDP) in their analysis. They argue that improvement in the efficiency of the financial sector in the current period is also enhanced by the policies and development of the financial sector in the previous period. Discussion of the empirical model, data sources and the methods utilized in the case of Fiji are provided next.

4.3.2 Remittances-Financial Development Model, Data and Methodology

Based on various studies that measure the impact of remittances on financial sector development this section presents the empirical model utilized to examine the impact of remittances on Fiji's financial sector development. The results for Fiji are compared with other recent empirical studies of developing countries. Equation (4.2) represents the model estimated for the period 1968 to 2007.

The equation takes the following specific form:

$$FD = \lambda_0 + \lambda_1 REM + \lambda_2 LYPC + \lambda_3 INF + \lambda_4 CAP + \lambda_5 FL + \eta_t \qquad (4.2)$$

where:

FD Credit to the private sector as a share of GDP (proxy for financial sector development);

REM Remittances as share of GDP;

LYPC Log of real GDP per capita;

INF Annual inflation rate;

CAP Capital account openness measured as a sum of FDI and foreign aid as a share of GDP; and

FL Dummy variable employed to capture the effects of financial liberalization in Fiji. Period after 1980 takes the value of 1 and 0 otherwise.

Remittances are expected to increase the efficiency of the financial system, hence the expected sign is positive for λ_1. The log of real GDP per capita (*LYPC*) measures the level of economic development of a country and thus has the potential to affect its financial development. Financial sector development requires paying fixed costs that

become less important the larger the size of the economy and the richer the country (Aggarwal et al., 2006). Also, GDP per capita can be used as a proxy for the quality of legal institutions in the country which have been shown to have a positive impact on financial development (Honohan, 2004; Aggarwal et al., 2006). Thus λ_2 is expected to affect financial development positively.

Inflation (*INF*) retards the development of the financial sector through its detrimental channels. Boyd et al., (2001) state that inflation distorts economic agents' decision making regarding the nominal magnitudes, discouraging financial intermediation, and promoting savings in real assets. Thus λ_3 is expected to be negative. Capital account openness (*CAP*) measured by the share of other flows to GDP has a positive impact on financial development, thus λ_4 is expected to be positive (see Chinn and Ito, 2002 for details). The liberalization of the financial system by way of interest rate removal promotes financial sector development (Dermirguc-Kunt and Detragiache, 1998). Financial sector reforms in Fiji have been undertaken since the 1980s, thus it is expected to have a positive impact on financial sector development, hence a positive λ_5.

Data for Fiji's credit to the private sector as a share of GDP, annual inflation rate, GDP per capita and capital account openness have been sourced from the World Bank (2008). The dataset for remittances has been sourced from the RBF (personal communication). The ARDL approach to cointegration is used to derive the relationship between remittances and financial development. The procedure noted in the previous estimation is utilized here to estimate equation (4.2). Unit root test results are reported in Table A4.3 (see Appendix 4.2). Empirical results are discussed next.

4.3.3 Empirical Results: Remittances-Financial Development Nexus

The first step of the empirical investigation is to test the existence of a long-run relationship among the variables. The estimated results of the bounds test are presented in Table 4.4. The calculated *F*-statistic is 7.83 which is higher than the upper bound critical value of 5.12 and is significant at the 1 percent level, implying that the null hypothesis of no cointegration cannot be accepted and that there is indeed a cointegration relationship amongst the variables.

Table 4.4 Bounds *F* Test for Financial Development Model

Equation	k	Critical Value Band Intercept and No Trend*		Calculated *F*-Statistic	Pass/Fail
		I(0)	*I*(1)		
Equation 4.3	4	3.82	5.12	7.83	Pass

Note: k represents the number of variables in the regression and * indicates the 1 percent significance level.

With the establishment of long-run relationship the Akaike Information Criterion has been applied to investigate the long-run and short-run coefficients of the remittances-financial development model for Fiji. A maximum of two lags are used. In terms of model diagnostics, equation (4.2) performs well in terms of the adjusted R^2 and *F*-statistics. The adjusted R^2 value of 0.94 indicates a high level of the explanatory power of the regressors and the *F*-statistic is significant at the 1 percent level. The model fulfilled the conditions of non-serial correlation, functional form, the normality of the residuals including no concerns for heteroscedasticity. Summary data for the remittances-financial development model is provided in Table A4.4 (see Appendix 4.2). The estimation results for equation (4.2) are presented in Table 4.5.

All the estimated coefficients appeared with the correct signs. The most important variable in the regression is *REM* which is positively related to financial development but is not significant. The results compare well with that of Hunte (2004), Aggarwal et al., (2006), World Bank (2006a), Shahbaz et al., (2007), Gupta et al., (2007) and Peria et al., (2008) where remittances exert positive impact on the financial development of the recipient country. However, the insignificance of the estimated coefficient in the case of Fiji can be attributed to the underdeveloped technology supporting international funds transfer within Fiji's commercial banking sector. Shaw (2007) states that bank-based transfer options are uncompetitive and expensive in Fiji as a result of which most remittances are not deposited. The results suggest that remittances are used for household consumption purposes and thus rarely enter the banking system failing to create the multiplier effects for financial sector's growth.

The reform initiatives such as the provision of rural banking services have only begun in 2004 with the Australia New Zealand (ANZ) Bank taking the lead role. Such reforms can successfully help formalize remittances and thus deepen Fiji's financial sector. However, as Shaw (2007) notes rural banking services are currently confined to the

island of Viti Levu and other commercial banks have demonstrated little interest in developing a low-end rural customer base. This implies that the impact of remittances on Fiji's financial sector development is subject to the successful implementation of the reforms targeting unbanked remittances. Compared to other international capital flows, i.e. FDI and foreign aid, remittances as a share of GDP is relatively smaller for most of the estimation period in this study hence remittances induce a positive impact but it does not have a significant effect on financial development for the estimated period.

Table 4.5 Results for Remittances-Financial Development Nexus for Fiji

Dependent Variable: Credit to Private Sector as a share of GDP

	ARDL Estimates	**Long-Run Estimates**	**Short-Run ECM Estimates**	
Variable	**Coefficient**	**Coefficient**	**Variable**	**Coefficient**
FD_{t-1}	0.72 (8.98)***			
REM	0.09 (0.56)	0.33 (1.23)	ΔREM	0.09 (0.56)
LYPC	16.76 (2.56)**	59.29 (2.78)***	ΔLYPC	16.76 (2.56)**
INF	-0.05 (-0.45)	-0.19 (-0.46)	ΔINF	-0.05 (-0.45)
CAP	0.11 (0.55)	3.64 (3.04)***	ΔCAP	0.11 (0.55)
CAP_{t-1}	0.39 (2.18)**		ΔCAP_{t-1}	-0.53 (-2.61)**
CAP_{t-2}	0.53 (2.60)**			
FL	2.83 (2.03)*	10.01 (2.58)**	ΔFL	2.83 (2.03)*
Constant	-56.68 (-2.67)**	-200.52 (-2.69)**	ΔConstant	-56.68 (-2.67)**
			ECM_{t-1}	-0.28 (-3.54)***
Adjusted R^2	0.94			0.27
F-statistic	71.43			3.13
$SC\chi^2(1) = 0.02$, $FF\chi^2(1) = 0.38$, $N\chi^2(2) = 0.53$, $H\chi^2(1) = 0.66$				

Notes: ***, ** and * are the levels of significance at the one, five and ten percent levels of *t*-ratios written in brackets. The description of the test statistics are as follows: Adjusted R^2 is the coefficient of determination, adjusted for the degrees of freedom. SC stands for serial correlation. FF is Functional Form. N is the normality of the residuals and H stands for Heteroscedasticity. The critical values of the chi-square distribution for the tests are as follows: $\chi^2(1)=6.63$, $\chi^2(2)=9.21$.

The log of per capita GDP (*LYPC*) is a measure of economic development. It has a positive and significant long-run coefficient which implies that increases in the size of the real GDP per capita improves the performance of the financial sector. The results

are consistent with the findings of Aggarwal et al., (2006) in the case of 99 developing countries whereby financial development is positively affected by the GDP per capita. Shahbaz et al., (2007) and Gupta et al., (2007) similarly find positive and significant impact of per capita GDP on financial development, albeit a smaller magnitude.

Inflation (*INF*) affects financial development negatively as indicated by the negative long-run coefficient, however it is not significant. The results suggest that economic reforms of the 1990s to some extent have helped Fiji to maintain moderate levels of inflation. The studies of Aggarwal et al., (2006) and Shahbaz et al., (2007) had similarly established that financial development is negatively influenced by inflation. The capital account openness (*CAP*), measured as a sum of FDI and foreign aid to the share of GDP, has a positive coefficient and is significant at the one percent level. The magnitude of the coefficient is larger than remittances as Fiji is a recipient of various forms of aid and at the same time attracts foreign investment, particularly in the tourism sector. In their study on Sub-Saharan Africa, Gupta et al., (2007) find that capital account openness is associated with greater financial development while Aggarwal et al., (2006) find that the size of capital inflows appear to have no effect on the development of the financial sector.

Liberalization of the financial sector, measured with the dummy variable (*FL*) contributes positively and significantly to Fiji's financial sector development. The results suggest that reform efforts since the 1980s which took various forms including the deregulation of interest rates, equity market development, removal of priority sector lending requirements, reduced controls over foreign entrants and the increased availability of bank credit have indeed contributed to the financial sector development in Fiji. The findings of Aggarwal et al., (2006) differ in this regard. They measure financial liberalization with a dummy for periods of liberalization only in domestic interest rates and find that the same has not been effective on financial development. In the case of Fiji the dummy variable captures the effects of the consolidated reforms since 1980 and the results show that these reforms are a significant contributor to the financial sector development.

The error correction term (ECM_{t-1}) of the financial development model has a negative and significant coefficient suggesting that the model is error correcting and dynamically

stable. It is significant at the one percent level, ensuring that the series is non-explosive and that long- run equilibrium can be attained. The coefficient of -0.28 implies that a deviation from the long-run inequality in this period is corrected by about 28 percent in the next period.

4.4 Conclusion

The chapter examines the impact of remittances on Fiji's economic growth and financial sector development using the analytical framework derived from neoclassical theory. Using annual time series data for the period 1968 to 2007, the empirical results suggest that remittances exert a positive and significant impact on Fiji's economic growth. In testing remittance-economic growth hypothesis by interacting remittances with an indicator of financial depth the result shows a consistent positive impact of remittances on growth. This implies that remittances are a complement to other forms of finance available in Fiji's financial sector. This finding is important given that other similar studies on remittance-economic growth had ignored the interaction effect between remittances and the financial sector.

Domestic variables such as the labour force, exports and private investment also contribute positively towards economic growth. Private investment, particularly in the tourism sector has been substantial in Fiji while the positive contribution of exports reflects the adoption of more outward-oriented policies in view to diversify and raise the competiveness of exports. In comparison to private investment and exports, the contribution of the labour force to the growth rate in GDP is far less substantial given the exodus of skilled labour in the last two decades due to political instability. Coups and cyclones have significantly retarded Fiji's economic growth overtime that also affects institutional and infrastructural development. As a result, international financial flows like foreign aid have been channeled into development efforts. Foreign aid contributes significantly to Fiji's economic growth even though foreign aid flows have declined since the coups of 1987.

The second hypothesis involves the empirical examination of the effect of remittances on Fiji's financial sector development. The results, based on annual time series data for

the period 1968 to 2007, show that remittances have a positive but weak effect on financial development. This reflects the substantive use of remittances in household consumption which contributes to unbanked remittances. The high costs of money transfers also discourage the use of formal means of money transmission thereby retarding growth of the financial sector. Whilst reform initiatives such as rural banking services can help formalize unbanked remittances, the results for Fiji broadly imply that the financial system must be made lucrative to encourage its use amongst economic agents' which will stimulate growth in the financial sector.

Other factors like the level of economic development and international capital flows of foreign direct investment and foreign aid promote financial sector growth in the long-run. Fiji's financial sector reforms contribute positively and significantly to the sector's development. However, reform efforts targeted specifically in facilitating the flow of remittances need to be progressively implemented. This will take account of unbanked remittances that may eventually multiply the effects of migrants' dollars and thus contribute significantly to financial sector development.

Overall, the results of the chapter highlight that remittances have growth effects on the economy. However, these growth effects are dependent on a consistent flow of workers' remittances. The channels used for remittance transfer play a significant role in making remittances a part of formal statistics. The process is complex but remittances are a potential source of welfare development, examined in the next chapter.

Appendix 4.1

Unit Root Test Results and Summary Statistics of the Variables used in the Remittances-Economic Growth Models

This appendix presents the Augmented Dickey Fuller (ADF) unit root tests, with a trend, which were performed to determine the order of integration in the data for each variable used in the remittance-economic growth models presented in Chapter 4. The ADF tests in the levels and the first difference are presented in Table A4.1. $\dot{Y}$, *OPEN* and *GF* were stationary in the level form while the remainder of the variables became stationary after first differencing. The summary statistics of each of the variables used in the models are presented in Table A4.2.

Table A4.1 Unit Root Tests for Variables in the Economic Growth Models

	LEVELS		**DIFFERENCED**	
Variable (with trend unless specified)	**ADF Test: H_0:*I*(1), H_1:*I*(0) at 1% level**	***I*(1) or *I*(0)**	**ADF Test: H_0:*I*(1), H_1:*I*(0) at 1% level**	***I*(1)or *I*(0)**
$\dot{Y}$	-4.18	*I*(0)		
$\dot{L}$	-1.76	*I*(1)	-3.73	*I*(0)
IP	-2.12	*I*(1)	-4.26	*I*(0)
XG	-1.68	*I*(1)	-3.83	*I*(0)
REM	-2.19	*I*(1)	-4.99	*I*(0)
OPEN	-3.34	*I*(0)		
AID	-2.18	*I*(1)	-4.53	*I*(0)
GF	-3.72	*I*(0)		
FinDev	-1.96	*I*(1)	-5.21	*I*(0)

Legend: $\dot{Y}$ is the growth rate of the real GDP; $\dot{L}$ is the growth rate of the labour force; *IP* is the private sector investment to GDP ratio; *XG* is the growth rate of exports; *REM* is remittances to GDP ratio; *OPEN* is the log of exports plus imports as a share of GDP; *AID* is aid to GDP ratio; *GF* is the fiscal balance of the central government as a share of GDP and *FinDev* is the log of M2 to GDP ratio which measures the liquid liabilities of the financial system.

Table A4.2 Summary Statistics of Variables used in Economic Growth Models

Variable	Annual Averages for 5-year Sub Periods							
1968-2007	**1968-1972**	**1973-1977**	**1978-1982**	**1983-1987**	**1988-1992**	**1993-1997**	**1998-2002**	**2003-2007**
$\dot{Y}$ Mean = 3.01 SD = 4.96	7.52	4.68	2.57	0.19	3.08	2.56	2.72	0.76
$\dot{L}$ Mean = 1.99 SD = 0.99	2.96	2.73	2.68	1.13	0.47	2.15	1.77	2.06
IP Mean = 11.30 SD = 3.28	15.26	11.62	13.44	11.56	5.72	8.82	11.84	11.86
XG Mean = 3.28 SD = 9.33	8.20	2.74	1.68	0.95	5.01	3.66	3.72	0.28
REM Mean = 2.75 SD = 1.88	1.70	0.94	1.68	1.71	2.42	2.57	4.54	6.43
OPEN Mean = 4.65 SD = 0.15	4.63	4.53	4.56	4.47	4.75	4.74	4.83	4.85
AID Mean = 2.97 SD = 0.84	3.82	3.12	3.12	3.01	4.05	2.59	1.91	2.13
GF Mean = -0.76 SD = 2.02	0.24	0.06	0.12	-1.04	-0.33	0.34	-2.88	-2.58
FinDev Mean = 1.59 SD = 0.09	1.51	1.48	1.51	1.57	1.66	1.70	1.60	1.70

Notes: SD is standard deviation.
Source: World Bank (2008b), RBF (2007).

Legend: $\dot{Y}$ is the growth rate of the real GDP; $\dot{L}$ is the growth rate of the labour force; *IP* is the private sector investment to GDP ratio; *XG* is the growth rate of exports; *REM* is remittances to GDP ratio; *OPEN* is the log of exports plus imports as a share of GDP; *AID* is aid to GDP ratio; *GF* is the fiscal balance of the central government as a share of GDP and *FinDev* is the log of M2 to GDP ratio which measures the liquid liabilities of the financial system.

Appendix 4.2

This appendix presents the ADF unit root tests, with a trend, for variables used in the remittance-financial development model presented in Chapter 4. The ADF tests in the levels and the first difference are presented in Table A4.3. Inflation (*INF*) was the only variable which was stationary in the level form. However, after taking the first difference the remaining four variables became stationary. The summary statistics of each of the variables used in the model are presented in Table A4.4.

Table A4.3 Unit Root Tests for Variables in the Financial Development Model

	LEVELS		**DIFFERENCED**	
Variable (with trend unless specified)	**ADF Test: H_0:*I*(1),H_1:*I*(0) at 1% level**	***I*(1) or *I*(0)**	**ADF Test: H_0:*I*(1), H_1:*I*(0) at 1% level**	***I*(1)or *I*(0)**
FD	-2.15	*I*(1)	-4.77	*I*(0)
REM	-2.19	*I*(1)	-4.99	*I*(0)
LYPC	-0.54	*I*(1)	-3.88	*I*(0)
INF	-4.19	*I*(0)		
CAP	-3.27	*I*(1)	-7.51	*I*(0)

Legend: *FD* is credit to the private sector as share of GDP used as a proxy for financial development; *REM* is the remittances to GDP ratio; *LYPC* is the log of real GDP per capita; *INF* is the annual inflation rate and *CAP* is the sum of FDI and foreign aid to GDP ratio.

Table A4.4 Summary Statistics of Variables used in the Financial Development Model

Variable	**Annual Averages for 5-year Sub Periods**							
1968-2007	**1968-1972**	**1973-1977**	**1978-1982**	**1983-1987**	**1988-1992**	**1993-1997**	**1998-2002**	**2003-2007**
FD Mean = 26.81 SD = 9.72	12.96	16.45	20.23	25.64	33.69	38.51	28.81	38.16
REM Mean = 2.75 SD = 1.88	1.70	0.94	1.68	1.71	2.42	2.57	4.54	6.43
LYPC Mean = 3.43 SD = 0.12	3.28	3.37	3.40	3.37	3.39	3.44	3.46	3.70
INF Mean = 6.30 SD = 4.49	8.23	11.42	9.32	4.78	7.50	2.92	2.76	3.51
CAP Mean = 5.40 SD = 2.25	6.75	5.44	5.37	4.65	7.43	5.24	3.60	4.76

Notes: SD is standard deviation.
Source: World Bank (2008b), RBF (2007).

CHAPTER 5

Remittances and Welfare Development

5.1 Introduction

Workers' remittances is a significant source of development fund for many developing countries as it represents a substantial net injection of money in the migrant producing economies. For many migration and remittance mature economies, workers' remittances have exceeded the receipts of commodity exports. In Fiji the foreign exchange earnings of remittances have exceeded the receipts of sugar exports (Narube, 2005b). This trend is likely to continue and will intensify as the migrant stock increases, and as individuals and households increasingly become an integral part of the migrant networks. As these factors come at play, the effect of remittances on the recipient nations will thus be many fold.

Conventional wisdom on the uses and impact of remittances generally stresses the role of remittances in household consumption (see for example World Bank, 2006a; Rosen, 2007; Oberai and Singh, 1980; Stahl and Arnold, 1986; Ahlburg, 1991; Taylor, 1992). This is justified because the migration of a potential income earner from a migrant family reduces the incomes earned from domestic sources and thus remittance income is used to maintain the household's level of consumption. Money is fungible in nature and therefore it is not strictly possible to identify the precise use of remittances income. Generally, if remittances increase food consumption then it can be said that food poverty is lowered or if access to remittances exerts greater spending on housing then housing standards are raised. Similarly, if remittances increase the expenditure on education and health services then it can be concluded that remittances contribute to human capital development. The usages of remittances may be governed by the needs and circumstances of the recipient households and in whatever way it is used there is an eventual impact on the household, the region and the country at large.

In the previous chapter, the impact of remittances on economic growth and financial sector development were analysed and the results show that remittances indeed

contribute to growth in both the instances. However, as Sen (1999, p.14) states ".... growth cannot be sensibly treated as an end in itself....development has to be more concerned with enhancing the lives we lead....". It is this aspect, the welfare improving impacts of remittances that are subject to empirical examination in this chapter. The analyses in this chapter involves testing of three hypotheses. First, whether remittances alter household expenditures and cause households to destine a different share of their total expenditures to items like food, consumer durables and non-durables, housing and human capital. Second, whether remittances reduce inequality and poverty and third, whether remittances contribute to human capital development by facilitating education opportunities for children in the recipient households.

The econometric methodology applied to investigate welfare issues involves regression analysis using ordinary least squares and utilises the 2002/03 Household Income and Expenditure Survey data. The rest of the chapter is organised as follows: Section 5.2 provides a discussion on the theoretical aspects of measuring the impact of remittances on welfare development. The models utilised to empirically investigate the three hypotheses stated above including the methodological approach and the data are discussed in Section 5.3. This is followed by a discussion of the empirical results in Section 5.4 and the conclusion is presented in Section 5.5.

5.2 Theoretical Aspects of Remittances and Welfare Development

The analysis of the welfare development impact of remittances, i.e. the impact of remittances on poverty reduction, income inequality and human capital development are frequently prefaced by an examination of the motivation for migration, the remitting behavior of the migrants and the subsequent expenditure of the remittance income by the recipient households. Four strands of literature were highlighted in Chapter 2 that discussed the determinants of remittances. Briefly, they are altruistic motives, self-interest motives, implicit loan agreement and portfolio management decisions serving as the basis of remittance flows. As noted earlier neither of the four theories are mutually exclusive and that remittances may actually be driven by all the motives at the same time. Whatever factors drive the flow of remittances, the eventual development impact of remittances depends on their sustainability and what remittances are spent on.

