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**DOES REMITTANCES FINANCE WELFARE DEVELOPMENT?:
EVIDENCE FROM THE SOUTH PACIFIC ISLAND NATION OF FIJI****Abstract:**

Remittances to developing nations have become an important source of income to finance the recipient households' livelihoods, where changes in expenditure patterns, consumption and savings-investment nexus for long term development lead to improve in wellbeing. The Pacific Islands have also seen to a significant rise in remittances and it has become a steady source of foreign exchange earnings. The island nations have a sizeable migration flow to Australia, New Zealand, the United States and United Kingdom as well as to other Pacific islands. A large number of emigrants from Fiji also migrate to Canada. More recently, remittances form a substantial flow through temporary labour schemes. Fiji's rising migrant stock has seen remittances as the second largest foreign exchange earner after tourism surpassing other foreign capital flows of foreign aid, foreign direct investment as well as earnings from major commodity exports. It has large off-shore labour markets through specific employment abroad for teachers, nurses, care takers, sports personnel, military personnel and security officers in Australia, New Zealand, Dubai, United Kingdom, Middle East and the United Nations peace keeping force in the conflict-laden countries. The link between remittances and expenditure patterns has become an important nexus in the global welfare development framework. By increasing income of the recipient households', remittances have gained impetus in the development agenda for its contribution to individual welfare through a range of consumption goods, entrepreneurial small and medium scale business and poverty reduction. Remittances impact on households' welfare shows that this financial inflow has been used for consumer durable and non-durable goods, food, housing, savings, investment and developing human capital, i.e., schooling and health outcomes. Its eventual developmental impact depends on the sustainability and what categories of consumption and innovative investment expenditures the households spend remittances on. This study examines the impact of remittances on welfare development in Fiji using the household income and expenditure survey 2002-03 dataset for 5,245 households. Expenditure patterns of the households are estimated for various categories and further disaggregated by ethnicity, i.e. Fijian and Indo-Fijian households. The results provide some implications for social financing for wellbeing and note the empowering and visionary opportunities of remittances to be part of development.

Keywords:

International Migration, Remittances, Social financing, Welfare, Development, Fiji

JEL Classification: F37, I31, O12

Introduction

Globalization has a significant impact on migration which has been marked by a substantial increase in remittance flows to developing countries. The official recorded remittance flows to developing countries are estimated to reach US\$406 billion in 2012, a growth of 6.5% over the previous year with a rise in trend estimated to be 8% in 2013 and 10% in 2014 to reach \$534 billion in 2015 (World Bank, 2012). Remittances to developing nations have become an important source of income to finance the recipient households' livelihoods. These flows also highlight the changes in expenditure patterns, consumption that leads to wellbeing and savings-investment nexus for long term development of the household (Cordova, 2005). This study examines the impact of remittances on welfare development in Fiji using the household income and expenditure survey 2002-03 dataset for 5,245 households.

The Pacific Islands have also seen to a significant rise in remittances and it has become a steady source of foreign exchange earnings. The Micronesian and Polynesian nations of the Cook Islands, Niue, Samoa, Tonga and Tokelau have a sizeable migration flow to Australia, New Zealand and the United States. A large number of emigrants from the Melanesian nation of Fiji are also seen in these countries and Canada. More recently, Kiribati, Solomon Islands and Vanuatu remittances form a substantial part in their balance of payments through some permanent migrants and temporary labour schemes (Gounder, 2007). What is noteworthy for the Pacific islands migration is the movement of the educated population. In 2000, eight of the top 10 countries with the highest rate of tertiary educated emigrants in East Asia and the Pacific region were from the Pacific nations of Samoa at 75.4%, Tonga 75.2%, Fiji 62.2%, Marshall Islands 39.4%, the Federated States of Micronesia 37.8%, Papua New Guinea 28.5%, Palau 26.1% and Kiribati at 23.1% (World Bank, 2011).

Fiji's rising migrant stock due to political instability and with the increasing economic opportunities for skilled manpower has seen remittances as the second largest foreign exchange earner after tourism surpassing other foreign capital flows of foreign aid, foreign direct investment as well as earnings from major commodity exports. In terms of actual monetary magnitude Fiji is one of the top 10 recipients of remittances in East Asia and the Pacific region (World Bank, 2008). Besides permanent migration,

Fiji has large off-shore labour markets through specific employment abroad for teachers, nurses, care takers, sports personnel, military personnel and security officers in Australia, New Zealand, Dubai, United Kingdom, Middle East and the United Nations peace keeping force in the conflict-laden countries (Gounder and Prakash, 2009).