Generally, if remittance receiving households show an increase in the intake of consumption goods then it can be concluded that remittances lead to an increase in consumption levels. The same can be said about the aggregated investment spending.

Given the fungible nature of money, it is not strictly possible to identify the precise use of the remittances income. Nevertheless, McKenzie (2006) advances two reasons why remittances income maybe spent differently from other sources of income. First, he states that migrants send remittances in response to specific events, or conditional on certain actions being taken. This will induce specific uses of the remitted funds. Secondly, he states that households view remittances as being more temporary in nature, and thus increase their spending on education, housing and other household durables. Standard economic theory suggests that households will save a larger fraction of transitory income (or invest it in schooling and housing) than they would for permanent income.[25] This implies that remittances income will be spent differently by different recipient households. Rosen (2007) cautions that when studying the impact of financial transfers, one should not generalize the findings of country-specific households as valid for all households across the globe. He states that households from different regions or countries have different needs and thus their expenditure pattern may be different.

In embracing the above view, it must, however, be noted that in whatever way the remittance income is used by the recipient households, there are multiplier effects on the economy via the consumption channel that has an eventual impact on the welfare of the households. The review of the empirical literature in Chapter 2 suggests that the impact of remittances on poverty and particularly on income distribution are mixed. The differences in the results can arise from the differences in the migrant communities that are being investigated. For instance, poverty and inequality indicators can show improvements if the poor have access to migration opportunities and remittances. In addition, the differences in results can also arise from the different methodological approaches used and the assumptions invoked by the analyst.

Previous studies on remittances and income distribution assumed that remittances are exogenous transfers and in doing so these studies estimated inequality indicators using

[25] See Gapinski (1993) for permanent and transitory income consumption.

the observed household income and the household income excluding remittances (Stark et al., 1986; Leones and Feldman, 1998; Ahlburg, 1991; Brown and Connell, 1993). Generally, these studies conclude that remittances increase income inequality in the early stages of migration whereby the better-off households are recipients of remittance income as they are able to meet migrations costs. However, as information spreads and the migration networks evolve overtime, poorer households are able to participate in the migration-remittance process thus equalizing the distribution of income. What these studies have overlooked is the counterfactual scenario, i.e. are remittance recipients better-off compared with the pre-migration situation. Essentially, the counterfactual scenario treats remittances as a substitute for the migrant's home earnings and involves the calculation of the opportunity cost of migration.

Methodologically, the calculation of poverty and inequality indicators based on the counterfactual household income is superior in the sense that it does not treat remittances as an exogenous addition to the household income (Acosta et al., 2008; Brown and Jimenez, 2008). The exogenous treatment of remittances ignores the income that the migrant would have earned had the migrant stayed in the home country. Secondly, the possible effects of the absence of the migrant and the effects of remittances on the remaining household members and their labour supply is ignored under this approach. However, it should be noted that the counterfactual approach implicitly assumes that labour market conditions that prevail in the with-migration scenario are similar for the counterfactual without-migration scenario (Brown and Jimenez, 2008).

The core of the counterfactual methodology involves computation of household income of the migrant (remittance-recipient) households based on the estimates of the non-migrant (non-remittance recipient) sample. Adams (1989) developed this methodology in his study on the effects of remittances on poverty and inequality in Egypt. He estimates a mean regression of incomes of non-migrant households and uses the resulting estimates to predict the incomes of migrant households in the counterfactual case. These predicted incomes are then used to calculate poverty and inequality indicators in the counterfactual no-migration scenario. He finds that income inequality increases while the poverty headcount ratio declines with the inclusion of remittances. Similarly, Rodriguez (1998) uses counterfactual methodology and finds a strong

increase in income inequality in the case of the Philippines. However, both studies do not test for the self-selection of migrant households that may result in biased estimates, which is a key concern in the counterfactual approach.

Some of the issues noted are as follows. If the observed household migrants are not a random draw of the population, then using the regression parameters of non-migrant households yields bias counterfactual income estimates. Thus, the challenge of the counterfactual approach is to employ appropriate methods to allow for possible self-selection bias in deriving the estimates of migrants' counterfactual income from the observed earnings of non-migrants. Barham and Boucher (1998) and Adams (2006b) test for the self-selection of migrant households in the case of Nicaragua and Guatemala respectively and find that in both instances migrant households are not self-selected.

Barham and Boucher conclude that when remittances are treated as exogenous additions to household incomes, income inequality declines while it increases when the counterfactual method is used. On the other hand, Adams finds that remittances induce poverty reduction and have a negative impact on the Gini coefficient. Acosta et al., (2008) similarly employs the counterfactual method and tests for the possible self-selection of migrants. They find that when the imputations are made for the income of remittance senders prior to migration, the magnitude of average poverty-reducing effect of remittances becomes much smaller.

While the studies above have varied conclusions that have implications on the assumptions and methodology utilized in the respective cases, the impact of remittances on human capital development is also complex. Remittances can induce spending on education in recipient households if they are perceived as temporary in nature. This is a direct relationship whereby remittances reduce financial constraints of the households and this causes an investment in human capital that would not have occurred otherwise (Brown et al., 2006). However, if migrants in the destination countries work in occupations requiring limited schooling, the returns from investment in education may be lower for those that are envisaging international migration which also could tend to reduce the schooling of children in migrant families. The opposite could also happen through an indirect relationship between remittances and human capital investment whereby remittances cause migration and this in turn causes investment in human

capital. These interrelationships are complex and as such they make it difficult to isolate the effect of one variable on another.

5.3 Model Specifications, Methodological Approach and Data

Based on the empirical literature reviewed in Chapter 2 and the theoretical aspects of remittances and welfare development discussed in the previous section, the empirical models are presented below. The hypotheses examine how remittances alter household expenditures, impact poverty reduction and inequality, and affect human capital development in Fiji. The methodological approach, assumptions and the associated econometric issues are discussed in detail including the data used for the analyses.

5.3.1 Model Specifications and the Methodological Approach

The three models specified below illustrate the impact of remittances on (a) household expenditure, (b) poverty and inequality reduction and (c) human capital development. Following the studies on Latin America by World Bank (2006a) and Acosta et al., (2008) on the development impact of workers' remittances, this study utilizes the models used there to measure the effects of remittances in the case of Fiji.

(a) Remittances and Household Expenditure

To assess the expenditure pattern of the households that receive remittances, Equation (5.1) is estimated using various different dependent variables. The specific form of the equation is as follows:

$$E_i = \alpha + \beta X_i + \gamma H_i + \delta R_i + \varepsilon_i \qquad (5.1)$$

where E_i represents different dependent variables as follows: Share of food expenditure to total expenditure; Share of consumer durables and non-durables expenditure to total expenditure; Share of housing expenditure to total expenditure; and Share of human capital expenditure (education and health) to total expenditure.

X_i is a vector of household characteristics that include the following variables: a dummy for income quintile where the households in the top 5 deciles have the value of 1 or 0 otherwise; a dummy if the household is located in rural area; province in which the household is located; households with sanitary services; average education of the adults (aged 18 and above) in the household; children below the age of 5 in the household; children between the age of 6 and 17; and males and females between the age of 18 and 65 in the household.

H_i is a set of characteristics of the household head. This includes a dummy if the household head is working in the agricultural sector and age is in the quartic form for the household head. R_i is a dummy variable for households that receive remittances; and ε_i is a random error term. The OLS estimates of Equation (5.1) are estimated using the STATA package and utilizes Fiji's 2002/03 Household Income and Expenditure Survey (HIES) data. A discussion on the 2002/03 HIES data is provided in Section 5.3.2. The magnitude of various expenditure components for remittance recipient households after controlling for household and household head characteristics are given by δ coefficients, which are reported in Table 5.2.

(b) *Remittances, Poverty and Inequality*

The next hypothesis to be tested is, do remittances reduce poverty and inequality. The process is undertaken first by computing poverty and inequality indicators using the actual observed household income (i.e. income including remittances).[26] Thereafter, two counterfactual methodologies are utilized to calculate poverty and inequality indicators. The first method treats remittances as exogenous transfers to the households thus poverty and inequality indicators are calculated on observed household income less remittances income. The second counterfactual methodology treats remittances as

[26] Two measures of poverty are calculated as follows: the poverty headcount ratio and the poverty gap ratio using the HIES based basic needs poverty line (BNPL) of F$7,072 (see Narsey, 2008). The headcount ratio is defined as the fraction of the population below the poverty line. The poverty gap is a measure of the depth of poverty and is the average shortfall of individual welfare levels below the poverty line. The poverty gap ratio then is given by the multiplication of the headcount ratio and poverty gap expressed as the ratio of poverty line. In this study, measurement of poverty is based on income deprivation. Narsey (2008, p.6) argues that "the real continuing capacity to enjoy a particular standard of living is represented by income of the individual or household". The Gini coefficient is calculated as a measure of income inequality (see Deaton (1997) for details on the calculation methodology and a discussion on those issues).

substitutes for the home earnings that migrants would have earned had they decided not to leave their home countries to work abroad, i.e., the opportunity cost of migration to the household to which the migrant belonged.

In order to impute the per capita household income for migrant families in the counterfactual scenario (i.e. in the second counterfactual methodology), the per capita income levels for households with remittances is predicted, following Acosta et al., (2008), which involves a reduced-form specification for the determinants of income among households *without* remittances. The model takes the following specific form:

$$\log Y_i = \alpha + \beta X_i + \gamma H_i + \mu_i \qquad (5.2)$$

where Y_i represents per capita non-remittances income, X_i is a vector of household characteristics which include the following: household size; dependency ratio (ratio of household members below the age of 14 and over 60); a dummy variable with a value of 1 or 0 otherwise if the household is located in the urban area; a dummy variable if the household is located in the outer-islands, that is if the household is located in the province of Kadavu, Lau, Lomaiviti or Rotuma, the dummy variable will have a value of 1 or 0 otherwise; and the average education of the adults (persons above the age of 18). H_i is a set of characteristics of the household head and includes the following variables: age of the household head, and a dummy variable with a value of 1 or 0 otherwise to denote if the head of the household is a female. μ_i is the unobserved heterogeneity in income generation, which avoids the reduction in income variability for migrant families due to the use of predicted values (Barham and Boucher, 1998).

The estimated coefficients allow predicting the counterfactual per capita income for the remittance-recipient households. This per capita income, adjusted by adult-equivalent scales is then used to impute the counterfactual household income for the recipient households. The imputation incorporates all the household members including the migrants and assumes that one child under the age of 14 is equivalent to 0.5 of an adult.[27] In the absence of migrant information, this study following Rodriguez (1998)

[27] Narsey (2006b; 2008), following other international studies, uses this adult-equivalent scale in his studies to estimate poverty levels in Fiji.

and Acosta et al., (2008) assumes that on average remittances are sent by an adult male family member who has the average years of education of other adults in the household. The counterfactual approach employed in this study assumes migrants to be a non-random group of the population and sets the stochastic term to zero. However, it should be noted that when the predicted income of the migrant households is based on the estimated parameter coefficients, with the stochastic term set to zero, it is possible that the variance in household is artificially reduced which could influence the results (Adams, 1989; Barham and Boucher, 1998; Rodriguez, 1998).

This study uses a basic needs poverty line (BNPL) constructed from the survey data (see Narsey, 2008). The OLS estimates of Equation (5.2) and the poverty headcount and gap ratios, including the Gini coefficient estimates are calculated using the STATA package and utilizes the 2002/03 HIES data. The regression results for Equation (5.2) are reported in Table 5.3 and the poverty and inequality estimates are presented in Table 5.4.

(c) Remittances and Human Capital Development

The impact of remittances on human capital development can be evaluated from the educational attainment of the children in the recipient households. Thus, following Hanson and Woodruff (2003) and World Bank (2006a), the empirical model to assess the impact of remittances on human capital development in Fiji is expressed as follows:

$$E_i = \alpha + \beta X_i + \gamma M_i + \lambda C_i + \delta R_i + \varepsilon_i \qquad (5.3)$$

where E_i represents the number of school grades beyond Class 8 (i.e. primary education) completed by child i aged between 14 and 17 years. In Fiji primary school education up to Class 8 is offered free by the Government. As such, remittances can significantly affect the high school education of children. X_i is a vector of child and household characteristics including the age of the child, a dummy variable for the child being the oldest in the household, indicators for the number of children of different ages in the household, presence of a 0-5 year old child, family home ownership and the income quintile to which the household pertains to.

M_i is a set of characteristics of the child's mother. This includes the education attainment of the mother, mother's marital status, mother's head of household status, and a quartic form of mother's age. C_i represents the community characteristics, such as the proportion of households with sanitary services, the proportion of household heads working in agricultural activities and the province in which the household is located. R_i is a dummy variable for households that receive remittances, and ε_i is the random error term. The OLS estimates of Equation (5.3) are estimated using the STATA package and utilizes the 2002/03 HIES data. The empirical results for the human capital development model are reported in Table 5.5.

5.3.2 Data

The data utilized in the empirical models discussed above are based on the 2002/03 Household Income and Expenditure Survey conducted by the Fiji Islands Bureau of Statistics (FIBOS). A summary of the data is provided in Table 5.1. A total of 5,245 nationally representative households were surveyed in the HIES of which about 17 percent have reported to be receiving remittances.[28] The proportion of recipient households is substantially less, i.e. less than one-fifth of the total number of households surveyed. This is probably due to the fact that Fiji is still a less mature migration and remittances economy compared to other Pacific island economies like Tonga, Samoa, Niue, Tokelau and Cook Islands. It also probably highlights the issue of under-reporting of remittances. The Household Survey Unit of FIBOS acknowledges that the sampling procedures for the 2002/03 HIES resulted in household weights that do not give accurate provincial estimates of the population hence the receipts of remittances by provinces are to be taken as indicative only (Narsey, 2006:44).

While the proportion of households that receive remittances is substantially low, greater number of rural households reported to be receiving remittances (i.e. 55 percent of the recipient households) while the remaining 45 percent were based in the urban areas (see Table 5.1). In terms of the ethnic distribution, the split is fairly equal with about 429

[28] Remittances in this instance is considered as the amount of money, expressed in Fiji dollars, received by the respective household and excludes the receipt of physical items which are difficult to quantify in monetary units.

Fijian households (49 percent of the recipient households) and about 403 Indo-Fijian households (46 percent of the recipient households) receiving remittances. In the urban areas, however, a greater number of Indo-Fijian households reported receiving remittances while in the rural areas it is the Fijian households that reported to be receiving remittance income in greater numbers (i.e. 32 percent). For the non-recipient sample, households were more concentrated in urban areas compared to rural areas. Also, there are a greater number of Indo-Fijian households (i.e. 33 percent) that are non recipients compared to Fijian households (i.e. 22 percent) in the urban areas. Rural non-recipient sample accounts for 24 percent of Fijian households in comparison to Indo-Fijian households that are only 15 percent.

Table 5.1 Composition of Households in the 2002/03 Household Income and Expenditure Survey

	No. of Households	*Percentage*
Remittance Recipient Households	**882**	**16.8**
Urban	*396*	*44.9*
Fijian Households	148	16.8
Indo-Fijian Households	219	24.8
Others	29	3.3
Rural	*486*	*55.1*
Fijian Households	281	31.9
Indo-Fijian Households	184	20.9
Others	21	2.4
Non-Remittance Recipient Households	**4363**	**83.2**
Urban	*2621*	*60.1*
Fijian Households	990	22.7
Indo-Fijian Households	1441	33.0
Others	190	4.4
Rural	*1742*	*39.9*
Fijian Households	1051	24.1
Indo-Fijian Households	661	15.2
Others	30	0.7
Total Number of Households	**5245**	**100**

Source: Author's calculations based on the 2002/03 HIES data.

5.4 Empirical Results

The empirical results are reported for the three hypotheses (a) remittances and household expenditure, (b) remittances-inequality and poverty nexus, and (c) remittances-human capital development nexus.

(a) *Remittances and Household Expenditure Estimates*

Table 5.2 presents the OLS estimates for expenditure shares of the remittance recipient households. The definitions and summary statistics of the variables used in the model are provided in Appendix Tables A5.1 and A5.2, respectively in Appendix 5.1. The STATA regression results for the four dependent variables for all remittance recipient household category are provided in Appendix Tables A5.3 to A5.6 of Appendix 5.1. As expected remittances have a positive impact on food expenditure, albeit a smaller magnitude in comparison to other expenditure items. The results for food expenditure-remittances nexus though positive (except for urban Fijian households) are not significant in all categories reported by urban, rural areas and ethnicity. The conventional wisdom as regard to remittance usage is that it is mostly used for household consumption, particularly on food related expenditures. This view is acceptable given the loss of a potential worker to international migration which causes an eventual decrease in household income from domestic sources. As such, the remittance income is mostly used for consumption of basic needs. While the positive coefficients support the conventional wisdom per se, their insignificance imply that households in Fiji have other substantive uses of remitted funds.

The results for expenditure on durables (i.e. household electrical appliances and machinery) and non-durables (i.e. clothing and footwear) is positive and significant at the one percent level for all remittance recipient households. For all other household categories the results are statistically significant except for total urban households and urban Fijian households, which is positive but not significant at the conventional level. The results for total urban households and urban Fijian households show a weak relationship between remittances and expenditure on durables and non-durables. Moreover, the estimated urban Indo-Fijian households coefficient is negative and significant at the five percent level. This implies a reduction in expenditure on durables and non-durables which is complemented by an increase in expenditure in housing and human capital for urban Indo-Fijian households. Overall, the results suggest that remittances serve as a catalyst for investment in household capital. For the cases of El Salvadorian and Guatemalan households the World Bank (2006a) study similarly finds a positive and significant relationship between remittances and expenditure on durables and non-durables.

Table 5.2 Access to Remittances and Expenditure Shares

Household Categories	Dependent Variables			
	Food	Durables & Non-Durables	Housing	Human Capital
All Remittance Recipient Households	0.002 (0.30)	0.009 (3.25)***	0.006 (1.41)	0.013 (6.37)***
Total Urban Households	0.003 (0.32)	0.002 (0.73)	0.18 (2.46)***	0.013 (4.32)***
Urban Fijian	-0.007 (-0.54)	0.006 (1.29)	0.006 (0.52)	-0.009 (-0.31)
Urban Indo-Fijian	0.007 (0.61)	-0.009 (-2.24)**	0.24 (2.33)***	0.017 (4.40)***
Total Rural Households	0.001 (0.14)	0.015 (3.57)***	-0.006 (-1.48)	0.009 (3.32)***
Rural Fijian	0.005 (0.63)	0.017 (3.69)***	-0.002 (-0.53)	0.015 (4.11)***
Rural Indo-Fijian	0.004 (0.30)	0.021 (4.09)***	-0.012 (-1.47)	-0.001 (-0.40)

Notes: *** and ** are the levels of significance at the one and five percent levels of t-ratios written in brackets. The total number of households surveyed in 2002/03 HIES was 5245 of which 882 household units reported receiving remittances.

In the case of housing expenditure category, the coefficient is positive for all remittance recipient households and demonstrates a weak relationship between remittances and housing development. Stahl and Arnold (1986) note that families with low incomes in developing countries live in poorly constructed and cramped houses and as remittances income flow into these households, the addition of rooms, housing improvement and even acquisition of land for housing development become a priority. This observation is justified by the results of the total urban households. At the regional level total urban households expenditure on housing is positive and significant at the one percent level. This in turn is substantiated by the housing expenditure of the urban Indo-Fijian households with a higher magnitude of 0.24, and the coefficient is significant at the one percent level. These results show the increased expenditure on housing as the need for housing in urban areas has increased following the rural-urban drift, expiry of land leases, creation and extension of new towns and boundaries and the natural increase in population that have caused people to move into squatter settlements. This result supports the views of MFNP (2006a) on the issues of housing needs in the urban areas.

Some reflection on this result suggests various scenarios that could likely support the changes in the last decade. The non-renewal of native land leases has led to Indo-Fijian rural-urban drift, increasing the instances of squatting and rental premises due to lack of

formal housing options in the urban areas. The positive and significant relationship between remittances and housing expenditure for the Indo-Fijians is also substantiated by their permanent migration since the political coups of 1987. The remittances of these Indo-Fijian migrants assist families in the home country with their housing expenses associated with annual land rents, housing materials and other land and housing related costs. Similar results has also been established in the case of El Salvador and Jamaica in the World Bank (2006a) study, for the Asian economies of India, Pakistan, Bangladesh, the Philippines and Thailand by Stahl and Arnold (1986), and for the Guatemalan households by Adams (2005).

The expenditure on human capital (i.e. education and health) for all recipient households has the expected positive sign and is statistically significant at the one percent level. In further disaggregating all remittance recipient households into total urban and rural households, the total urban households' coefficient is 0.013 while the human capital expenditure magnitude of the total rural households is slightly higher at 0.017. These results provide strong evidence of remittances-induced health and education spending in Fiji. Specifically, in the urban areas, Indo-Fijian households that receive remittances incur greater expenditure on health and education compared to urban Fijian households. In the rural areas, Fijian households tend to spend more on education and health compared to Indo-Fijian households. These results reflect that in the urban areas education and health deprivation of the Indo-Fijian households is reduced more with access to remittances. On the other hand, remittances facilitate expenditure on education and health in Fijian households in the rural region.

Overall, the positive and significant coefficients imply that remittances effectively contribute to educational attainment and healthcare financing in Fiji's recipient households. For El Salvador, Guatemala and Peru, the World Bank (2006a) study similarly finds a strong positive relationship between remittances and spending on human capital. Durand and Massey (1992) and Cox-Edwards and Ureta (2003) also find that access to remittances results in higher education attainment of children in the cases of Mexico and El Salvador, respectively. The results for Fiji also support the view of Lopez-Cordova and Olmedo (2006) that remittances help families acquire better health services when the public health systems are inadequate.

(b) *Remittances, Poverty and Inequality Results*

The calculation of poverty and inequality indicators in this study involves the construction of a counterfactual no migration and remittances income, i.e., the income of the household if the migrant had decided not to migrate. This is done by obtaining OLS estimates of Equation (5.2) on the sub-sample of non-remittance recipient households. The results of this counterfactual income estimation are presented in Table 5.3. For the definitions and summary statistics of the variables used in the estimation see Appendix Table A5.7 in Appendix 5.2. The *F*-statistics confirm the model's overall goodness of fit and the adjusted *R*-square value of 0.35 implies that 35 percent of the variation in the log of per capita non-remittance income is explained by the regressors.

Table 5.3 OLS Regression Results for the Non-Recipient Households

Dependent Variable: Log of per capita income		
Variable	*Coefficient*	*Standard error*
Household size	-0.06***	0.002
Dependent	-0.25***	0.018
Female Head	-0.07***	0.013
Head Age	0.003***	0.0003
Urban	0.16***	0.009
Outer-island	0.10***	0.019
Education	0.02***	0.0008
Constant	3.22***	0.023
Number of observations = 4,363 households		
F(7,4356) = 351.36, Prob > F = 0.0000		
R-squared = 0.3609, Adj R-square = 0.3598, Root MSE = 0.2789		

Notes: *** Significant at the one percent level.
Household size is the number of people in the household; Dependent is ratio of household members below 14 years of age and above 60 years; Female head is a dummy variable with a value of 1 or 0 otherwise to denote a female headed household; Head age is the age of household head; urban is a dummy variable with a value of 1 or 0 otherwise to denote an urban household; Outer-island is a dummy variable with a value of 1 or 0 otherwise to denote a household located in the province of Kadavu, Lau, Lomaiviti or Rotuma; and Education is the average years of education of the adult household members aged 18 and above.

All the estimated coefficients to explain the income of the non-remittance recipient household are statistically significant at the one percent level. As expected, both household size and the dependency ratio (household members below the age of 14 and above 60) have negative effect on per capita income of the households. The variable female head captures the effect of a female headed household on the per capita income. The negative coefficient implies that a female headed household has less income, hence a lower per capita income. This result is consistent with the findings of Narsey (2008)

where females suffer more from poverty than males and this applies across the employment status, industries, occupations, qualifications and ethnicities.

The age of the household head and the location variables (urban and outer-island) have positive impacts on per capita income of the non-recipient households. The estimated urban coefficient is positive, which is indicative of the income earning opportunities available to households located in the urban areas compared to the subsistence form of living in the rural areas. Similarly, the education levels of adult members impact per capita income of households positively, which is consistent with the findings of Brown and Jimenez (2008) in the case of Fiji.[29]

Based on the methodology discussed in Section 5.3.1 (b), the regression results obtained in Table 5.3 are used to estimate the income of the remittance-recipient households in the counterfactual scenario (i.e. no migration-remittance case). Following this step, the poverty and inequality indicators are calculated for three scenarios. Table 5.4 presents the poverty and inequality indicators under each scenario, as well as their percentage change when compared against the indicators obtained using actual household income, including remittances.

The scenarios reported are as follows: the first scenario denoted as (a) in Table 5.4 is with the observed income without remittances, i.e. poverty and inequality indicators are calculated on the actual observed income with the value of remittances subtracted from the household income. This scenario treats remittances as an exogenous addition to the household income from other sources. In the second scenario, denoted as (b) in Table 5.4, the indicators for poverty and inequality are calculated on the imputed counterfactual income. This imputed counterfactual income is predicted based on the estimates of Equation (5.2) discussed above. Under this scenario, remittances are treated as a substitute for the migrants' home earnings if migration had not occurred. The third scenario, denoted as (c) in Table 5.4 is the actual observed case with migration and remittances. In this scenario, the poverty and inequality indicators are calculated on the actual observed household income including remittances.

[29] A dummy variable denoting an Indo-Fijian household and its interaction with Education was also included in the regression. However, the coefficients were insignificant and therefore were dropped and equation (5.2) was re-estimated.

Table 5.4 Poverty and Inequality Results

	Without remittances counterfactual				With remittances actual
Household Categories	**Observed income without remittances (a)**		**Counterfactual income without remittances (b)**		**Observed income including remittances (c)**
		% change[1]		% change[2]	
	Poverty Headcount Ratio, %				
All Remittance Recipient Households	43.9	-10.8	62.7	-29.6	33.1
Total Urban Households	16.1	-6.6	17.2	-7.7	9.5
Urban Fijian Households	5.3	-2.1	5.7	-2.5	3.2
Urban Indo-Fijian Households	9.9	-3.8	10.8	-4.7	6.1
Total Rural Households	27.8	-4.2	45.5	-21.9	23.6
Rural Fijian Households	14.6	-2.2	26.3	-13.9	12.4
Rural Indo-Fijian Households	12.0	-1.8	17.5	-7.3	10.2
	Poverty Gap Ratio, %				
All Remittance Recipient Households	23.7	-12.4	17.2	-5.9	11.3
Total Urban Households	11.4	-8.5	3.5	-0.6	2.9
Urban Fijian Households	3.9	-3.1	1.1	-0.3	0.8
Urban Indo-Fijian Households	6.7	-4.7	2.2	-0.2	2.0
Total Rural Households	12.3	-3.9	13.8	-5.4	8.4
Rural Fijian Households	6.6	-2.3	8.0	-3.7	4.3
Rural Indo-Fijian Households	5.2	-1.4	5.3	-1.5	3.8
	Gini Coefficient				
All Remittance Recipient Households	0.49	-18.4	0.21	90.5	0.40
Total Urban Households	0.54	-25.9	0.18	122.2	0.40
Urban Fijian Households	0.54	-22.2	0.17	147.1	0.42
Urban Indo-Fijian Households	0.53	-28.3	0.19	100.0	0.38
Total Rural Households	0.39	-10.3	0.17	105.9	0.35
Rural Fijian Households	0.39	-10.3	0.16	118.8	0.35
Rural Indo-Fijian Households	0.36	-2.8	0.18	94.4	0.35

Notes: Poverty line = F$7,072. Number of remittance-recipient households are 882.
[1] is the percentage change between (a) and (c).
[2] is the percentage change between (b) and (c).

The results for 882 remittance-recipient households provide strong evidence that remittances reduce poverty in Fiji. The poverty headcount ratio and the poverty gap ratio are substantially lower in the observed actual scenario with remittances compared to the two counterfactual methods (a) and (b) without remittances. The poverty headcount ratio is 33.1 percent in the actual observed scenario with remittances, which is remarkably close to Narsey's (2006a; 2008) national poverty estimates of 34.4 percent based on the 2002/03 HIES data. When remittances are treated as exogenous transfers to households, i.e. scenario (a), the reduction in headcount ratio is about 11

percentage points (from 43.9 percent to 33.1 percent). However, when compared to the no migration-remittance case, i.e. scenario (b) remittances reduce the poverty headcount ratio by about 30 percentage points (i.e. from 62.7 percent to 33.1 percent). The results show that the incidence of poverty declines with remittances, consistent with the findings of Brown and Jimenez (2008) in the case of Fiji and Tonga.

The poverty gap ratio, which measures the depth of poverty, is 11.3 percent in the actual observed scenario with remittances, while in scenarios (a) and (b) the poverty gap is 23.7 percent and 17.2 percent, respectively. In other words, remittances reduce the poverty gap by 12 percentage points (from 23.7 percent to 11.3 percent) under scenario (a) and by about 6 percentage points (from 17.2 percent to 11.3percent) under scenario (b). The findings indicate that the poverty reducing effect of remittances, particularly the effects on poverty headcount is underestimated in scenario (a), where remittances are treated as an exogenous addition to the household income. This highlights the importance of the counterfactual no migration-remittance method which has a strong poverty reducing impact on the overall results.

Two reasons for the greater impact of remittances under the counterfactual income approach has been noted by Brown and Jimenez (2008). First, they state that migration and remittances can have indirect positive impacts on the income of the remaining household members, i.e. through insurance and financing of the liquidity constraints which are not captured in the scenario when remittances are treated as exogenous additions to the household income. Second, when there is labour surplus, the marginal contribution of the migrant's home earnings to the household's per capita income might be negative. As such, if the migrant's marginal contribution to the household income is less than per capita income of the household, then excluding the migrant will raise per capita income of the household. As such, in the no migration-remittance scenario where the household size is higher (because of the inclusion of the migrant), the per capita household income will be lower if the migrant's imputed home earnings are lower than the average income of the rest of the household members (ibid).

At the disaggregated level, the effect of remittances is greater on rural poverty than on urban poverty. In the rural areas, remittances reduce the poverty headcount ratio by 4 percentage points (from 27.8 percent to 23.6 percent) and by 22 percentage points (from

45.5 percent to 23.6 percent) under scenarios (a) and (b), respectively. The reduction in urban poverty headcount, on the other hand is 7 and 8 percentage points under scenarios (a) and (b), respectively. Similarly, the reduction in poverty gap is higher in rural areas with remittances. In terms of ethnic decompositions, remittances reduce poverty of Indo-Fijian households more in the urban areas compared to the Fijian households. The reduction in poverty headcount is 4 and 5 percentage points under scenarios (a) and (b), respectively, for urban Indo-Fijian households.

In the rural areas poverty reducing effects of remittances is greater amongst the Fijian households compared to Indo-Fijian communities. This is illustrated by the reduction in poverty headcount of rural Fijian households by 2 and 14 percentage points under scenarios (a) and (b), respectively. These results are a reflection of greater number of rural Fijian households receiving remittances in 2002/03. This is justified given the deployment of Fijians in Iraq following the US-Iraq War that commenced in 2003. Narsey (2006) acknowledges that the increase in remittance earnings (when the 2002/03 HIES was conducted) are largely due to security guards working in the Middle East, hence the bulk of the increases would be accruing to Fijian households. Overall, it is seen that poverty reducing effects of remittances are greater in Fijian households in rural areas and in Indo-Fijian households in the urban areas.

The estimated Gini coefficient measures the inequality in income distribution amongst the households. The results for Fiji do not reflect clear effects of remittances on income distribution. For instance, under scenario (a), the Gini coefficient estimate falls from 0.49 to 0.40 representing an 18 percent reduction in inequality. However, the estimated Gini coefficient under the counterfactual no migration-remittance case, i.e. scenario (b) shows an increase in inequality of a substantial 91 percent (Gini coefficient increases from 0.21 to 0.40). These results therefore suggest that remittances do not have a clear effect on income distribution. Similar results were obtained by Brown and Jimenez (2008) in the case of Fiji and Tonga in which the latter had more equal distribution of observed income including remittances.

In terms of the regional classification, remittances induce greater income equality in the rural areas of Fiji compared to the urban sector. The estimated Gini coefficient for the rural households is 0.35 and is similar amongst the two major ethnic divisions. Narsey

(2008) similarly finds that urban incomes are more unevenly distributed than rural incomes. In the urban sector, remittances are associated with greater income equality in the Indo-Fijian households in comparison to the Fijian households. At the disaggregated level, (i.e. rural and urban, and Fijian and Indo-Fijian household levels) the income distribution effects of remittances are still not clear with scenario (a) suggesting a potential equalization of income distribution and scenario (b) denoting an increase in income inequality. Thus, it can be concluded that the impact of remittances on income distribution depends on the income groups of households that produce migrants and how much do different income groups of migrants remit. Given that contribution of remittances to the household income is relatively small in the case of Fiji it also renders support for the ambiguous results obtained in this study.

(c) *Remittances and Human Capital Development Results*

The model diagnostics of Equation (5.3) perform quite well and the model has a relatively high explanatory power in terms of the adjusted R^2 and F-statistics. The OLS estimates for the δ remittances coefficients in Equation (5.3) are presented in Table 5.5. Variable definitions and their summary statistics are provided in the Appendix Tables A5.8 and A5.9 including the regression results for all children category in the Appendix Table A5.10 in Appendix 5.3. The estimated coefficient for all children is positive and significant at the one percent level, thus remittances increase the level of attaining high school education. These results are consistent with the findings of Brown et al., (2006) for Fiji.

In further disaggregating the all children category into boys and girls, the results show that remittances exert positive and significant effect on the education of boys compared to the weak relationship established for girls. This is reflected by the positive coefficient, 0.40 for the all boys category significant at the one percent level. While this result is reflective of the societal values associated in the education decisions of boys and girls, it also renders support for the argument that if the migrant is male member of the family, then remittances would most likely be directed in the education of the remaining male members of the family who are envisaging future migration. A further classification of boys and girls into ethnicities shows that remittances help finance

education of all Fijian boys, exhibited by the positive and significant coefficient of 0.41. The relationship is weak for all Fijian girls and Indo-Fijian children.

The impact of remittances on education attainment varies across urban and rural areas. For instance, remittances induce positive and significant effect on the education attainment of all rural children while the relationship is positive but weak for all urban children. By classifying this further into ethnicities, the results show that in urban areas, Indo-Fijian children aged between 14 and 17 years tend to have a higher benefit from remittances in the form of high school education. This result is a reflection of the positive and significant expenditure on human capital by urban Indo-Fijian households noted in Table 5.1.

In terms of gender, urban boys are relatively better off compared to urban girls in regard to access to remittances and high school education opportunities. At a further disaggregated level, remittances have a positive and significant impact on the education of urban Indo-Fijian boys while the relationship is positive for Fijian boys but not significant. The findings of the World Bank (2006a) study similarly establishes positive and significant link between remittances and education development of urban boys in the case of El Salvador, Honduras and Ecuador. For all urban girls, the relationship between remittances and education attainment is negative in general, but in terms of ethnicity divisions, remittances positively impact the education of urban Indo-Fijian girls but not significantly. For urban Fijian girls, the relationship is negative and insignificant.

In rural areas, the estimated coefficient of Fijian children is positive and significant at the one percent level. This suggests a beneficial educational impact of remittances in the rural areas. On the other hand, the relationship between remittances and education attainment is negative and insignificant for rural Indo-Fijian children. In terms of gender, the results are consistent with that of urban areas where remittances have greater impact on the education of boys. For all rural boys, the coefficient is 0.40 and is significant at the five percent level while the relationship for all rural girls is positive but insignificant. Furthermore, by ethnic disaggregation, the results for rural Fijian boys show a positive and significant effect as that for rural Fijian girls. These results provide strong evidence of remittance usage for education purposes in the rural Fijian

households. Broadly, these results reflect the increased incidence of remittances emanating from the recent spates of migration from the Fijian communities in rural areas, particularly for the military deployment overseas and for contractual sports engagements like rugby. These temporary migrants maintain close ties with the families at home and channel money and goods on a regular basis. In addition, the communal and extended family lifestyles of the Fijian households render substantial support for the use of remittances in education development of children at the rural village levels.

Table 5.5 Access to Remittances and Education Attainment

Dependent Variable: Education attainment (more than Class 8) of children aged between 14 and 17 years.			
Total HIES Sample: All Children	0.24 (2.76)***		
All Boys	0.40 (3.16)***	All Girls	0.11 (0.92)
All Fijian Boys	0.41 (2.44)***	All Fijian Girls	0.25 (1.41)
All Indo-Fijian Boys	0.33 (1.63)	All Indo-Fijian Girls	0.13 (0.72)
Urban		**Rural**	
All Urban Children	0.15 (1.21)	All Rural Children	0.33 (2.55)***
Fijian	-0.07 (-0.43)	Fijian	0.64 (3.48)***
Indo-Fijian	0.48 (2.36)***	Indo-Fijian	-0.03 (-0.14)
All Urban Boys	0.47 (2.66)***	All Rural Boys	0.40 (2.23)**
Fijian Boys	0.25 (1.05)	Fijian Boys	0.61 (2.44)***
Indo-Fijian Boys	0.71 (2.44)***	Indo-Fijian Boys	0.04 (0.15)
All Urban Girls	-0.21 (-1.22)	All Rural Girls	0.25 (1.35)
Fijian Girls	-0.35 (-1.66)	Fijian Girls	0.62 (2.25)**
Indo-Fijian Girls	0.27 (0.92)	Indo-Fijian Girls	-0.12 (-0.44)

Notes: ***, ** and * are the levels of significance at the one, five and ten percent levels of *t*-ratios written in brackets. The total number of children aged between 14 and 17 years in the 2002/03 HIES was 1823.

In the case of rural Indo-Fijian children (both boys and girls), the relationship between remittances and high school education attainment is weak. The result for rural Indo-Fijian boys is positive although insignificant but for the rural Indo-Fijian girls the estimated coefficient is negative but insignificant, which implies that education of Indo-Fijian girls in rural households is not prioritized. Overall, the analysis of access to

remittances and its usage for human capital development in terms of schooling of children suggests that remittances substantially reduce education deprivation of Indo-Fijian boys in the urban areas while in the rural areas migrant remittances have greater effects on the education attainment of Fijian children, both boys and girls compared to the Indo-Fijian counterparts.

5.5 Conclusion

This chapter examines the welfare impact of remittances by way of testing three hypotheses. Using the 2002/03 Household Income and Expenditure Survey data, the empirical examination first, tests the impact of remittances on household expenditure behaviour; second, it analyzes the impact of remittances on poverty and inequality, and third evaluates the impact of remittances on human capital development in the recipient households. The results highlight that remittances exert a positive and significant impact on welfare development in Fiji. The results for the first hypothesis show that remittances induce consumption of consumer durables and non-durables, housing and human capital that includes education and health. While these results are contrary to the belief that workers' remittances are mostly used for food consumption the estimated results suggest that remittances have other alternative uses in the households in Fiji. The expenditure patterns differ between urban and rural areas and also between Fijian and Indo-Fijian households. In the urban areas, Indo-Fijian households have more effective use of remittances on housing and human capital expenditures while in the rural areas Fijian households use remittance income substantially on durable and non-durable goods, education and health expenditures. These results imply that remittances reduce expenditure constraints in Indo-Fijian households in the urban areas and it reduces the deprivation of Fijian households in the rural areas.

In the second hypothesis the results show that remittances have a positive and significant impact on poverty reduction. The study employs two counterfactual methodologies which are compared with the poverty and inequality indicators in the actual observed scenario of remittances and migration. The results obtained suggest that the impact of remittances on poverty is greater when the methodologically superior counterfactual estimation that is where remittances are treated as a substitute to the

migrants' home earnings method is utilized. However, the effects on income distribution are not clear. The results further suggest that urban poverty in Fiji is reduced more with access to remittance income compared to rural poverty with the effects being higher in urban Indo-Fijian households than in urban Fijian households. In the rural areas, Fijian household's poverty is reduced more with remittances compared to the Indo-Fijian counterparts. The results also suggest that remittances are associated with greater income equality in the rural areas compared to the urban sector in Fiji.

The third analytical aspect of the study examines the impact of remittances on schooling of children aged between 14 and 17 years. The results show that remittances have positive and significant impacts on the education attainment of children in all remittance recipient households. The results, which are consistent with the expenditure pattern of the households and the poverty indicators, also vary by region and ethnicity. Education attainment by gender also highlights some interesting issues. In the urban areas Indo-Fijian boys tend to benefit from education opportunities facilitated by remittance income while in the rural region both Fijian boys and girls have higher school education opportunities when their families have access to remittances.

Whilst these results highlight the important developmental role of remittances in Fiji's economy they have broad implications on many issues pertaining to migration and remittances. These include the migrant producing ability of the households, the degree of involvement in various migration networks, channels used for remittance transfer and the eventual use of remitted funds based on the needs and circumstances of the recipient households. Conditional upon these factors, the developmental impact of remittances will thus vary across recipient households, across urban and rural regions, across gender and ethnicity.

APPENDIX 5.1

Tables A5.1 and A5.2 present the definitions and the descriptive statistics of the variables used in the household expenditure model discussed in Section 5.3.1. The model has four dependent variables that are regressed against the same set of independent variables. The results of these models are presented in Tables A5.3 to A5.6.

Table A5.1 Definitions of Variables used in the Household Expenditure Model

Variable	*Definitions*
Dependent Variables	
Food	Share of food expenditure to total household expenditure;
DND	Share of consumer durables and non-durables expenditure to total household expenditure;
Housing	Share of total housing expenditure to total household expenditure; and
Human Capital	Share of human capital expenditure (education and health) to total household expenditure.
Independent Variables	
Quintile	Dummy for income quintile where the households in the top 5 deciles have the value of 1 or 0 otherwise;
Rural	Dummy if the household is located in rural area denoted by a value 1 or 0 otherwise;
Province	Province in which the household is located;
Sanitation	Denoted by a value of 1 or 0 otherwise if the household has proper sanitary services;
Education	Average education of the adults (aged 18 and above) in the household;
Infants	Proportion of children below the age of 5 in the household;
Youths	Proportion of children between the age of 6 and 17 in the household;
Adults	Proportion of males and females between the age of 18 and 65 in the Household;
Agriculture	Dummy with a value of 1 or 0 otherwise if the household head is working in the agricultural sector;
Age	Quartics in age for the household head; and
Remittances	Dummy variable with a value of 1 or 0 otherwise denoting households that receive remittances.

Table A5.2 Descriptive Statistics of Variables used in the Expenditure Model

Variable	*Mean*	*Standard Deviation*
Dependent Variables		
Food	0.40	0.16
DND	0.31	0.17
Housing	0.10	0.13
Human Capital	0.19	0.13
Independent Variables		
Quintile	0.47	0.45
Rural	0.42	0.49
Province	6.87	4.56
Sanitation	0.65	0.48
Education	13.98	5.24
Infants	0.10	0.14
Youths	0.22	0.21
Adults	0.63	0.24
Agriculture	0.16	0.37
Age	6789451	8260486
Remittances	0.17	0.37

Table A5.3 OLS Regression Results for Food Expenditure

Dependent Variable: Share of food expenditure to total household expenditure				
Variable	*Coefficient*	*Std. Err.*	*t-ratio*	*P>|t-ratio|*
Quintile	0.0617	0.0047	13.07	0.00
Rural	-0.0533	0.0051	-10.49	0.00
Province	-0.0032	0.0005	-6.75	0.00
Sanitation	-0.0206	0.0052	-3.96	0.00
Education	-0.0044	0.0004	-9.89	0.00
Infants	-0.0062	0.0219	-0.28	0.78
Youths	-0.0303	0.0183	-1.65	0.10
Adults	-0.0044	0.0168	-0.26	0.80
Agriculture	-0.0312	0.0063	-4.95	0.00
Age	0.0010	0.0004	0.34	0.74
Remittances	0.0017	0.0057	0.30	0.76
Constant	0.5018	0.0188	26.67	0.00
Number of observations = 5245				
F(11,5233) = 53.66, Prob > F = 0.0000				
R-squared = 0.1014, Adj R-square = 0.0995, Root MSE = 0.1534				

Table A5.4 OLS Regression Results for Durables and Non-Durables Expenditure

Dependent Variable: Share of durables and non-durables expenditure to total household expenditure				
Variable	*Coefficient*	*Std. Err.*	*t-ratio*	*P>|t-ratio|*
Quintile	-0.0281	0.0021	-13.12	0.00
Rural	0.1239	0.0023	53.78	0.00
Province	0.0027	0.0002	12.7	0.00
Sanitation	-0.0424	0.0023	-18.09	0.00
Education	-0.0019	0.0002	-8.58	0.00
Infants	0.0926	0.0107	8.63	0.00
Youths	0.0228	0.0093	2.46	0.01
Adults	0.0252	0.0089	2.83	0.01
Agriculture	0.0401	0.0028	14.26	0.00
Age	0.0017	0.0001	12.64	0.00
Remittances	0.0085	0.0026	3.25	0.00
Constant	0.2605	0.0096	27.08	0.00
Number of observations = 5245				
F(11,5233) = 52.96, Prob > F = 0.0000				
R-squared = 0.2205, Adj R-square = 0.2201, Root MSE = 0.1540				

Table A5.5 OLS Regression Results for Housing Expenditure

Dependent Variable: Share of housing expenditure to total household expenditure				
Variable	*Coefficient*	*Std. Err.*	*t-ratio*	*P>|t-ratio|*
Quintile	-0.0071	0.0036	-1.96	0.05
Rural	-0.0717	0.0039	-18.43	0.00
Province	-0.0012	0.0004	-3.28	0.00
Sanitation	0.0432	0.0040	10.86	0.00
Education	0.0009	0.0003	2.56	0.01
Infants	-0.0070	0.0168	-0.42	0.68
Youths	-0.0213	0.0140	-1.52	0.13
Adults	0.0032	0.0128	0.25	0.80
Agriculture	0.0065	0.0048	1.34	0.18
Age	-0.0008	0.0002	-3.38	0.00
Remittances	0.0062	0.0044	1.41	0.16
Constant	0.1033	0.0144	7.17	0.00
Number of observations = 5245				
F(11,5233) = 89.21, Prob > F = 0.0000				
R-squared = 0.1579, Adj R-square = 0.1561, Root MSE = 0.1174				

Table A5.6 OLS Regression Results for Human Capital Expenditure

Dependent Variable: Share of human capital expenditure to total household expenditure				
Variable	*Coefficient*	*Std. Err.*	*t-ratio*	*P>|t-ratio|*
Quintile	-0.0226	0.0017	-13.17	0.00
Rural	0.0054	0.0018	2.91	0.00
Province	0.0016	0.0002	9.47	0.00
Sanitation	0.0172	0.0019	9.13	0.00
Education	0.0046	0.0002	26.33	0.00
Infants	-0.0970	0.0086	-11.26	0.00
Youths	0.0077	0.0074	1.03	0.30
Adults	-0.0431	0.0072	-6.01	0.00
Agriculture	-0.0193	0.0023	-8.57	0.00
Age	-0.0009	0.0001	-8.75	0.00
Remittances	0.0134	0.0021	6.37	0.00
Constant	0.1684	0.0077	21.81	0.00
Number of observations = 5245				
F(11,5233) = 99.03, Prob > F = 0.0000				
R-squared = 0.1874, Adj R-square = 0.1870, Root MSE = 0.1236				

APPENDIX 5.2

This appendix presents the definitions and descriptive statistics of the variables utilized in the OLS regression used to impute the counterfactual per capita income of the remittance-recipient household. This per capita income is then used to calculate the household income of the remittance-recipient family in the counterfactual no migration-remittance scenario.

Table A5.7 Definitions and Descriptive Statistics of the Variables used in Non-Recipient Household Income Regression

Variable	*Description*	*Mean*	*Standard deviation*
lpci	Log of per capita income.	3.393	0.349
Hsize	Number of people in the household.	4.879	2.165
Dependent	Ratio of household members below 14 years of age and above 60 years.	0.339	0.243
Female Head	Dummy variable with a value of 1 or 0 otherwise to denote a female headed household.	0.124	0.329
Head Age	Age of the household head.	45.586	13.112
Urban	Dummy variable with a value of 1 or 0 otherwise to denote an urban household.	0.601	0.489
Outer-island	Dummy variable with a value of 1 or 0 otherwise to denote a household located in the province of Kadavu, Lau, Lomaiviti or Rotuma.	0.051	0.218
Education	Average years of education of the adult household members (aged 18 and above).	14.056	5.272

APPENDIX 5.3

Tables A5.8 and A5.9 present the definitions and the descriptive statistics, respectively, for the variables used in the human capital development model discussed in Section 5.3.1. The model tests the significance of remittances on education attainment of children aged between 14 and 17 years. The OLS results for the all children category are presented in Table A5.10.

Table A5.8 Definitions of Variables used in the Human Capital Development Model

Variable	*Definitions*
Education	Number of school grades beyond Class 8 completed by a child aged between 14 and 17 years in the household;
Age	Age of the child;
Oldest	Dummy variable with a value of 1 or 0 otherwise if the child is the oldest child in the household;
Infants	Proportion of children below the age of 5 in the household;
Children1	Proportion of children between the age of 6 and 10 in the household;
Children2	Proportion of children between the age of 11 and 17 in the household;
Home	Dummy variable with a value of 1 or 0 otherwise if the household owns the home;
Decile	Income decile to which the household belongs;
Sanitation	Denoted by a value of 1 or 0 otherwise if the household has proper sanitary services;
Agriculture	Dummy variable with a value of 1 or 0 otherwise if the household head is working in the agricultural sector;
Province	Province in which the household is located;
Mother Education	Education attainment of the mother of the child;
Marital Status	Mother's marital status;
Mother Head Status	Dummy variable with a value of 1 or 0 otherwise if the mother is the head of the household;
Mother Age	Quartics in the age of the mother; and
Remittances	Dummy variable with a value of 1 or 0 otherwise denoting households that receive remittances.

Table A5.9 Descriptive Statistics of Variables used in the Human Capital Development Model

Variable	*Mean*	*Standard Deviation*
Education	6.17	1.64
Age	15.52	1.11
Oldest	0.79	0.41
Infants	0.05	0.08
Children1	0.08	0.11
Children2	0.34	0.13
Home	0.77	0.42
Decile	4.79	2.74
Sanitation	0.64	0.48
Agriculture	0.18	0.38
Province	6.78	4.64
Mother Education	13.06	6.39
Marital Status	2.01	0.68
Mother Head Status	0.10	0.30
Mother Age	5381148	44707
Remittances	0.16	0.37

Table A5.10 OLS Regression Results for All Children

Dependent Variable: Education attainment (more than Class 8) of children aged between 14 and 17 years.

Variable	*Coefficient*	*Std. Err.*	*t-ratio*	*P>|t-ratio|*
Age	0.74	0.03	23.05	0.00
Oldest	0.10	0.09	1.14	0.25
Infants	-1.34	0.40	-3.30	0.00
Children1	-0.92	0.30	-3.02	0.00
Children2	0.02	0.28	0.09	0.93
Home	0.02	0.08	0.30	0.76
Decile	0.04	0.01	2.72	0.01
Sanitation	0.37	0.08	4.95	0.00
Agriculture	-0.02	0.09	-0.26	0.79
Province	-0.01	0.01	-1.51	0.13
Mother Education	0.01	0.01	1.04	0.30
Marital Status	0.01	0.06	0.12	0.91
Mother Head Status	0.05	0.11	0.45	0.65
Mother Age	0.00	0.00	-0.30	0.76
Remittances	0.24	0.09	2.76	0.01
Constant	-5.80	0.52	-11.18	0.00

Number of observations = 1823

F(15,1807) = 56.33, Prob > F = 0.0000

R-squared = 0.3186, Adj R-square = 0.3130, Root MSE = 1.3584

CHAPTER 6

The Sustainability of Remittances

6.1 Introduction

Remittances from migrants are a growing and relatively stable source of development finance for many island recipient economies. Remittances bring foreign exchange, are a complement to national savings, and provide a source of finance for capital formation (mainly small-scale projects). Through these mechanisms, remittances can support economic growth in the recipient countries. Solimano (2003b, p.1) states that "as remittances depend on the flows of people that are often less volatile than capital flows, remittances are expected to be more stable than such capital flows as portfolio investment and international bank credit". He further notes that remittances are a redistribution from low-income migrants to their families in the home country that act as the international mechanism of social protection based on private transfers. The sustainability of remittances overtime depends on various factors such as migration pressures in the sending countries, evolution of migration policies in advanced economies, length of time that migrants spend in the host country and the declining family ties amongst other things (Fuka, 1985; Brown and Walker, 1995; Brown, 1997; 1998; Simati and Gibson, 2001; Connell and Brown, 2004).

The future trends in remittance levels as well as their uses are significant from an economic policy perspective for both the migrant producing country as well as the host country. Brown (1997) states that from the host country's perspective, the extent to which remittances decline with the migrant's duration of absence will determine the extent to which immigration restrictions need to be relaxed with a view to increasing the intake of new migrants from these particular countries. He further states that from the source country's perspective, the extent to which remittances are potentially responsive to variables other than the needs of dependents in the source country will determine the scope that exists for host government's policy interventions to induce higher remittance levels to channel into savings funds or investment projects in their domestic economies.

These concerns have led to the empirical examination of remittance decay hypothesis (RDH), i.e. do remittances decline overtime.

The validity of the RDH has not received empirical attention in the case of Fiji but it has very high importance now as remittances is gaining momentum in the development agenda given its contribution to the economy, individual welfare and poverty reduction. Therefore, government policies will need to be based on a sustainable flow of foreign remittances for economic development and prosperity. Fiji's migration pattern over the last two decades also renders substantial support for the empirical validity of the RDH. The coups of 1987 marked the beginning of a period of higher levels of permanent migration, particularly amongst the Indo-Fijians and in the later period to that of Fijians, mainly to destinations such as the United States (US), Canada, Australia and New Zealand. Thus, it would be interesting to find out if the length of absence from the home country has any impact on the level of remittances. More recent in the migration profile of Fiji has been the temporary movement of labour including the deployment of Fiji's military personnel in the Middle East, nurses taking up opportunities in the US and Dubai, and sports personnel signing overseas contracts. Upon completion of these short-term labour contracts overseas, remittances flows to Fiji may inevitably subside.

Against this backdrop, this study tests the RDH based on Fijian-New Zealanders given that New Zealand has been a prime destination for Fiji migrants particularly after the events of 1987. Before the 1987 coups, New Zealand took a relatively small proportion of emigrants from Fiji. From 1978 to 1986 New Zealand accepted 7.7 per cent of Fiji migrants, but changes in New Zealand's immigration laws in 1986 and 1987 coupled with the effects of the 1987 coups have seen New Zealand become a more important destination (Narayan and Smyth, 2003). Between 1987 and 2000 New Zealand accounted for 22.7 per cent of emigrants from Fiji (ibid). With this Fiji-New Zealand migration profile, the empirical analysis in this chapter draws on a sample of Fijian-New Zealander households to study the determinants of remittances and examine if remittances actually decline overtime.

The remainder of the chapter is organised as follows: Section 6.2 provides a discussion on the theoretical aspects of the RDH focussing on the determinants of remittances. In Section 6.3, the model used for the econometric analysis is specified followed by a

discussion of the variables utilised in the remittance determinant model. The survey implemented to collate data for this empirical investigation is discussed in Section 6.4. Section 6.5 presents the results and its implications in the case of Fiji followed by the conclusion of the chapter in Section 6.6.

6.2 Theoretical Aspects of Remittance Decay and Determinants of Remittances

While studies have noted the benefits remittances provide to the recipient households, it has also been noted that the flow of migrant remittances is conditional upon various factors such as the economic circumstances of the sending and receiving households and the number of dependents at both ends. Decline in such flows have been explained by the remittance decay hypothesis. Remittances decay at the level of individual migrant can be expected if the migrant is away from home for a longer period that lead to the weakening of social ties. The decline in remittances can also occur if successful migrants are followed by others from the same family and investments are undertaken in the host country. Furthermore, Shankman (1976) states that migrants who are permanently overseas are under less pressure to remit as their village commitments become less intense and as they acquire financial commitments in the host country.

Even though there are many reasons for remittances to decline, several studies have been highlighted that provide little evidence of remittance decay (see also Chapter 2). For instance, Tongamoa (1987) in the case of Tongans in Sydney, Loomis (1990) in the case of Cook Islanders in New Zealand, Vete (1995) in the case of Tongans in New Zealand, Brown (1997, 1998) in the case of Tongan and Western Samoan migrants in Australia, and Simati and Gibson in the case of Tuvaluans in New Zealand find that remittances decay hypothesis has no empirical validity. Studies by Tongamoa (1987), Loomis (1990) and Vete (1995) have a small sample size that could be problematic in reaching reliable conclusion as they have not isolated the impact of other variables from the effect of migrant's duration of absence (Brown, 1998).

In the analytical framework of the remittance decay hypothesis, two closely related motivational characteristics, i.e. the migrant's ties to the home community and their intention to return are significant determinants of remittances. As family ties have been found to be an important determinant of remittances, it is commonly believed that

migrants are unlikely to remit for purposes other than altruistic support of family consumption (Brown and Walker, 1995; Brown, 1998). However, some authors have suggested that migrants' remittances are motivated as well by other factors that could offset any weakening of the altruistic motive. Stark (1991a, 1991b) and Lucas and Stark (1985), for instance, argue that the migration decision is best understood as part of the family's risk reduction or "family co-insurance arrangement", which they likened to the portfolio-investment strategy of a firm and in which there is an intertemporal contractual agreement between the migrant and "home".

A crucial role of remittances has been the financing of education. To this effect, Poirine (1995, 1997) argues that remittances often constitute part of an informal loan agreement between the migrant and non-migrant family members through which the investment in the migrant's human capital is financed (the loan) and later repaid by the working migrant (the remittances). He states that after the loan is repaid the migrant sometimes becomes a source of loan finance for investment in the education of next generation of non-migrants, implying no tendency for remittances to decay.

It has also been found that self-interest can play a part in the migrants' decision-making framework, either in terms of inheritance-seeking behavior or as rational investors, whereby the inheritance seeker will continue to remit in order to stay in favor with the family (Brown, 1998). Stark (1991b, p.40) suggests that "considerations such as an aspiration to inherit, maintenance of rural investments, and the intention to return mean that the migrant retains a vested interest in his original home beyond altruism". Hoddinott (1992) in the case of Kenya finds that if the migrant was a son then there was a positive relationship between the parent's owning land and the amount of remittances sent with the effects being more evident if there was more than one son. According to Piore (1979), migration and remittance decision is also sometimes motivated by "target saving" implying that migrants will retain much of their savings with them in the host country, only remitting their accumulated savings on, or over a period shortly before their final return.

Migrants can also be motivated to remit for entrepreneurial development. Helweg (1983) describes an evolution of remittance use beyond altruistic family support to what he termed the "business investment stage". Brown and Walker (1995) find that Pacific island migrants also remit for reasons of saving and investment. Remittances in-kind

and the practice of selling remitted goods as part of an informal international business operation have been found to be an important but much-neglected aspect of remittances by Tongan migrants (Brown and Connell, 1993). Foster's (1995) study on Tongan and Western Samoan migrants suggests that remittances serve as a source of loanable funds and are potentially driven by financial incentives in the remittance-receiving countries. Thus, it can be said that the remittance motivation of migrants' over time is contingent and varies with circumstances. The level of remittances remains a function of how much the migrant is able to save given the level of income and resource commitments in the migrant's household in the host country. The survey and data used to test the determinants of remittances from Fijian-New Zealander households including the empirical model and the methodological approach are discussed in the next section.

6.3 Survey, Empirical Model, Methodology and Data

Based on the literature reviewed in Chapter 2 and the theoretical aspects of the determinants of remittances discussed in previous section, the empirical model, methodological approach and data are discussed in this section. This is prefaced by a detailed discussion of the household survey undertaken to collate data for testing the remittance decay hypothesis.

6.3.1 The Survey

From August 2008 to late March 2009 a total of 191 Fijian-New Zealander migrant households were surveyed in Auckland, Hamilton, Palmerston North and Wellington. The survey undertaken in this study has been facilitated by church congregations and other community-based organizations to locate the migrant households in these various locations. A snowballing approach was initiated first in which one referral led to another. With the establishment of contact a key informant method was adopted using members of the migrant communities as interviewers.[30] These approaches have been useful in reaching the sample households in this study given the absence of a sampling

[30] The key informant survey is a method of obtaining data from persons whose professional and/or organizational roles imply they have knowledge about specific characteristics of the population being studied as well as potential pathways and constraints for community change (Warheit et al., 1978; Von Korff et al., 1992).

frame and the use of snowballing and key informant methods in other studies of migrant populations (for example, Brown, 1997). The sample size of the study is a relatively good representation of Fiji migrants in New Zealand. It also reflects quite well on the remittance behaviour of migrants given that in qualitative research the emphasis is on understanding the meanings and situations of specific issues rather than overall representation. See also Bradshaw and Stratford (2000) for a discussion on qualitative research.

The respondents were informed of the aims and objectives of the survey and asked whether the households engaged in any form of remittances to Fiji in 2007. Research participants were requested to complete a consent form prior to participating in the survey proper. The next step has been to provide the questionnaire to household heads. Respondents answered a written questionnaire (available in English) which covered participants' rights, demographic and economic details of the household. See Appendix 6.1 for the questionnaire utilised in this study. Details on education and income levels, household size, an inventory of remittances (money and goods) and expectations about whether they would reside in New Zealand or return to Fiji in the future were included.

The analysis of the survey data shows that all respondents (n=191) report some form of remittances to Fiji. While money has been the predominant form of remittances, respondent households also report sending goods such as clothing, electrical goods and farming equipment to families in Fiji that have either principally been carried personally or sent through travelling relatives in 2007. This is an indication of the informal nature of remittances that tend to underestimate the formal remittance statistics recorded in Fiji through the official channels. The lowest reported remittances was NZD$50 whilst the maximum value of remittances inclusive of money and goods was recorded at NZD$13,000 for the sample households. Majority of the respondents (73 percent) report having at least one parent in Fiji while about 5 percent report having their spouse in Fiji (Table 6.1). Approximately 52 percent of the Fijian-New Zealander households indicate receiving a visitor from Fiji in the 12 months preceding the survey. Also majority of the household heads, i.e. 60 percent indicate that they had acquired university education prior to migrating to New Zealand. The proportion of migrants that acquired secondary and technical education are 8 percent and 32 percent, respectively.

Table 6.1 Characteristics of Fijian-New Zealander Migrant Households

	No. of Households	*Percentage of households*
Parent in Fiji	139	73
Spouse in Fiji	10	5
Visitors from Fiji	99	52
Education of the Head of Household		
Secondary	15	8
Technical	61	32
University	115	60
Employment Status of the Head of Household		
Professional	138	72
Salespersons & Clerks	24	13
Labourers	24	13
Retired	3	2
House person	2	1
Number of Dependants		
0 – 2 persons	158	83
3 – 4 persons	29	15
5 – 6 persons	3	2
7 – 8 persons	1	0.5
Length of Absence of Household (in years)		
0 – 5 years	66	35
5 – 10 years	71	37
10 – 15 years	22	12
15 – 20 years	19	10
20 – 25 years	12	6
25+ years	1	0.5
Home ownership	38	20
Land ownership	32	17

Notes: Professional category includes those employed as teachers, nurses, doctors, accountants, engineers, IT personnel and bank officers. Labourers category includes those employed as caregivers, security personnel and machine operators. House person includes those who stay at home.

In terms of the employment status of the households, 72 percent indicate that they are employed as professionals such as teachers, nurses, accountants, and lawyers in New Zealand. This high proportion of Fijian migrants in the formal labour force is reflective of highly skilled emigration from Fiji after the coups of 1987. For the salespersons and clerks and labourers category the proportion is 13 percent. The number of dependants in the sample households ranged from 1 to 8 dependants with 83 percent having up to 2 dependants in the family. The length of stay of households in New Zealand averaged around 100 months (8.3 years) with the maximum for the sample reaching 321 months (26.75 years) (see Table A6.2 in Appendix 6.2). This is substantiated by the high

proportion of households who have been residing in New Zealand between 0-5 years (35 percent) and 5-10 years (37 percent). While the incidence of asset and land ownership in Fiji is very low, the respondents who did report of such ownership indicate the ownership of family homes and land. From the total sample, 38 households (about 20 percent) indicate some form of asset ownership (mostly family homes) while 32 respondent households (about 17 percent) own land in Fiji.

6.3.2 Model Specification and Methodology

The section presents the empirical model and methodology used to evaluate the remittance decay hypothesis in the case of Fiji. The remittance decision is noted to occur in two stages, i.e. whether to remit, and conditional upon this decision how much to remit. If these two stages occur simultaneously, then this decision process can be modelled as a single equation. Essentially, several studies have estimated the remittance decision process using Tobit analysis employing data on both remitting and non-remitting migrants.[31] The Tobit maximum likelihood method yields consistent parameter estimates as there is total dependence between the variables determining the two parts of the remittance decision. In other words, each regressor has the same effect on the probability of a migrant being a remitter and on the level of remittances. This approach enables the analyst to identify one set of variables that are most significant in influencing the remittance behaviour (Brown, 1997).

The Tobit model is used to distinguish the various categories of determinants of remittances to Fiji. The model is specified as follows:

$$R_i^* = \eta_0 + \sum_{j=1}^{3} \beta_{ij} D_{ij} + \sum_{k=1}^{3} \gamma_{ik} S_{ik} + \sum_{p=1}^{8} \alpha_{ip} M_{ip} + \sum_{q=1}^{6} \delta_{iq} T_{iq} + \varepsilon_i^* \qquad (6.1)$$

where:

R_i^* denotes the actual amount of remittances made by the *i*th individual;

[31] This methodology was first used by James Tobin in 1958 to analyse household expenditure on durable goods taking account of the fact that there are several observations where the expenditure is zero (Tobin, 1958). Brown (1997) in the case of Tonagan and Western Samoan migrants in Australia and Simati and Gibson (2001) in the case of Tuvaluans in New Zealand have used the Tobit modelling process to examine remittance decay hypothesis.

η_0 is a constant term;

D_{ij} denotes the *j*th demand-side characteristic of the *i*th individual;

S_{ik} denotes the *k*th supply-side characteristic of the *i*th individual;

M_{ip} denotes the *p*th characteristic of the *i*th individual; and

T_{iq} denotes the *q*th length of absence characteristic of the *i*th individual.

The level of significance of each variable with respect to whether or not a migrant remits and how much is remitted, is given by Tobit parameter estimate as follows:

$$\beta = \frac{\partial E[R_i^* | x_i]}{\partial x_i}$$ **;** where E is the conditional variance.

In this instance the β coefficient value indicates the marginal effect of the variable on the sample of remitting migrants. The dependent variable in Equation (6.1) is the value of remittances, expressed in New Zealand dollars, sent to Fiji by Fijian-New Zealander migrant households in all forms over the 12-month period preceding the survey. The independent variables are a combination of variables that describe the migrants' characteristics affecting remittance behaviour discussed below. The Tobit estimates of Equation (6.1) are calculated using the STATA package.

6.3.3 Data

The data used in the context of the remittance decay hypothesis are based on the demand-side, supply-side, motivational and time factors that indicate various aspects of a migrant and the reasons of sending remittances to Fiji. The remittance decay literature reflects various characteristics that signify not just the family consumption argument but also the savings and investment motives of remittances. A discussion on the various variables utilised in the study are presented below.

Demand-side variables

Three demand-side variables are included in the model: first, whether the head of household and spouse still have at least one living parent in the country of origin ***(PARENT);*** second, whether the head of household is married with spouse still in the home country ***(SPOUSE);*** and third whether the household had received houseguests to stay during the preceding 12 months which is an indicator of continued family or community ties ***(VISITOR).***

Supply-side variables

The model includes three supply-side variables which are as follows: first, household income level, expressed in New Zealand dollars, after tax, as declared by the head of household for the 12 month period preceding the survey ***(INCOME)***; second, value of assets held by the household in New Zealand less the value of debts, expressed in New Zealand dollars ***(ASSETS);*** and the number of persons living in the household ***(HOUSNUM).***

Motivational variables

The model has eight behavioural or motivational variables and are described as follows: first, whether the head of household considers that his or her parents are poor, which would, if positive and significant indicates that the migrant is motivated by altruism ***(POOR)***. The second behavioural variable reflects whether the head of household intends to return to Fiji. If the estimated coefficient is positive and significant it indicates that those planning to return one day remit more than those who do not ***(INTENT)***. Third, the retirement age of the household head is included to show whether the head of household is 55 years of age or more and intends to return home measured by the variable ***(RETINT)***. A positive and significant coefficient indicates that returning retirees can be expected to remit more than other returnees. The fourth factor indicates whether the head of household expects to inherit assets from a parent still living in his or her country of origin. If the estimated coefficient of this variable is positive and significant it suggests that the migrant is motivated by inheritance seeking self-interest ***(INHERIT)***.

The fifth motivational variable is ***(LAND)*** and it captures whether the head of household owns land assets in Fiji, which would be positive and significant if the migrant's remittances are motivated by continued maintenance of land assets at home.
The sixth measure of motivation reflects whether the head of household owned non-land assets in Fiji, which if positive and significant suggests that the migrant's remittances are motivated by business investment ***(OVSASS)***. The seventh factor shows the head of household's level of education attained before migrating at three possible levels, i.e. secondary, technical training, university education ***(SECOND, TECHNICAL, UNIV)***, which if positive and significant indicates that informal loan hypothesis is applicable in the case of Fiji. The eighth motivational variable, ***(HELPED)*** examines whether the head of household received financial assistance from relatives at home for migration purposes, if positive and significant would support the implicit co-insurance hypothesis**.**

Treatment of length of absence

The model tests whether the migrant's length of absence affects the remittance levels in a number of ways, captured by the following set of time-interacted variables. The number of months since the migrant first emigrated is measured by the variable ***(TIME)***. A significant and negative coefficient indicates the underlying remittance decay. The quadratic time value ***($TIME^2$)*** allows for a possible nonlinear (quadratic) decay function. An interaction term is included for the number of months since migration with the existence or not of a surviving parent, which if significant would allow for the possibility of different rate of decay for migrants who still have dependent parents at home ***(PARTIM)***. Fourth, the square of PARTIM variable allows for a possible nonlinear (quadratic) decay function ***($PARTIM^2$)***. An interaction of the number of months since migration with the intention to return or not is denoted by ***(INTIM)***. A significant coefficient reflects the possibility of different rate of decay for migrants who intend to return. The sixth variable is the square of INTIM, which allows for a possible nonlinear (quadratic) decay function ***($INTIM^2$)***.

6.4 Empirical Results

The Tobit model analysis has been performed using the STATA statistical software package. The estimated results are reported in Table 6.2. For the definitions and

summary statistics of the variables used in the estimation see Appendix Tables A6.1 and A6.2 in Appendix 6.2. The likelihood ratio (LR) tests indicate that overall the model performs quite well and the model diagnostics indicate no concerns. From the results it is evident that the remittance behaviour of Fijian-New Zealander migrant households is affected by a combination of demand-side, supply-side, motivational and time factors.

On the demand-side the results show that migrants' remittances are positively related to the variable VISITOR, which is a proxy for the strength of ties to the home community. The coefficient of VISITOR is positive and significant at the 10 percent level and thus does not support the hypothesis that the strength of ties is weaker (and hence remittances will be lower) for the Fijian migrants in New Zealand.[32] Studies by Brown (1997, 1998) show similar findings for the Tongans and Western Samoans in Australia, while Simati and Gibson (2001) find no evidence of visitors influencing remittances in the case of Tuvaluans in New Zealand. In regard to the variable PARENT, the coefficient is positive but not significant at the conventional level. The positive relationship between migrant remittances and the existence of a surviving parent in the home country has some support though Brown (1997, 1998) and Simati and Gibson (2001) find strong evidence of remittance behaviour when the migrant has to support a parent in the country of origin.

On the supply-side factors, migrants' income coefficient is significant at the 1 percent level and the parameter estimate suggests a marginal propensity to remit of approximately 4 percent. This is an indication that improvements in income tend to raise remittances. Similar results were obtained by Brown (1997, 1998) and Simati and Gibson (2001) in their studies of Pacific island migrants in Australia and New Zealand, respectively. Two further observations can be made here. First, asset accumulation by the Fijian migrants does not affect remittance behaviour. Second, similar to the findings of Brown (1997, 1998), the migrant household size, i.e. the number dependants in the migrants' household in the host country does not affect the flow of remittances to the households in Fiji. Overall, the analysis of supply-side factors affecting remittance decision (i.e. whether to remit) suggests that remittances are responsive to household

[32] The conventional belief in the remittance sustainability debate is that remittances decline overtime as the strength of ties with the migrants' origin country becomes weaker (Forsyth, 1992; Brown, 1998).

income as this varies with the economic conditions and employment opportunities of the Fijian migrants in New Zealand.

Table 6.2 Tobit Estimates of the Determinants of Remittances by Fijian-New Zealander Migrant Households

Dependent Variable: Value of total remittances sent to Fiji in 2007 (NZD$)		
Variable	Tobit coefficient	*t*-statistic
Demand-Side Variables		
PARENT	656.16	0.46
SPOUSE	349.88	0.39
VISITOR	233.32	1.74*
Supply-Side Variables		
INCOME	0.04	3.64***
ASSETS	0.004	0.23
HOUSNUM	-476.60	-1.52
Motivational Variables		
POOR	-356.53	-0.74
INTENT	1185.55	1.04
INHERIT	293.22	2.51**
OVSASS	-40.03	-0.06
LAND	112.24	0.17
SECOND	456.54	0.54
TECHNICAL	1348.91	1.72*
UNIV	1065.17	1.86*
HELPED	-743.60	-1.54
Time Variables		
TIME	37.73	1.82*
$TIME^2$	-0.12	-1.03
PARTIM	27.94	1.20
$PARTIM^2$	-0.11	-1.47
INTIM	-51.70	-1.30
$INTIM^2$	0.18	1.16
CONSTANT	-1318.12	-0.89
σ	2468.97	
R^2	0.30	
LR (slope=zero) test	$\chi^2_{(20)}$= 119.19***	

Notes: ***, ** and * represents the level of significance at 1, 5 and 10 percent, respectively.

The analysis also indicates that some of the motivations other than altruism are important determinants of remittance behavior. The estimated INHERIT coefficient is positive and significant at the 5 percent level indicating that the migrant is motivated by inheritance seeking self-interest and therefore continues to remit to the household

members in Fiji. Hence, there is no evidence of decay in the remittances from Fijian-New Zealander migrant households. The estimated TECHNICAL and UNIV coefficients are both positive and significant at the 10 percent level. These results show that acquisition of higher level of education prior to migration induces higher levels of remittances amongst Fijian migrants in New Zealand. This finding adds empirical validity to Poirine's (1995) hypothesis that remittances are sent to recompense the family in the home country for the initial sacrifices during the migrant's schooling.[33]

The significance of education variables is also a reflection of skilled migration from Fiji since 1987. This result also supports the findings of Gani and Ward (1995) that note a positive relationship between the number of professional migrants from Fiji and real income in New Zealand, and also between the number of professional migrants and political instability in Fiji. The attainment of technical and university education prior to migration serves as an important factor in securing better jobs for the Fijian migrants in New Zealand that eventually result in sustained flows of remittances to the home country.

The most significant result of the analysis is the positive and significant coefficient of the TIME variable. This result supports remittance sustainability as the migrants' length of absence does not reduce remittance flows to Fiji. In other words, the result suggests that remittances increase with the length of stay of Fijian migrants in New Zealand.[34] It can be said that with higher income levels and support for families due to various shocks in Fiji the migrants remit more. This finding differs from the theoretical literature, which points out that as ties with the family weaken overtime, remittances may decline. In the case of Fiji, weakening of ties with migrant communities is not apparent as the families back home are faced with problems of natural disasters, political instability and expiry of land leases that cause the inflow of remittances as an insurance against these shocks. It therefore explains a strong altruistic motive of

[33] The implicit loan theory advances that "children who cannot borrow from banks, had to borrow (informally) more from emigrants and less from home families, who had to use their savings more to finance home housing or farm investments, (thereby saving the (higher) opportunity cost of borrowing), and less to lend (informally) to the young family members for their educational investment" (Poirine, 1995, p.29).

[34] This finding does not support the argument of Shankman (1976) that migrants permanently overseas are under less pressure to remit as their village commitments become less intense and less significant.

remittance flows to Fiji by the migrants. The time-interacted variables provide no empirical support for remittance decay in the case of Fiji.

6.5 Conclusion

This study puts in perspective the issue of remittance decay hypothesis based on a survey sample of Fijian-New Zealander migrant households in Auckland, Hamilton, Palmerston North and Wellington. Using the appropriate econometric procedures, the empirical results provide no evidence of decay in the flow of remittances from Fijian migrant households in New Zealand. The analysis shows that remittances are not only driven exclusively by the need for family support based on the demand-side factors but are also driven by the migrants' income level and motivations to inherit assets in the home country. The acquisition of technical and university education prior to migration is a significant factor influencing the sustained flows of remittances to households in Fiji. These results reflect the skilled migration from Fiji after the coups of 1987.

Contrary to the belief that remittances decline with the migrants' length of absence from the home country, the result shows that remittances tend to increase as the migrants' period of stay in New Zealand increases. This justifies a strong altruistic motive of remittances, particularly in times of economic hardships resulting from natural disasters, political instability and the expiry of land tenure. The receipt of remittances is a form of insurance against the economic loss from these events. Given that remittances constitute a major form of assistance to the households in Fiji and as there is an increasing migrant stock remittances may continue to flow based on the economic circumstances of the migrant households in New Zealand.

APPENDIX 6.1

This appendix presents the questionnaire that was implemented in New Zealand to collate data on demographic and economic details of Fijian-New Zealander migrant households.

FLOW OF REMITTANCES FROM FIJI NEW ZEALANDERS TO FIJI

HOUSEHOLD QUESTIONANNIRE SURVEY
AUGUST 2008 – March 2009

This research is for a Masters Thesis study program at Massey University, Palmerston North. The research is coordinated by Dr. Rukmani Gounder, Associate Professor of Economics and Mr. Nilesh Prakash, Department of Economics and Finance, Massey University, Palmerston North.

This survey is to undertake a study of the remittances flows from Fijian-New Zealanders to Fiji. The aim of the study is to analyse how the remittances are sent and how it helps finance the basic needs (food, shelter, clothing, etc) of the people in Fiji. It also aims to understand the types of assistance and motivations of remittances.

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research. "If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Research Ethics), telephone 06 350 5249, email humanethics@massey.ac.nz ".

You are invited to participate in this survey to fill the questions below, which may take approximately 15 to 20 minutes. The information provided in this survey will be dealt with strictest confidence and will only be used in statistical analysis. The data will be securely stored in the Department of Economic and Finance, Massey University, Palmerston North and will be disposed after 5 years. No separate data or information will be published anywhere. You may withdraw at any point should you not wish to fill this questionnaire. The results of the findings can be made available at the participants' request. The contact details of the supervisor is Dr Rukmani Gounder, Department of Economics and Finance, Massey University, Palmerston North, Phone: 64 (6) 350 5969, email: R.gounder@massey.ac.nz

THANK YOU FOR YOUR COOPERATION.

Q1 Demographic-directed to the Head of Household (HOH) - main income earner

Head of Household	Age:……Sex: Male/Female	Country of birth ……..
Spouse	Age:……Sex Male/Female	Country of birth ……..

Occupation	**Head of Household**	**Spouse**
Houseperson	□	□
Retired	□	□
Student	□	□
Unemployed or	□	□
Employed as	……	Employed as ……

Employment: **Head of Household**: Full time/Part Time/Casual
Employment: **Spouse**: Full time/Part Time/Casual

Month and year of arrival in NZ: ……..……./…….

Current Education Level:

None	□	□
Primary	□	□
Secondary	□	□
Technical	□	□
University	□	□

Education level before coming to New Zealand:

None	□	□
Primary	□	□
Secondary	□	□
Technical	□	□
University	□	□

Q2 Who else lives in this household?

	Age	Relationship to HOH	Occupation/Employment/Student/Infant	Country of birth
1				
2				
3				
4				
5				
6				
7				

Q3 Do you ever intend to return to Fiji? Yes or No
If yes, do you intend to return in the next 5 years? Please <u>underline</u> your response below.

Definitely No Maybe Likely Don't know

Q4 In what country do the following people live?
Spouse…… Father…… Mother……
Father-in-Law……Mother-in-Law……..

Q5 Have you ever lived in another country for more than 6 months? eg. Australia.
……..
How long did you leave there? ……

Why did you leave this country? ……

Q6 In 2007 did you send any **money** to anyone in overseas? Yes / No

What is your relationship with them?
……
…….....

What country do they stay in? …….……...

How much in NZ dollars did you send in 2007? ……
How much in NZ dollars did you send in 2006? ……

How often do you send the money? Please underline your response below.

Regularly Irregularly Only when requested Regularly and when requested

How do you send the money? e.g. Through Banks, Western Union, Mail, Carried personally and/or sent through traveling relatives (Please indicate which ones)
……
…….....

Q7 Do you know how the money was used? For e.g. Home improvement, car payment, food and clothing, weddings, funerals, schooling, donations, religious purposes, debt payments, medical fees, savings, etc.
……
…..……....
.....

Q8 In 2007 did you send any **goods** to anyone in overseas? Yes / No
What type of goods and to whom they were sent?

Relation	Country	Goods. E.g. Food, clothing, TV, farm inputs etc.	How was it sent? E.g. Shipped, air or carried	Value in NZ dollars

Q9 In 2007, did you give any money to any religious/charitable organizations or any community development projects in Fiji? Yes / No

Which organization(s) did you give and for what purpose?
……
……..
How much NZ dollars did you give?
…….

Q10 In 2007, did any of your relatives living outside of New Zealand stay with you?

Yes / No – if yes, please fill in the details below.

No. of people that visited	Did you pay for their airfares?	How much did you pay?	How long did they stay?	Reason For Visit: Family visit, social event, medical reasons	What country are they from?

Q11 What are the sources of income for your household?

Annual wages (after tax) in 2007:
$……..
Income from other sources: Business Profit $……., Rental Income $.....
Interest received: $ ……Other: $ ……..

Annual wages (after tax) in 2006: $……

Q12 What are the main assets held by your household in New Zealand? E.g. House, land, car, other property,
……..……
……..
……...……..

Did you purchase or make improvements to it in 2007? Purchase / Improve

What was the purchase price or improvement cost?
……..……..
How did you finance it? E.g. Savings, Income, Loans etc.
……..

Do you own the property? Yes / No (Please circle one)
Is it fully paid? Yes / No Is it on mortgage? Yes / No
Are you renting a property? Yes / No

Q13 Do you have any assets (Land, House, Farm) in any other country? Yes / No

Please list the assets (Land, House, Farm) and which country are they in?
……
……..

Q14 Do you or anyone in your household have any form of savings such as superannuation, term deposits, shares, bonds etc.? Yes / No (Please circle one)

What are?
……..
……

Q15 Do you have any major liabilities? E.g. Loans, credit card bills or any other major debts exceeding $1000. …Yes / No (Please circle one)

What are these liabilities: ……..
……

Do you owe the money to the **bank** or a **relative**? Please underline one.

How much of this debt did you pay in 2007?
……
…….....
How much is left?.....
……

Q16 Were you and your spouse raised in **rural** or **urban area**?
Head of Household……. Spouse…….

Were you parents wealthy, average or poor?
Head of Household……. Spouse…….

Q17 Did you get any assistance from your family when you migrated to New Zealand? Yes / No (Please circle one)

What form of assistance did you get and how much: Air fares: $.....,
Bills: $..... Accommodation: $..... ,
Clothing: $ ……Other: $.....

Q18 Do you think you are likely to inherit something (Money, House, Land, Goods) from your relatives leaving in Fiji? Yes / No (Please circle one)
Who will you inherit from (relationship)……

Q19 If a bank offered you better interest rates in Fiji, do you think you would send more money to Fiji? Yes / No (Please circle one)

THANK YOU FOR YOUR COOPERATION.

Appendix 6.2

This appendix presents the definitions in Table A6.1 and summary statistics in Table A6.2 of the variables used in the Tobit regression analysis.

Table A6.1 Description of Variables used in the Tobit Model

Variable	*Description*
REMIT	Value of remittances in New Zealand dollars in all forms over the 12-month period preceding the survey.
PARENT	Dummy variable with a value of 1 or 0 otherwise if the head of household has at least one parent in Fiji.
SPOUSE	Dummy variable with a value of 1 or 0 otherwise if the head of household has the spouse in Fiji.
VISITOR	Dummy variable with a value of 1 or otherwise if the migrant household had visitors from Fiji in the 12 months preceding the survey.
INCOME	Income of the migrant household expressed in New Zealand dollars after tax in the 12 months preceding the survey.
ASSETS	Value of assets held by the household expressed in New Zealand dollars less the value of debts.
HOUSNUM	Number of persons living in the migrant household.
POOR	Dummy variable with a value of 1 or otherwise if the head of household considers his parents were poor.
INTENT	Dummy variable with a value of 1 or otherwise if the head of household intends to return to Fiji.
RETINT	Dummy variable with a value of 1 or otherwise if the head of household intends to return to Fiji upon retirement age.
INHERIT	Dummy variable with a value of 1 or otherwise if the head of household expects to inherit assets from family in Fiji.
OVSASS	Dummy variable with a value of 1 or otherwise if the head of household owns non-land assets in Fiji.
LAND	Dummy variable with a value of 1 or otherwise if the head of household owns land assets in Fiji.
SECOND	Dummy variable with a value of 1 or otherwise if the head of household acquired only secondary school education before migrating to New Zealand.
TECHNICAL	Dummy variable with a value of 1 or otherwise if the head of household acquired technical education before migrating to New Zealand.
UNIV	Dummy variable with a value of 1 or otherwise if the head of household acquired university education before migrating to New Zealand.
HELPED	Dummy variable with a value of 1 or otherwise if the head of household received some form of assistance for migration purposes.
TIME	The length of time, expressed in months since the migrant first emigrated.

Table A6.2 Summary Statistics of Variables used in the Tobit Model

Variable	*No. of Obs.*	*Mean*	*Std. Dev.*
REMIT	191	$3,584	3,347
PARENT	191	0.73	0.45
SPOUSE	191	0.05	0.22
VISITOR	191	0.52	0.50
INCOME	191	$64,118	33,514
ASSETS	191	$188,589	161,470
HOUSNUM	191	1.79	1.14
POOR	191	0.22	0.42
INTENT	191	0.26	0.44
RETINT	191	0.00	0.00
INHERIT	191	0.20	0.40
OVSASS	191	0.20	0.40
LAND	191	0.17	0.37
SECOND	191	0.08	0.27
TECHNICAL	191	0.32	0.47
UNIV	191	0.60	0.49
HELPED	191	0.27	0.44
TIME	191	100.26	71.24

CHAPTER 7

Conclusion and Policy Implications

7.1 Introduction

This study empirically investigates the development impact of international migrant remittances in the case of Fiji. Several hypotheses about this impact are tested using time series and household survey data. This is a vital analysis given the pronounced features of migration and remittances in Fiji. Using the Autoregressive Distributed Lag approach to cointegration, the economic growth and financial development models are estimated for the period 1968 to 2007. The evaluation of household expenditure, poverty and inequality indicators including the assessment of the human capital development effects of remittances are undertaken using the ordinary least squares technique based on the Household Income and Expenditure Survey data for 2002/03. To test the sustainability of remittance flows this study utilises a Tobit regression technique to find whether remittance flows from Fijian-New Zealander migrant households decay or not.

The models used to examine the various hypotheses were subject to various econometric methodology and relevant tests that indicate no major concerns. Consequently, the empirical results obtained highlight a number of pertinent issues regarding remittances and development that deem greater attention at the policy level. This chapter presents the overall findings, draws policy lessons and highlights areas for future research. The chapter is organised as follows: Section 7.2 presents the findings of the study and its implications. The policy recommendations based on the findings of this study are presented in Section 7.3 with a discussion of future research areas in Section 7.4.

7.2 Chapter Findings and Conclusion

The discussion in Chapter 1 presents the background to the research problem and sets out the aims and objectives of analysing the development impact of remittances in Fiji.

Chapter 2 provides an overview of the theoretical and empirical literature on the developmental role of migration and remittances. It focuses on the leading theories of the migration-development nexus and presents various schools of thoughts in analysing the complex phenomenon of migration. Migration thinking has no doubt evolved overtime in line with the patterns of migration and emerging new themes such as knowledge transfer, transnational entrepreneurship and diaspora development that are now part of the migration agenda.

The survey of the theoretical literature on remittances advances four key theories/motivations of remittances. It suggests that remittances are conditional flows with no particular theory of remittances being mutually exclusive highlighting the complexity of remittance phenomenon and its determinants. The effects of remittances on the recipient economies are diverse. There are various channels through which remittances can spur development such as savings, investment, consumption, poverty reduction, income distribution, financial sector development and human capital. The review of empirical literature suggests mixed results on remittances-growth nexus and poverty and inequality reduction while studies support the positive impact of remittances on financial sector and human capital development. The sustainability of remittances is vital for economies that depend on it for foreign exchange and other financing needs. In this regard, the literature reviewed shows no empirical validity of remittance decay hypothesis. The mixed views emanating from the literature warrants the need for individual country case studies that are vital in prescribing the appropriate remittance development policies. This provides the basis for further empirical investigation undertaken in Chapters 4, 5, and 6.

The trends in migration and remittances from the global perspective is followed by a discussion of Fiji's case in Chapter 3. Global trends in migration flows indicate an intense growth in migrant stock around the globe that has resulted in significant flows of workers' remittances between the host and origin countries. In the case of Fiji, the post-1987 period has been marked with a growing incidence of migration and remittances, particularly arising from the emigration of skilled labour due to political coups. More recently, this has been complemented by spates of temporary labour migration for overseas employment. The voluminous growth in migrant remittances reflects the important role of these flows as a valuable source of foreign exchange in Fiji, which has

been noted to be stable compared to other sources of finance like foreign aid and foreign direct investment. The mode of remittance transmission is an important factor that determines the size and volume of remittances received by the households. Remittances channelled through informal systems undermine the development impact of remittances as these flows are not captured in the formal financial system. This has strong implications on the cost structures in the financial system that governs the use of a particular money transfer facility. However, given that remittances are private flows their usages in Fiji are more pronounced in household consumption and welfare improvement but less on productive investments. This necessitates a re-orientation of remittance development policy that will induce usage of remittances in viable ventures ensuring sustainable growth and development.

Chapter 4 examines the impact of remittances on Fiji's economic growth and financial sector development. The empirical result shows that remittances exert a positive and significant impact on Fiji's economic growth. The interaction effect between remittances and financial sector has been ignored in other studies of remittances-economic growth nexus. In testing the remittance-economic growth hypothesis by interacting remittances with a measure of financial depth the results show a consistent positive impact of remittances on economic growth. This points out that remittances are a complement to other forms of finance available in Fiji's financial market. The second hypothesis tests the effect of remittances on Fiji's financial sector development. The result shows a positive but weak effect of remittances on financial development. This is a reflection of the expensive financial infrastructure, characterised by high costs of money transfer, lack of competition and segmented banking system at the disposal of remittance receivers resulting in minimal use of formal means of money transfer. Overall, the results of the growth effects of remittances imply that development policies must focus on formalization of remittances. This process will enhance the development impact of remittances and will stimulate economy-wide growth and financial sector development.

From the growth effects of remittances, Chapter 5 looks into the analysis of household welfare improving effects of remittances. The empirical examination highlights that remittances exert a positive and significant impact on welfare development in Fiji. Contrary to the belief that workers' remittances are used mostly for food consumption,

the analysis of household expenditure shows that remittances induce consumption of consumer durables and non-durables, housing and human capital expenditure (education and health). This expenditure pattern differs between urban and rural areas and also between Fijian and Indo-Fijian households. In the urban areas, Indo-Fijian households have more effective use of remittances on housing and human capital expenditures while in the rural areas Fijian households use remittance income substantially on durable and non-durable goods, education and health expenditures. The implications of this suggest different priority of remittance usages in the urban and rural areas and by ethnicity. It is seen that remittances reduce expenditure constraints more of the Indo-Fijian households in the urban areas where this group has experienced recent movement of people from rural to urban areas. Remittance flows are effective in reducing deprivation of Fijian households more in the rural areas than urban areas.

In regards to the poverty and inequality indicators the study employs two counterfactual methodologies which are compared with the poverty and inequality indicators in the actual observed scenario of remittances and migration. The results obtained show that the impact of remittances on poverty reduction is greater when the methodologically superior counterfactual estimation, i.e. when remittances are treated as a substitute to the migrants' home earnings method is utilized. The results further show that urban poverty is reduced more with access to remittance income compared to rural poverty with the effects being higher in Indo-Fijian households compared to Fijian households. In the rural areas, Fijian household's poverty is reduced significantly with remittances compared to Indo-Fijian households. The effects of remittances on income distribution are not unambiguous. The results also show that remittances are associated with greater income equality in the rural areas compared to the urban areas.

The third analytical aspect in Chapter 5 is the impact of remittances on schooling of children aged between 14 and 17 years. The results show that remittances have positive and significant impact on the education attainment of children in all remittance recipient households. The results reflect that in urban areas Indo-Fijian boys tend to benefit from education opportunities facilitated by remittance income while in the rural region both Fijian boys and girls have higher school education opportunities with access to remittances. Given the positive effects of remittances on household expenditure, poverty reduction and human capital development, policies should be aimed at influencing the

use of remittances also in small and micro enterprise investments that will consequently provide remedies to overcome the problems of poverty.

The improvements in household welfare are dependent on a sustainable flow of remittances. Chapter 6 examines the sustainability of remittance flows from Fijian-New Zealander migrant households. The empirical testing of the remittance decay hypothesis provides no evidence of decay in the flow of remittances from Fijian migrant households in New Zealand. The results show that remittances are not only driven exclusively by the need for family support based on the demand-side factors but are also driven by the migrants' income level and motivations to inherit assets in Fiji. The acquisition of technical and university education prior to migration that aids in securing better jobs in New Zealand is a significant factor influencing the sustained flows of remittances to households in Fiji. The findings also show that remittances tend to increase as the migrants' length of stay in New Zealand increases. This is a reflection of remittances driven by strong altruistic motives, particularly in the case of Fiji where families need a form of insurance against the economic losses arising from the effects of natural disasters, political instability and the expiry of land tenure. As remittances are a sustainable flow of funds, the policy challenge lies in harnessing the enormous potentials of remittances to help build a strong, equitable and dynamic national economy.

7.3 Policy Recommendations

The empirical results obtained in this study highlight a number of key issues that can further the developmental impact of migrant remittances. The prerequisite to this process, however, is the formulation and implementation of effective policy measures. This section presents the policy recommendations of the study centred on critical areas such as formalising remittances and raising the development potential of the flow of funds. Specifically, issues of remittance transfer cost, use of banking services, facilitative infrastructure for the productive use of migrant transfers and remittance data compilation are key policy recommendation areas discussed below.

7.3.1 Lowering the Cost to Remit

The market for remittances is segmented and inefficient as reflected by the high cost of remittance transfers in Fiji (Shaw, 2007). The high charges for money transfer and fees associated with various forms of financial services is a significant factor that deters the use of formal banking systems. Consequently, there are large informal flows of remittances channelled through other cost efficient means such as postal letters. The policy recommendations that target cost issues related to remittance transfer are:

Creating competition in the financial market

The involvement of more players in the financial market, particularly that provide remittance services will lead to a reduction in the cost structure and consequently result in efficiency gains. Currently, Western Union is a dominant service provider in Fiji with the services of the commercial banks centred mainly in urban areas. The rural banking services provided by ANZ Bank are also limited to the main island of Viti Levu. To effectively engage in competition in the financial market, other commercial banks ought to tap in the rural segment of the population. This also suggests for continual removal of barriers that prevent non-bank financial institutions such as post offices and retail stores from entering the financial market in providing remittance services.

Explore/invest in leveraging technology for remittances

The idea of innovative technology for remittances stems from the need to formalise migrant remittances by offering cost-convenient banking solutions on both sides of the remittance equation. Shaw (2007) states that the technology supporting international funds transfers are underdeveloped in Fiji. As such development of remittances technology that allow bank-to-bank electronic fund transfers will aid in formalising remittances. This system has set by the Mexican central bank (Banco de Mexico) allows bank-to-bank electronic fund transfers from the US to Mexico through the Federal Reserve's Automated Clearing House, at a cost less than one dollar per transfer (Lopez-Cordova and Olmedo, 2006). These flows of remittances are recorded which also contribute to financial development.

7.3.2 Increasing the Use of the Banking System

Promoting financial democracy, i.e. giving migrants and their families more options for using their money is a definite way of formalising remittances and multiplying its development potential. The policy measures that may encourage the use of formal banking systems in Fiji are:

Extending rural banking services

Currently, the provision of rural banking services in Fiji is facilitated by Australia and New Zealand (ANZ) Banking Group Limited and is confined to the island of Viti Levu. A step towards extending the outreach of rural banking services and developing a low-end rural customer base by commercial banks will help formalise remittances and stimulate the growth of the financial sector. This is crucial given the high incidence of rural remittance recipients noted in the 2002/03 household income and expenditure survey.

Promoting financial literacy

Financial literacy, the ability to make informed judgements and decisions regarding the use and management of money is important for individual consumers of financial services, the financial system and the wider economy. It influences how people save, borrow, invest and manage their financial affairs. It therefore affects their capacity to grow their wealth and income, and has significant implications on household welfare. This in turn, has implications for the potential growth rate and stability of the economy. An encouraging step towards promoting financial literacy has been the commencement of rural banking services in Fiji in 2004 by the ANZ Bank. The proliferation of mobile banking services of this nature will increase the use of formal banking systems.

7.3.3 Enhancing Local Development

The motive of the government is to maximise the benefits of remittances by extending it to the non-recipient population. Since remittances are transfers between private parties, government's policy intervention should be indirect in nature, i.e. policies that try to change the remittance recipients' incentive to use their resources in one way or another.

The policy recommendations that seek to increase the development impact of remittances are:

Creating an investment friendly environment

The first step towards creating an investment friendly environment is ensuring political stability in the country. Secondly, creating a favorable policy environment such as that through provision of tax incentives will spur investment in small and micro enterprises. This will eventually raise the return on investment thereby raising the opportunity cost for consumption.

Encouraging entrepreneurial development

The development of small scale enterprises is an effective way of utilising remitted funds as it provides returns and has subsequent multiplier effects on the household and the recipient communities. Remittances can serve as a start-up capital in small scale operations such as village stores, agri-business and small-scale manufacturing. In instances, however, where remittances fall short of business start up funds, microfinance institutions could play a complementing role in facilitating the finance required to start small enterprises. The utilisation of migrant remittances in small and micro enterprises has benefitted many developing countries such as Bangladesh, Mexico and the Philippines (Maimo and Ratha, 2005; Yang, 2005; Puri and Ritzema, 1999).

Creating remittance awareness

The process of educating remittance recipients of the development opportunities available is a crucial step in expediting remittances-induced development. Awareness through the mass media and by financial institutions will be an encouraging step towards capitalising on the development opportunities of migrant remittances. This is important, particularly in cases where remittance recipients are based in rural areas who are not exposed to the supportive infrastructure available.

7.3.4 Improving the Compilation of Remittances and Migrant Data

The method of compiling remittances data is an area widely discussed. This is because the method of data recording has strong implications on the volume and accuracy of

migrant remittances accounted for in the balance of payments statistics. Data on the number of migrants in a particular household are also crucial in establishing the development impact of remittances at the micro level. Given these data issues, the policy recommendations in this regard are:

Harmonising efforts to improve remittances data

The policy calls for continued efforts in synchronizing the data recording methodology of the Reserve Bank of Fiji with IMF's Special Data Dissemination Standards. In doing so, the consistency of remittance data reporting and its availability will be significantly improved.

Improve household level data

The collection of remittances data at the household level was done for the first time in the 2002/03 Household Income and Expenditure Survey. The HIES survey lacked information on the number of migrants in the households, which is important in analysing the poverty and inequality reducing effects of remittances. In the welfare development analysis it is also important to collate information on the same observed households in the consecutive surveys to make a proper assessment of the improvement (deterioration) in household welfare overtime. Such improvements in the micro level data will facilitate better analysis of household welfare development in the future studies of remittances.

7.4 Future Research

The inflow of remittances affects the development of the recipient economy through a host of channels. Several of these have been empirically tested in this study. However, with substantive improvements in remittances data both at the aggregate and at the individual household level, studies that look at the savings and investment aspect of remittances are also possible. Remittances are considered temporary in nature and therefore it is likely to be saved by the recipients which can potentially spur further investment in assets. Entrepreneurial development, particularly small scale projects are also a likely outcome of the inflows of remittances that warrant further investigation in the case of Fiji. In terms of human development, remittances can also affect the health outcomes of the recipient households. Whether remittances reduce child mortality or

improves the health of mothers and enables the use of better health services by the recipient households is a matter of further empirical examination given the increasing importance of migrant remittances in the Fijian households.

So far the argument in this study has been that the more remittances a country receives the better are its prospects for socio-economic progress. However, large inflows of remittances overtime can lead to exchange rate appreciation, which is termed as the Dutch Disease phenomenon that can affect the competitiveness of the trade sector. This can further lead to the widening of current account deficit if remittances-induced-consumption is directed towards imported goods. What then, should be the policy approach? Development issues of this nature demand greater attention of the policy makers now given that migration and remittances are an integral part of Fiji's economy. With increasing opportunities for individuals to migrate, the study of remittances is relevant to the global economy. Increasing the knowledge about the effects of remittances will aid better development policy that will become the basis of further improvements in the standard of living of the country's population and its success on the social and economic front.

Bibliography

Acosta, P. (2006), "Labor Supply, School Attendance, and Remittances from International Migration: The Case of El Salvador", *World Bank Policy Research Working Paper 3903*, The World Bank, Washington, DC.

Acosta, P., P. Fajnzylber and J. H. Lopez (2007), "The Impact of Remittances on Poverty and Human Capital: Evidence from Latin American Household Surveys", *World Bank Policy Research Working Paper No. 4247*, The World Bank, Washington, DC.

Acosta, P., C. Calderon., P. Fajnzylber and H. Lopez (2008), "What is the Impact of International Remittances on Poverty and Inequality in Latin America?", *World Development,* Vol. 36, No. 1, pp. 89-114.

Adams, R. H. (1989), "Worker Remittances and Inequality in Rural Egypt", *Economic Development and Cultural Change*, Vol. 38, No. 1, pp. 45-71.

Adams, R. H. (1998), "Remittances, Investment, and Rural Asset Accumulation in Pakistan", *Economic Development and Cultural Change*, Vol. 47, pp. 155-173.

Adams, R. H. (2004), "Remittances and Poverty in Guatemala", *World Bank Policy Research Working Paper No. 3418*, The World Bank, Washington, DC.

Adams, R. H. (2006a), "Remittances and Poverty in Ghana", *World Bank Policy Research Working Paper No. 3838*, The World Bank, Washington, DC.

Adams, R. H. (2006b), Remittances, Poverty and Investment in Guatemala, in *International Migration, Remittances and the Brain Drain*, Ozden, C., and Schiff, M. (eds.), The World Bank, Washington, DC, pp. 53-80.

Adams, R. H and Page, J. (2003), "International Migration, Remittances and Poverty in Developing Countries", *World Bank Policy Research Working Paper No. 3179*, The World Bank, Washington, DC.

Adams, R. H and Page, J. (2005), "Do International Migration and Remittances Reduce Poverty in Developing Countries?", *World Development*, Vol. 33, pp. 1645-1669.

Addy, D. N., Wijkstrom, B., and Thouez, C. (2003), "Migrant Remittances – Country of Origin Experiences – Strategies, Policies, Challenges and Concerns", Paper prepared for the International Conference on Migrant Remittances: Developmental Impact and Future Prospects, London, October 9-10, 2003.

Addleton, J. (1984), "The Impact of International Migration on Economic Development in Pakistan", *Asian Survey*, Vol. 24, pp. 574-596.

Aggarwal, R. and Spatafora, N. (2005), "Workers' Remittances and Economic Development", *World Economic Outlook April 2005*, International Monetary Fund, Washington, DC.

Aggarwal, R., Demirguc-Kunt, A., and Peria, M. S. M. (2006), "Do Workers' Remittances Promote Financial Development?", *World Bank Policy Research Working Paper No. 3957*, The World Bank, Washington, DC.

Ahlburg, D. (1991), "Remittances and their Impact: A Study of Tonga and Western Samoa", *Pacific Policy Papers No. 7*, National Centre for Development Studies, Australian National University, Canberra.

Ahmed, I. I. (2000), "Remittances and their Economic Impact in Post-war Somaliland", *Disasters*, Vol. 24, No.4, pp. 380-389.

Akram-Lodhi, H. (Ed.). (2000), *Confronting Fiji's Futures*, Canberra: Asia Pacific Press and Asia Pacific School of Economics and Management.

Amuedo-Dorantes, C. and Pozo, S. (2004), "Workers' Remittances and the Real Exchange Rate: A Paradox of Gifts", *World Development*, Vol. 32, No. 8, pp. 1407-1417.

Amuedo-Dorantes, C. and Pozo, S. (2006), "Remittance Receipt and Business Ownership in the Dominican Republic" *The World Economy*, Vol. 29, No. 7, pp. 939–956.

Ang, A. P. (2007), *Workers' Remittances and Economic Growth in the Phillipines*, Paper presented at the DEGIT XII Conference, Melbourne, Australia. Accessed on 15th May 2008 from: http://www.ifw-kiel.de/VRCent/DEGIT/paper/degit_12/C012_029.pdf

Arango, J. (2000), "Explaining migration: a critical view", *International Social Science Journal,* Vol. 165, pp. 284-295.

Asian Development Bank. (1999), *Republic of the Fiji Islands 1999 Economic Report*, Pacific Studies Series, Asian Development Bank.

Asian Development Bank. (2004), *Country Strategy and Program Update 2005-2007, Republic of the Fiji Islands*, August 2004, Manila: Asian Development Bank.

Asian Development Bank. (2005), *Fiji Islands : Macroeconomic Assessment of 2004*, Accessed on 12th June, 2008, from http://www.adb.org/documents/books/ado/2005/fij.asp

Asian Development Bank. (2006), *Private Sector Assessment for Fiji Islands-Promise Unfulfilled,* Accessed on 22nd May, 2008, from http://www.adb.org/Documents/Reports/PSA/FIJ/FijiIslands.pdf

Australian Agency for International Development. (1995), *The Economy of Fiji: Supporting Private Investment*, International Development Issues No. 40, Canberra.

Ballard, R. (2003), "Remittances and Economic Development", Migration and Development 2003-04.

Ballard, R. (2005), "Migration, Remittances, Economic Growth and Poverty Reduction: Reflections on Some South Asian Developments" in *Migration and Development Pro-Poor Policy Choices*, Dhaka, The University Press Limited.

Banerjee, B. (1982), "Rural-Urban Migration and Family Ties: An Analysis of Family Considerations in Migration Behaviour in India", *Oxford Bulletin of Economics and Statistics*, pp. 323-55.

Bank of Hawaii. (1993), *Fiji Economic Report – An Economic Assessment of Fiji*, Accessed on 26th March, 2008 from https://www.boh.com/econ/reports/pacFJ93.htm

Barham, B. and Boucher, S. (1998), "Migration, Remittances and Inequality: Estimating the Net Effects of Migration on Income Distribution", *Journal of Development Economics*, Vol. 55, pp. 307-331.

Bossem, C., and Faust, H. (1995), *Tourism in a Developing Country: The Case of Fiji*, Accessed on 10th June, 2008, from http://www.karl.aegee.org/oem/articles/oe8/t-fiji.htm

Bradshaw, M. and E. Stratford (2000) 'Qualitative Research Design and Rigour' in Iain Hay (ed.) *Quality Research Methods in Human Geography*, Oxford University Press: Victoria.

Breman, J. (1985), *Of Peasants, Migrants and Paupers: Rural Labour Circulation and Capitalist Production in West India*, Delhi: Oxford University Press.

Brown, R. P. C. (1994), "Migrants' Remittances, Savings and Investment in the South Pacific", *International Labour Review*, Vol. 133, pp. 347-367.

Brown, R. P. C. (1997), "Estimating Remittance Functions for Pacific Island Migrants", *World Development*, Vol. 25, No. 4, pp. 613-626.

Brown, R. P. C. (1998), "Do Pacific Island Migrants' Remittances Decline Overtime? Evidence from Tongans and Western Samoans in Australia", *The Contemporary Pacific*, Vol. 10, No. 1, pp. 107-151.

Brown, R. P. C. and Leeves, G. (2007), "Impacts of International Migration and Remittances on Source Country Household Incomes in Small Island States: Fiji and Tonga", *University of Queensland Discussion Paper No. 347*, University of Queensland, Australia.

Brown, R. P. C. and Connell, J. (1993), *Migration and Remittances in Tonga and Western Samoa*, Vol. 1: Main Report. Bangkok: ILO Regional Office for Asia and the Pacific.

Brown, R. P. C., J. Foster and Connell, J. (1995), "Remittances, Savings and Policy Formation in the South Pacific", *Asian and Pacific Migration Journal*, Vol. 4, No. 1, pp. 169-185.

Brown, R. P. C., Connell, J., Jimenez, E. and Leeves, G. (2006), Cents and Sensibility: The Economic Benefits of Remittances, in *At Home and Away: Expanding Job Opportunities for Pacific Islanders Through Labour Mobility*, The World Bank, Washington, D.C.

Brown, R. P. C. and Jimenez, E. (2008), "Estimating the Net Effects of Migration and Remittances on Poverty and Inequality: Comparison of Fiji and Tonga", *Journal of International Development*, Vol. 20, pp. 547-571.

Brown, R. P. C. and Walker, A. (1995), *Migrants and their Remittances: Results of a Household Survey of Tongans and Western Samoans in Sydney*, Pacific Studies Monograph No. 17, Sydney: Centre for South Pacific Studies, University of New South Wales.

Browne, C. and Mineshima, A. (2007), "Remittances in the Pacific Region", *IMF Working Paper No.07/35*, International Monetary Fund, Washington, DC.

Campbell, I. C. (1992), "A Historical Perspective on Aid and Dependency: The Case of Tonga", *Pacific Studies*, Vol. 15, No. 3, pp. 59-75.

Cassarino, J. P. (2004), "Theorising Return Migration: The Conceptual Approach to Return Migrants Revisited", *International Journal of Multicultural Societies*, Vol. 6, No. 2, pp. 162-188.

Castles, S. and Miller, M. (2003), *The Age of Migration*, Third Edition, New York: Palgrave Macmillan.

Cattaneo, C. (2005), "International Migration and Poverty - Cross-Country Analysis", University of Sussex, United Kingdom.

Chami, R., Fullenkamp, C, and Jahjah, S. (2005), "Are Immigrant Remittance Flows a Source of Capital for Development?", *IMF Staff Papers*, Vol. 52, No. 1, pp. 55-81.

Chandra, D. (2005), "Women and Men on the Move: Fiji's International Migration Trends, Motivations and Consequences", *Psychology & Developing Societies*, Vol. 17, No. 2, pp. 249-267.

Chimhowu, A. (2003), "Assessing the Impact of Migrant Workers' Remittances on Poverty", Paper presented at the EDIAS Conference on New Directions in Impact Assessment for Development: Methods and Practice, London, November 24 – 25, 2003.

Cohen, R. (2004), *What Will Drive International Migration in the Next 50 Years?,* Presentation to Migration Futures Workshop, 10th December 2004, Oxford.

Connell, J. (Ed.) (1990), *Migration and Development in the South Pacific*. Pacific Research Monograph No. 24. Canberra: National Centre for Development Studies.

Connell, J. and Brown, R.P.C. (2004), "The Remittances of Migrant Tongan and Samoan Nurses in Australia", *Human Resources for Health*, 2:2. (online)

Connell, J. and Brown, R.P.C. (2005), *Remittances in the Pacific – An Overview*, Asian Development Bank: Manila.

Constant, A. and Massey, D. S. (2002), "Return Migration by German Guestworkers: Neoclassical Versus New Economic Theories", *International Migration*, Vol. 40, No. 4, pp. 5-38.

Cox-Edwards, A. and Ureta, M. (2003), "International Migration, Remittances, and Schooling: Evidence from El Salvador", *Journal of Development Economics*, Vol. 72, No. 2, pp. 429-461.

Crush, J. and Frayne, N. (2007), "The Migration and Development Nexus in Southern Africa", *Development Southern Africa*, Vol. 24, No. 1, pp. 1-23.

Deaton, A. (1997), *The Analysis of Household Surveys: A Microeconometric Approach to Development Policy*. John Hopkins University Press for the World Bank: Baltimore.

De Haan, A. (1999), "Livelihoods and Poverty: The Role of Migration – A Critical Review of the Migration Literature", *The Journal of Development Studies*, Vol. 36, No. 2, pp. 1-30.

Deshingkar, P. and Aheeyar, M. M. M. (2006), "Remittances in Crisis – Sri Lanka after the Tsunami", *Humanitarian Policy Group Background Paper*, Overseas Development Institute, London.

Duany, J. (2002), "Mobile Livelihoods: The Sociocultural Practices of Circular Migrants between Puerto Rico and the United States", *International Migration Review*, Vol. 36, No. 2, pp. 355-388.

Duncan, R. (2004), *The Fiji Economy: Needing a Better Investment Environment*, Accessed on 29th May, 2008 from http://www.usp.ac.fj/index.php?id-piasdg_download_governance

Duncan, R., Cutherbertson , S., and Bosworth, M. (1999), "Pursuing Economic Reforms in the Pacific", *Pacific Studies Series, 18*.

Durand, J. and Massey, D. S. (1992), "Mexican Migration to the United States: A Critical Review", *Latin American Research Review*, Vol. 27, pp. 3-42.

Eleck, A., H. Hill, and Tabor, S., (1993), "Liberalization and Diversification in a Small Island Economy: Fiji since the 1987 Coups", *World Development,* Vol. 21, No. 5, pp. 749-769.

El-Sakka, M. and McNabb, R. (1999), "The Macroeconomic Determinants of Emigrant Remittances", *World Development*, Vol. 27, No. 8, pp. 1493-1502.

El-Qorchi, M. (2002), "Hawala", *Finance and Development*, Vol. 39, No. 4.

EUROPA. (2005), *EU Relations with Fiji: Country Overview*, Retrieved 10th June, 2008, from http://europa.eu.int/comm/development/body/country/country_home_en.cfm?cid=fj&status=new

Faini, R. (2002), "Migration, Remittances and Growth." *manuscript,* Italian Ministry of the Economy and University o f Brescia, Brescia, Italy.

Faini, R. (2003), *The Brain Drain: An Unmitigated Blessing?,* Italian Ministry of the Economy and University o f Brescia, Brescia, Italy.

Faist, T. (2000) *The Volume and Dynamics of International Migration and Transnational Spaces,* Oxford: Claredon Press.

Fajnzylber, P. and Lopez, J. H. (eds.) (2008), *Remittances and Development: Lessons from Latin America*, The World Bank, Washington, D.C.

Fawcett, J. and F. Arnold (1987), "Explaining Diversity: Asian and Pacific Immigration Systems", in J. Fawcett and B. Carino (eds.) *Pacific Bridges: The New Immigration from Asia and the Pacific Islands*, Center for Migration Studies: New York.

Fletcher, P. and Taylor, J.E. (1992), "*Migration and the Transformation of a Mexican Village House Economy",* Paper presented at the Conference on 'New Perspectives on Mexico-US Migration', University of Chicago, Centre for Latin Studies.

Fiji Islands Bureau of Statistics. (2006). *Fiji Facts and Figures July 2006*. Suva: The Government Printer.

Fiji Islands Bureau of Statistics. (various). *Key Statistics.* Suva: The Government Printer.

Fiji Sun. (2009). *Fiji Losing Nearly 100 Nurses*, Friday, April 17, Suva: Fiji Sun. Available from http://pidp.eastwestcenter.org/pireport/2009/April/04-17-13.htm

Forsyth, D. J. C. (1992), *Migration and Remittances in the South Pacific: Forum Island Countries.* Monograph. Suva: University of South Pacific.

Foster, J. (1995), "The Relationship between Remittances and Savings in Small Pacific Island States: Some Econometric Evidence", *Asian and Pacific Migration Journal*, Vol. 4, No. 1, pp. 117-138.

Freund, C. and Spatafora, N. (2005), "Remittances: Transaction Costs, Determinants, and Informal Flows", *World Bank Policy Research Working Paper No. 3704*, The World Bank, Washington, DC.

Fuka, M.L.A. (1985). *The Auckland Tongan Community and Overseas Remittances,* unpublished, M.A. thesis, University of Auckland.

Funkhouser, E. (1995), "Remittances from International Migration: A Comparison of El Salvador and Nicaragua", *The Review of Economics and Statistics*, Vol. 77, pp. 137-146.

Gani, A. (2000), "Some Dimensions of Fiji's Recent Emigration", *Pacific Economic Bulletin*, Vol. 15, No. 1, pp. 94-103.

Gani, A. and B. D. Ward (1995), "Migration of Professionals from Fiji to New Zealand: a Reduced Form Supply-Demand Model", *World Development*, Vol. 23, pp. 1633-1637.

Gapinski, J. H. (1993), *The Economics of Saving*, London: Kluwer Academic Publishers.

Giuliano, P. and Ruiz-Arranz, M. (2006), "Remittances, Financial Development, and Growth", *Institute for the Study of Labour Discussion Paper No. 2160*, Institute for the Study of Labour, Bonn, Germany.

Glytsos, N. P. (1997), "Remitting Behaviour of Temporary and Permanent Migrants: The Case of Greeks in Germany and Australia", *Labour*, Vol. 11, No. 3, pp. 409-435.

Gokal, V., and Hanif, S. (2004), *The Relationship Between Inflation and Economic Growth*, Accessed on 24th June, 2008 from http://www.reservebank.gov.fj/docs/2004_04_wp.pdf

Goss, J. and Lindquist, B. (1995), "Conceptualizing International Labour Migration: A Structuration Perspective", *International Migration Review*, Vol. 29, pp. 317-51.

Gounder, R. (1999), "The Political Economy of Development: Empirical Evidence from Fiji", *Economic Analysis and Policy*, Vol. 29, No. 2, pp. 133–150.

Gounder, R. (2001), "Aid-Growth Nexus: Empirical Evidence from Fiji", *Applied Economics*, Vol. 33, No. 8, pp. 1009-1019.

Gounder, R. (2002), "Political and Economic Freedom, Fiscal Policy, and Growth Nexus: Some Empirical Results for Fiji", *Contemporary Economic Policy*, Vol. 20, No. 3, pp. 234–245.

Gounder, R. (2005), "Fijis Public-Private Sector, Investment, Policy, Institutions and Economic Growth: Evidence from Time Series Data", *Journal of Fijian Studies,* Vol. 3, pp. 87-110.

Gounder, R. (2006), *Economic Policies on Savings and Growth: Effects of Government Intervention in the Financial Sector in Fiji.* Paper presented at the 8th INFER Annual Conference 2006, University College Cork, Cork City, Ireland.

Gounder, R. (2007), "Globalisation and the Rise in Labour Demand: New Zealand's Labour Market and Pacific Islands Labour Mobility Prospects", *The Asia Pacific Economic Journal,* Vol. 4, No. 2, pp. 91-114.

Gounder, R. (2008) "Effects of Government Intervention on Fiji's Financial Sector: Economic Policies, Savings and Growth", In Shinnick, E. (2008) (ed.) *Aspects of Public Finance, Monetary Policy and Market Issues*, INFER Research Perspectives No 5, Chapter 8 pp. 164-193, ISBN 978-3-8258-1544-8, LIT Verlag, Berlin.

Government of Fiji. (2002), *Rebuilding Confidence for Stability and Growth for a Peaceful, Prosperous Fiji: Strategic Development Plan 2003-2005*, Ministry of Finance and National Planning, Suva.

Griffin, K. (1976), "On the Emigration of the Peasantry", *World Development*, Vol. 4, No. 5, pp. 353-361.

Gupta, S., Pattillo, C., and Wagh, S. (2007), "Impact of Remittances on Poverty and Financial Development in Sub-Saharan Africa", *IMF Working Paper No. 07/38*, International Monetary Fund, Washington, DC.

Hadi, A. (1999), "Overseas Migration and the Well-being of Those Left Behind in Rural Communities of Bangladesh", *Asia-Pacific Population Journal*, Vol. 14, No. 1, pp. 43-58.

Hamilton, L. C. (2009), *Statistics with STATA: Updated for Version 10*. Brooks/Cole. USA.

Hanson, G. H. and C. Woodruff (2003), *Emigration and Educational Attainment in Mexico*, mimeo, University of California, San Diego, California.

Harris, J. R. and Todaro, M. P. (1970), "Migration, Unemployment and Development: A Two-Sector Analysis", *American Economic Review*, Vol. 60, pp. 126-42.

Heckathorn, D. D. (1997), "Respondent-Driven Sampling: A New Approach to the Study of Hidden Populations", *Social Problems*, Vol. 44, pp. 174–199.

Helweg, A. W. (1983), "Emigrant Remittances: Their Nature and Impact on a Punjab Village", *New Community*, Vol. 10, No. 3, pp. 435-443.

Hermann, R., and Weiss, D. (1995), "A Welfare Analysis of the EC-ACP Sugar Protocol", *The Journal of Development Studies,* Vol. 31, No. 6, pp. 918-941.

Hoddinott, J. (1992), "Modeling Remittance Flows in Kenya", *Journal of African Economies*, Vol. 1, No. 2, pp. 206-232.

Hoddinott, J. (1994), "A Model of Migration and Remittances Applied to Western Kenya", Oxford Economic Papers, Vol. 46, No. 3, pp. 459-476.

Hughes, H. and Sodhi, G. (2006), *Should Australia and New Zealand Open their Doors to Guest Workers from the Pacific? Costs and Benefits*, The Centre for Independent Studies, Australia.

Hunte, C. K. (2004), "Workers' Remittances, Remittance Decay and Financial Deepening in Developing Countries", The American Economist, Vol. 48, No. 2, pp. 82-94.

International Fund for Agricultural Development. (2003), *Remittances*, International Fund for Agricultural Development, Rome, Italy. Accessed on 21st May, 2007 from http://www.ifad.org/pub/factsheet/remittances/e.pdf

International Monetary Fund. (2004), Balance of Payments Statistics Yearbook 2004, International Monetary Fund, Volume 55, Washington, D.C. Available on Internet from http://www.imf.org/external/pubs/cat/longres.cfm?sk=17593.0

International Monetary Fund. (2005), *World Economic Outlook*, International Monetary Fund, Washington, DC.

International Monetary Fund. (various), *International Financial Statistics Yearbook*, Washington D.C: IMF.

Iqbal, Z. and Sattar, A. (2005), "The Contribution of Workers' Remittances to Economic Growth in Pakistan", *Pakistan Institute of Development Economics Research Report No. 187*, Pakistan Institute of Development Economics, Islamabad.

James, K. E. (1991), "Migration and Remittances: A Tongan Village Perspective", *Pacific Viewpoint*, Vol. 32, No. 1, pp. 1-23.

Jayaraman, T. K. (1996), *Financial Sector in Fiji: Some Empirical Evidence of Financial Deepening*, Sydney: Centre for South Pacific Studies, University of New South Wales.

Jayaraman T. K. (1998), "Foreign Direct Investment as an Alternative to Foreign Aid to South Pacific Island Countries", *Journal of the South Pacific Society*, Vol. 21, pp.29-44.

Jongwanich, J. (2007), "Workers' Remittances, Economic Growth and Poverty in Developing Asia and the Pacific Countries", *United Nations Economic and Social Commission for Asia and the Pacific Working Paper WP/07/01*, UNESCAP, Bangkok, Thailand.

Kapur, D. (2004), Remittances: The New Development Mantra?, *G-24 Discussion Paper Series, No. 29*, UNCTAD.

Kapur, D. and McHale, J. (2003), "Migration's New Payoff", *Foreign Policy*, No. 139, pp. 48-57.

Kasper, W., Bennett, J., and Blandy, R. (1988), *Fiji : Opportunity from Adversity?*, New South Wales: Centre for Independent Studies.

Knapman, B., and Zhukov, E. (Eds.). (2001), *Financial Sector Development in Pacific Island Economies*, Manila: Asian Development Bank.

Kritz, M. and H. Zlotnik (1992), "Global interactions: Migration Systems, Processes, and Policies", in M. Kritz, L. Lim, and H. Zlotnik (eds.) *International Migration Systems: A Global Approach.* Clarendon Press: Oxford.

Kritz, M., L. Lim and H. Zlotnik (eds.) (1992) *International Migration Systems: A Global Approach.* Clarendon Press: Oxford.

Lal, B. V. (2003), *Fiji Islands: From Immigration to Emigration*, Migration Policy Institute, Washington, DC.

Leones, J. and Feldman, S. (1998), "Non-farm Activity and Rural Household Income: Evidence from Philippine Microdata", *Economic Development and Cultural Change*, Vol. 46, No. 4, pp. 789-806.

Lewis, W. A. (1954), "Economic Development with Unlimited Supplies of Labour", *The Manchester School of Economic and Social Studies*, Vol. 22, pp. 131-191.

Loayza, N., P. Fajnzylber, and C. Calderon (2005), *Economic Growth in Latin America and the Caribbean: Stylized Facts, Explanations and Forecasts*, The World Bank, Washington, DC.

Loomis, T. (1990), Cook Island Remittances: Volume, Determinants and Uses, in J. Connell (ed) *Migration and Development in the South Pacific*, Pacific Research Monograph No. 24. Canberra: National Centre for Development Studies, pp. 61-81.

Lopaz, J. R. and Seligson, M. A. (1991), "Small Business Development in El Salvador: The Impact of Remittances", in *Migration, Remittances, and Small Business Development: Mexico and Caribbean Basin Countries*, Boulder: Westview Press.

Lopez Cordova, E. (2005), "Globalization, Migration and Development: The Role of Mexican Migrant Remittances", *Economia, Journal of the Latin American and Caribbean Economic Association,* Vol. 6, pp. 217-256.

Lopez-Cordova, E. and Olmedo, A. (2006), "International Remittances and Development: Existing Evidence, Policies and Recommendations", Inter-American Development Bank, Washington, DC.

Lucas, R. E. B. and Stark, O. (1985), "Motivations to Remit: Evidence from Botswana", *Journal of Political Economy*, Vol. 93, No. 5, pp. 901-918.

Maclellan, N. and Mares, P. (2006), "Remittances and Labour Mobility in the Pacific", *Working Paper on Seasonal Work Programs in Australia for Pacific Islanders*, Institute for Social Research, Swinburne University of Technology, Melbourne, Australia.

Maimbo, S. M. and Ratha, D. (eds.) (2005), *Remittances: Development Impact and Future Prospects*, The World Bank, Washington, D.C.

Marcus, G.E. (1993), "Tonga's Contemporary Globalizing Strategies: Trading on Sovereignty Amidst International Migration." in T. Harding and B. Wallace (eds), *Contemporary Pacific Societies,* Englewood Cliffs: Prentice Hall.

McHugh, K. E. (2000), "Inside, Outside, Upside Down, Backward, Forward, Round and Round: a Case for Ethnographic Studies in Migration", *Progress in Human Geography*, Vol. 24, No. 1, pp. 71-89.

McKenzie, D. (2005), Beyond Remittances: The Effects of Migration on Mexican Households, in C. Ozden and M. Schiff (eds), *International Migration, Remittances and the Brain Drain*, Chapter 4 pp. 123-148, The World Bank, Washington DC.

McKenzie, D. (2006), *Remittances in the Pacific*, Paper for 2005-2006 Werner Sichel Lecture-Seminar Series: Immigrants and their International Money Flows, Lecture delivered February 15, 2006. Available from: http://siteresources.worldbank.org/DEC/Resources/Remittances_in_the_Pacific.pdf

Mckenzie, D. and Rapoport, H. (2005), *Migration and Education Inequality in Rural Mexico*, Paper commissioned by the Inter-American Development Bank.

Massey, D. S. (1990), "Social Structure, Household Strategies, and the Cumulative Causation of Migration", *Population Index*, Vol. 56, No. 1, pp. 3-26.

Massey, D. S. and Basem, C. L. (1992), "Determinants of Savings, Remittances and Spending Patterns among US Migration in Four Mexican Communities", *Sociological Inquiry*, Vol. 62, No. 2, pp. 185-207.

Massey, D.S., Arango, J., Hugo, G., Kouaouchi, A., Pellegrino, A., and Taylor, J. E. (1993), "Theories of International Migration: A Review and Apparisal", *Population and Development Review*, Vol. 19, No. 3, pp. 431-466.

Massey, D.S., J. Arango, G. Hugo, A. Kouaouci, A. Pellgerino, J.E. Taylor, (eds.), (1998) *Worlds in Motion: Understanding International Migration at the End of the Millennium,* Claredon Press: Oxford.

Mesnard, A. (2004), "Temporary Migration and Capital market Imperfections", *Oxford Economic Papers*, Vol.56, No. 2, pp. 42-62.

Ministry of Finance and National Planning. (2003), *Economic and Fiscal Update: Supplement to the 2004 Budget Address*, Suva, The Government Printer.

Ministry of Finance and National Planning. (2005), 2006 *Budget Address*, Suva, The Government Printer.

Ministry of Finance and National Planning. (2006a), *Strategic Development Plan 2007-2011: Maintaining Stability and Sustaining Growth to Achieve a Peaceful, Prosperous Fiji*, Suva: Star Printery Limited.

Ministry of Finance and National Planning. (2006b), 2007 *Budget Address*, Suva, The Government Printer.

Ministry of Finance and National Planning. (2007), 2007 *Mini Budget Address*, Suva, The Government Printer.

Ministry of Information and Communications. (2006), *Fiji Today 2005/2006*, Accessed on 8th April, 2008 from http://www.fiji.gov.fj/uploads/FijiToday2005-06.pdf

Ministry of National Planning and Information. (1998), *Government Achievements 1992-1998: Report to the Nation*, Suva.

Mohanty, M. (2001), "Contemporary Emigration from Fiji: Some Trends and Issues in the Post-Independence Era" in Naidu, V., Vasta, E. and Hawksley, C. (eds.), *Current Trends in South Pacific Migration,* Working Paper No.7, APMRN Secretariat, University of Wollongong, Wollongong, Australia, 54-73.

Mohanty, M. (2005), *Globalisation, New Labour Migration and Development in Fiji Islands*, Paper presented at State, Society and Governance in Melanesia Project Conference on Globalisation, Governance and the Pacific Islands, October 25-27, Australian National University, Canberra. Accessed on 5th September, 2007 from http://www.usp.ac.fj/fileadmin/files/Institutes/piasdg/dev_studies/papers/mohanty_globalisation.pdf

Mohanty, M., Reddy, M. and Naidu, V. (2005), "International Migration, Human Capital Loss and Development in the South Pacific: The Case of Fiji", in *Migration Happens: Reasons, Effects and Opportunities in the South Pacific*, (eds.) Ferro, K. and Wallner, M., Transaction Publishers, New Jersey, pp. 150-166.

Narayan, P. K. (2004), "Do Public Investment Crowd Out Private Investments? Fresh Evidence from Fiji", *Journal of Policy Modelling,* Vol. 26, pp. 747-753.

Narayan, P. K. and Smyth, R. (2003), "The Determinants of Immigration from Fiji to New Zealand: An Empirical Re-Assessment Using the Bounds Testing Approach", *International Migration*, Vol. 41, No. 1, pp. 33-58.

Narayan, P. K. and Smyth, R. (2006), "What Determines Migration Flows from Low-Income to High-Income Countries? An Empirical Investigation of Fiji-US Migration 1972-2001", *Contemporary Economic Policy*, Vol. 24, No. 2, pp. 332-342.

Narsey, W. (2006a), *Report on the 2002/03 Household Income and Expenditure Survey*, Fiji Islands Bureau of Statistics, Suva, Fiji.

Narsey, W. (2006b), *Just Wages for Fiji: Lifting Workers out of Poverty*. ECREA and Vanuavou Publications.

Narsey, W. (2008), *The Quantitative Analysis of Poverty in Fiji*, Suva, Fiji: Fiji Islands Bureau of Statistics and The School of Economics, University of the South Pacific.

Narube, S. (2000), *Opening Address*, Financial Sector Reform Workshop.

Narube, S. (2005a), *Productivity and National Development in Fiji*, Available from Internet http://www.reservebank.gov.fj

Narube, S. (2005b), *Fiji's Economy – Performances and Prospects*, Address by the Governor of the Reserve Bank of Fiji to the Fiji Australia Business Forum, 17 October, 2005, Nadi, Fiji.

Narube, S. (2007), *Brief Overview of the Fiji Economy and Monetary Policy*, Opening Address by the Governor of the Reserve Bank of Fiji at the Official Opening of the Westpac Branch, Port Denarau, 3 September, 2007, Nadi, Fiji.

Norton, R. (2004), *Fiji Country Study: A part of the report on Informal Remittance Systems in Africa, Caribbean and Pacific (ACP) countries*, ESRC Centre on Migration, Policy and Society, UK.

Nyberg-Sorensen, N., Van Hear, N. and Engberg-Pedersen, P. (2002), "The Migration–Development Nexus: Evidence and Policy Options", *International Migration*, Vol. 40, No. 5, pp. 49–73.

Oberai, A. S. and Singh, H. K. M. (1980), "Migration, Remittances and Rural Development: Findings of a Case Study in the Indian Punjab", *International Labour Review*, Vol. 118, pp. 229-241.

Organisation for Economic Co-operation and Development. (2001), *Geographical Distribution of Financial Flows to Developing Countries*, Paris: OECD.

Organisation for Economic Co-operation and Development. (2006), "International Migrant Remittances and their Role in Development" in International Migration Outlook, OECD.

Organisation for Economic Co-operation and Development. (2008), *Geographical Distribution of Financial Flows to Developing Countries*, Paris: OECD.

Orozco, M. and Fedewa, R. (2005), "Leveraging Efforts on Remittances and Financial Intermediation", Report Commissioned by the Inter-American Development Bank.

Papastergiadis, N. (2000), *The Turbulence of Migration: Globalization, Detrritorialization and Hybridity,* Cambridge: Polity Press.

Papademetriou, D. G. and P. L. Martin. (1991), *The Unsettled Relationship: Labour Migration and Economic Development*. New York: Greenwood Press.

Papademetriou, D. G. (2001), *Reflections on International Migration and its Future*. J. Douglas Gibson Lecture, School of Policy Studies, Queen's University.

Piore, M. J. (1979), *Birds of Passage: Migrant Labour in Industrial Societies*. Cambridge: Cambridge University Press.

Poirine, B. (1995), "A Theory of Remittances as an Implicit Family Loan Arrangement," in *Two Essays on Aid and Remittances,* Pacific Studies Monograph No. 19, Centre for South Pacific Studies, Sydney: University of New South Wales.

Poirine, B. (1997), "A Theory of Remittances as an Implicit Family Loan Agreement", *World Development*, Vol. 25, No. 4, pp. 589-611.

Portes, A. (1978), "Migration and Underdevelopment", *Politics and Society*, Vol. 8, No. 1, pp. 1-48.

Prasad, R. (2004), "Fiji's Export Competitiveness: A Comparison with Selected Small Island Developing States", *Reserve Bank of Fiji Working Paper 2004/03*, Reserve Bank of Fiji, Suva.

Prasad, B., and Reddy, M. (2002), "Structural Reforms, Political Instability and Economic Growth in Fiji: Sustainability in the long-run", *Development Bulletin,* Vol. 60, pp. 79-82.

Prasad, B. C., and Tisdell, C. (2006), *Institutions, Economic Performance and Sustainable Development.* New York: Nova Science Publishers.

Puri, S. and Ritzema, T. (1999), "Migrant Worker Remittances, Micro-Finance and the Informal Economy: Prospects and Issues", *Working Paper No. 21*, Social Finance Unit, International Labour Organization, Geneva.

Raghuram, P. (2005), "Dis/Placing Migration Theories", in *Migration Happens: Reasons, Effects and Opportunities in the South Pacific*, (eds.) Ferro, K. and Wallner, M., Transaction Publishers, New Jersey, pp. 13-28.

Ramirez, M. D. and Sharma, H. (2008), "Remittances and Growth in Latin America: A Panel Unit Root and Panel Cointegration Analysis", *Economics Department Working Paper No. 51*, Yale University, New Haven.

Ranis, G. and J.H.H., Fei. (1961), "A Theory of Economic Development', *American Economic Review*, Vol. 51, No. 4, pp. 533-566.

Rapoport, H. and Docquier, F. (2005), "The Economics of Migrants' Remittances", *Institute for the Study of Labour Discussion Paper No. 1531*, Institute for the Study of Labour, Bonn, Germany.

Rao, B. (2004), "The Relationship between Growth and Investment", *University of the South Pacific Working Paper No.7*.

Ratha, D. (2003), "Workers' Remittances: An Important and Stable Source of External Development Finance", *Global Developing Finance 2003*, World Bank, pp. 157-175.

Ratha, D. (2005), "Sending Money Home: Trends in Migrant Remittances", *Finance and Development*, Vol. 42, No. 4. Retrieved on 18th June 2008 from http://www.imf.org/external/pubs/ft/fandd/2005/12/picture.htm

Ratha, D. (2006), *Economic Implications of Remittances and Migration*, Paper presented at the Global Consumer Money Transfer Conference, London, October 30, 2006. Accessed on 23rd August, 2007 from http://siteresources.worldbank.org/EXTDECPROSPECTS/Resources/476882-1157133580628/RemittancesGCMTOctober2006.ppt

Ratha, D. (2007), *Leveraging Remittances for Development*, Paper presented at the Second Plenary Meeting of the Leading Group on Solidarity Levies to Fund Development, Oslo, February 6-7, 2007; and at the Brainstorming Session on Migration and Development organized by the Migration Policy Institute and the German Marshall Fund of the United States, Brussels, February 27, 2007. Accessed on 23rd August, 2007 from http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1100792545130/LeveragingRemittancesforDev.pdf

Ratuva, S. (2004), "Economic Nationalism and Communal Consolidation: Economic Affirmative Action in Fiji, 1987-2002", *Pacific Economic Bulletin,* Vol.17, pp. 130-137.

Reddy, M., and Naidu, V. (2001), "Land tenure system in Fiji: The Poverty Implications of Expiring Leases", *Development Bulletin,* 55 (Globalisation and Poverty), pp. 33-35.

Reserve Bank of Fiji. (various), *Quarterly Review*, Suva: Reserve Bank of Fiji.

Reserve Bank of Fiji. (2007), *Remittances in Fiji (unpublished remittances data)*, personal communication.

Rodriguez, E. (1998), "International Migration and Income Distribution in the Philippines", *Economic Development and Cultural Change,* Vol. 46, No. 2, pp. 220-239.

Rodriguez, E. and E. Tiongson (2001), "Temporary Migration Overseas and Household Labour Supply: Evidence from Urban Philippines", *International Migration Review,* Vol. 35, pp. 1185-204.

Rokoduru, A. (2002), " The Contemporary Migration of Skilled Labour from Fiji to Pacific Island Countries" in R. Bedford et al., (eds), *5th International APMRN Conference, Fiji 2002: Selected Papers,* Working Paper No.12, APMRN Secretariat, University of Wollongong, Wollongong, Australia, 43-48.

Rokoduru, A. (2004), "Fiji's Women Migrant Workers and Human Rights – The Case of Nurses and Teachers in the Republic of Marshall Islands", *The Journal of Pacific Studies*, Vol. 27, No. 2, pp. 205-227.

Root, B.D. and DeJong, G.F. (1991), "Family Migration in a Developing Country", *Population Studies*, Vol. 45, pp. 221-234.

Rosen, J. S. (2007). *Remittances, Investment, and Portfolio Allocations: An Analysis of Remittances Usage and Risk-Tolerance,* PhD thesis, The Ohio State University.

Russell, S. S. (1986), "Remittances from International Migration: a Review in Perspective", *World Development*, Vol. 14, pp. 677-696.

Russell, S. (1993), "Migrant Remittances and Development", *International Migration*, Vol. 31, pp. 267-287.

Safa, H. (1982), *Towards a Political Economy of Urbanization in Third World Countries.* Delhi: Oxford University Press.

Sampson, T. (2005), *Aid to the Pacific: Past, Present and Future*, Accessed on 13th June, 2008 from http://www.pacificplan.org/tiki-page.php?pageName=Volume+III+Working+Papers

Sen, A. K. (1999), *Development as Freedom*. New York: Anchor Books.

Seruvatu, E., and Jayaraman, T. K. (2001), "Determinants of Private Investment in Fiji", *Reserve Bank of Fiji Working Paper 2001/02,* Reserve Bank of Fiji, Suva.

Shahbaz, M., Qureshi, M. N., and Aamir, N. (2007), "Remittances and Financial Sector's Performance: Under Two Alternative Approaches for Pakistan", *International Research Journal of Finance and Economics*, Vol. 12, pp. 133-146.

Sharma, P. (2004), *Growth, Inequality and Poverty in Fiji Islands: Institutional Constraints and Issues*, Suva: The University of the South Pacific.

Shankman, P. (1976). *Migration and Underdevelopment: The Case of Western Samoa*. Boulder: Westview Press.

Shaw, J. (2007), *Fiji Country Report*, Available from http://www.ausaid.gov.au/publications/pdf/fiji_study.pdf.

Simati, A. and J. Gibson. (2001), "Do remittances decay? Evidence from Tuvaluan migrants in New Zealand", *Pacific Economic Bulletin*, Vol. 16, No. 1, pp. 55-63.

Sjaastad, L. A. (1962), "The Costs and Returns of Human Migration", *Journal of Political Economy*, Vol. 705, pp. 80-93.

Skeldon, R. (1997). *Migration and Development. A Global Perspective*. Harlow: Longman.

Skeldon, R. (2005), "Migration and Poverty: Some Issues in the Context of Asia", in *World Migration 2005: The Costs and Benefits of International Migration*. International Organisation for Migration, Geneva.

Solimano, A. (2003a), *Workers Remittances to the Andean Region: Mechanisms, Costs and Development Impact*, Paper prepared for the Multilateral Investment Fund – IDB's Conference on Remittances and Development, Quito, Ecuador.

Solimano, A. (2003b), "Remittances by Emigrants: Issues and Evidence", *World Institute for Development Economics Research Discussion Paper No. 2003/89*, United Nations University.

Spaan, E., van Naerssen, T., and Hillmann, F. (2005), "Shifts in the European Discourses on Migration and Development", *Asia Pacific Migration Journal*, Vol. 14, pp. 35-70.

Spatafora, N. (2005), "Workers' Remittances", *IMF Research Bulletin*, Vol. 6, No. 4.

Stahl, C. (1982), "Labour Emigration and Economic Development", *International Migration Review*, Vol. 16, pp. 868-99.

Stahl, C. W. and Arnold, F. (1986), "Overseas Worker's Remittances in Asian Development", *International Migration Review*, Vol. 20, No. 4, pp. 899-925.

Standing, G. (1984), Income Transfers and Remittances in *Migration Surveys in Low Income Countries: Guidelines for Survey and Questionnaire Design*, (eds.) Bilsborrow, R. E., Oberai, A. S and Standing, G. 264-316. London: Croom Helm.

Stark, O. (1978), *Economic-Demographic Interactions in Agricultural Development*, Rome: UN Food and Agriculture Association. .

Stark, O. (1980), "On the Role of Urban-to-Rural Remittances in Rural Development", *Journal of Development Studies*, Vol. 16, pp. 369-374.

Stark, O. (1984), "Migration Decision Making: A Review Article", *Journal of Development Economics*, Vol. 14, pp. 251-259.

Stark, O. (1991a), *The Migration of Labour*, Cambridge: Basil Blackwell.

Stark, O. (1991b). "Migration in LDCs: Risk, Remittances, and the Family", *Finance and Development*, Vol. 28, No. 4, pp.39-41.

Stark, O and D. Levhari (1982), "On Migration and Risk in LDCs", *Economic Development and Cultural Change*, Vol. 31, No. 1, pp. 191-96.

Stark, O., Taylor, J. E. and Yitzhaki, S. (1986), "Remittances and Inequality", *The Economic Journal*, Vol. 96, No. 383, pp. 722-740.

Stark, O and R. Lucas (1988), "Migration, Remittances and the Family", *Economic Development and Cultural Change*, Vol. 36, No. 3, pp. 465-81.

Statistics New Zealand. (2008), *Labour Market Statistics: 2007*, Wellington: Statistics New Zealand.

Straubhaar, T. (1986), "The Determinants of Workers' Remittances: the Case of Turkey", *Weltwirtschaftliches Archiv*, Vol. 122, No. 4, pp. 728-740.

Taylor, J. E. (1992), "Remittances and Inequality Reconsidered: Direct, Indirect, and Intertemporal Effects", *Journal of Policy Modelling*, Vol. 14, pp. 187-208.

Taylor, J. E. (1994), "International Migration and Economic Development: A Micro Economy-wide Analysis", in *Development Strategy, Employment and Migration*, Organisation for Economic Co-operation and Development, Paris.

Taylor, J. E. (1999), "The New Economics of Labour Migration and the Role of Remittances", *International Migration*, Vol. 37, No. 1, pp. 63-86.

Taylor, J. E. (2006), *International Migration and Economic Development*, International Symposium on International Migration and Development, Population Division, Department of Economic and Social Affairs, United Nations, Turin, Italy, June 2006.

Taylor, J. E., J. Mora, R. Adams, and A. Lopez-Feldman (2005), "Remittances, Inequality and Poverty: Evidence from Rural Mexico", mimeo, University of California.

Terry, D. F. and Wilson, S. R. (eds.) (2005), *Beyond Small Change: Making Migrant Remittances Count*, Inter-American Development Bank, Washington, D.C.

Thomas-Hope, E. M. (1986), "Transient and Settlers: Varieties of Caribbean Migrants and the Socio-Economic Implications of their Return", *International Migration*, Vol. 24, pp. 559-572.

The Fiji Times. (2008a), *Peace missions earn $10.4m,* Saturday, January 12, Suva: Fiji Times Limited.

The Fiji Times. (2008b), *Remittance grows as a foreign earner,* Saturday, May 10, Suva: Fiji Times Limited.

Todaro, M. P. (1969), "A Model of Labour Migration and Urban Unemployment in Less Developed Countries", *The American Economic Review*, Vol. 59, No. 1, pp. 138-148.

Todaro, M. P. (1976), *International Migration in Developing Countries*. Geneva: ILO.

Tongamoa, T. (1987) *Migration, Remittances and Development: A Tongan Perspective,* unpublished, M.A. thesis, University of Sydney.

Tuisawau, V. (2006). The Remittance Touch. *Magazine Fiji Living*. December 2006, pp. 10-11.

United Nations. (2002), *International Migration Report 2002*, Department of Economic and Social Affairs, Population Division, New York.

United Nations Department of Economic and Social Affairs. (2006), *World Migrant Stock: The 2005 Revision Population Database*, Retrieved on 20th November, 2008 from http://esa.un.org/migration/p2k0data.asp

United Nations Development Programme. (2008), *Human Development Report*, Retrieved 15th December, 2008 from http://hdr.undp.org/en/statistics/

United Nations Economic and Social Commission for Asia and the Pacific. (1998), *Review of the Environmental and Development Trends Related to* Urbanization, Accessed on 10th June, 2008, from http://www.unescap.org/drpad/publication/integra/volume2/fiji/2fj01b.htm

van Naerssen, T., Spaan, E., and Zoomers, A. (2008), "Globalisation, Migration, and Development", in *Global Migration and Development*. New York: Routledge.

Vete, M. F. (1995), "The Determinants of Remittances amongst Tongans in Auckland", *Asian and Pacific Migration Journal*, Vol. 4, No. 1, pp. 55-68.

Vite, C. N. (2008), "Do Foreign Remittances Matter to Poverty and Inequality? Evidence from Vietnam", *Economics Bulletin*, Vol. 15, No. 1, pp. 1-11.

Von Korff, M., Wickizer, T., Maeser, J., O'Leary, P., Pearson, D. and Beery, W. (1992), "Community Activation and Health Promotion: Identification of Key Organizations", *American Journal of Health Promotion*, Vol. **7**, pp. 110–117

Warheit, G. J., Bulh, J. M. and Bell, R. A. (1978), "A Critique of Social Indicators, Analysis and Key Informants Surveys as Needs Assessment Methods", *Education and Program Planning*, Vol. 1, pp. 239–247.

Winters, L.A. and Martins, P. M. G. (2004), "When Comparative Advantage is Not Enough: Business Costs in Small Remote Economies", *World Trade Review*, Vol. 3, No. 3, pp. 1-37.

Wodon, Q., Diego, A., Gabriel, G., Diana, O. R., and Corinne, S. (2002), "Migration and Poverty in Mexico's Southern States", Regional Studies Programme, Office of the Chief Economist for Latin America and the Caribbean, World Bank, Washington, D.C.

World Bank. (2005), *Country Chapter – Fiji*, Retrieved 18th July, 2008 from http://siteresources.worldbank.org/INTPACIFICISLANDS/Resources/A-FIJI.pdf

World Bank. (2006a), "The Development Impact of Workers' Remittances in Latin America", Report No. 37026, The World Bank, Washington, DC.

World Bank. (2006b), *Global Economic Prospects: Economic Implications of Remittances and Migration*, The World Bank, Washington, DC.

World Bank. (2008a), *Migration and Remittances Factbook*, The World Bank, Washington, D.C. Available from Internet www.worldbank.org/prospects/migrationandremittances

World Bank. (2008b), *World Development Indicators Database*, Data on CD ROM, Washington, D.C.

World Bank. (2009), *Pacific Islands Brief*, Available from http://go.worldbank.org/J54LZGNYB0.

Yang, D. (2005), "International Migration, Human Capital, and Entrepreneurship: Evidence from Philippine Migrants' Exchange Rate Shock", *Gerald. R. Ford School of Public Policy Discussion Paper No. 531*, The University of Michigan, Michigan.

Zelinsky, W. (1971), "The Hypothesis of the Mobility Transition", *Geographical Review*, Vol. 61, pp. 219-249.