Over the last decade official recorded remittances to Fiji has averaged around 5% as a share of Gross Domestic Product. This may have financed a wide range of expenditures for the recipient households. Using Fiji's household income and expenditure survey 2002-03 dataset this study examines the impact of remittances on welfare development. In estimating the expenditure patterns of the households the methodological application utilizes the ordinary least squares approach for the individual categories of expenditure for 5,245 households. The household expenditure patterns are estimated for various categories and further disaggregated by ethnicity, i.e. Fijian and Indo-Fijian households. The study further examines the impact of remittances on schooling of children by urban and rural areas and by ethnicity. The results provide some implications for social financing for wellbeing.

Remittance and Welfare Development: A Brief Overview

The determinants of remittances literature note that it is a source for altruistic motives, self-interest motives, implicit loan agreement, and portfolio management decisions. Therefore the link between remittances and expenditure patterns has become an important nexus in the global welfare development framework. By increasing income of the recipient households', remittances have gained the impetus in the development agenda for its contribution to individual welfare through a range of consumption goods, entrepreneurial small and medium scale business and poverty reduction. Ratha (2007) notes remittance as a leverage to fund development. The remittances impact on households' welfare development shows that this financial inflow has been used for consumer durable and non-durable goods, savings, investment, food, housing, and for developing human capital, particularly for the schooling and health outcomes (Acosta, Fajnzylber and Lopez, 2007). Another study by Acosta, Calderon, Fajnzylber and Lopez (2008) note the effect of remittances on poverty and inequality. Therefore, remittances allow households to improve their standard of living, earn higher income as well play a larger role in the community development.

The level of flow of remittances to developing nations have become an important source of income to finance the recipient households' livelihoods, where changes in expenditure patterns, consumption and savings-investment nexus for long term development lead to improve in wellbeing. The utilization of remittances has been seen for consumer durable and non-durable goods, food, housing, savings, investment and developing human capital, i.e., schooling and health outcomes. Therefore the eventual developmental impact of remittances on welfare depends on the sustainability of such flows and the categories of consumption and innovative investment expenditures the households spend on. In addition to monetary remittances the literature notes the ways economic and social development can be sustainable, empowering and visionary to provide opportunities to the households to be part of the process of development.

The use of the remittances income may increase in the intake of consumption goods, thus in this case it said that remittances lead to an increase in consumption levels. This would also be the case regarding the aggregated investment spending. Several reasons have been noted on why remittances income maybe spent differently to that of other income by McKenzie (2006), see also McKenzie (2005). The first argument is that migrants send remittances based on responses such as specific events, or condition on certain actions required by the household that ultimately induce specific uses of those remitted funds. The other issues noted by McKenzie is that households view of the remittance flows is that it is being more temporary in nature, and thus increase their spending on education, housing and other household durables. Based on the permanent and transitory income consumption theory it suggests that households will save a larger fraction of transitory income (or invest it in schooling and housing) than they would for permanent income (Gapinski, 1993). In other words this suggests that remittances income will be spent differently by different recipient households.

A comprehensive study on the labour mobility examines if economic benefits of remittances in the South Pacific arise from expanding jobs through migration (Brown, Connell, Jimenez, and Leeves, 2006). It must be noted that various ways of utilising the remittance income by the recipient households can have multiplier effects on the

economy. This is particularly through several consumption channels such as food, durable and non-durable goods, housing and human capital (i.e., education and health) which improve the welfare of the households. Poverty reduction has been seen in many countries through income distribution, expenditure of the households in terms of food, durable and non-durable goods, seen in some countries has been explained by the poverty and inequality indicators if the poor households can have access to migration opportunities and remittance flows (De Haab, 1999; Hadi, 1999; Gupta, Pattillio and Wagh, 2007).¹

There exist various country and regional studies on remittances and income distribution. These studies assume that remittances are exogenous transfers and in doing so the inequality indicators have been utilised for the observed household income and the household income without remittances (Stark et al., 1986; Leones and Feldman, 1998; Ahlburg, 1991; Brown and Connell, 1993).² They conclude that remittances increase income inequality in the early stages of migration whereby the better-off households are the recipients of remittance income as they are able to meet migration 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.

The expenditure on housing, home improvements and purchase of land are major priorities of the migrant producing families (Stahl and Arnold, 1986). In the developing countries families with low incomes live in poorly constructed, cramped houses with few basic conveniences and as such the addition of rooms, putting piped water and electricity amongst other things become the priority of the households as remittances form part of the families' incomes. Debt repayment is also a relatively important item that features prominently in the expenditure profiles of the remittance receiving

¹ See World Bank study (2006) and the studies cited therein.

² The econometric methodology, data and time period of analysis have shown some differences in results (Barham and Boucher, 1998) and Adams (2006). This includes the issue of testing the self-selection of migrant households in the case of Nicaragua and Guatemala, respectively. They find that in both instances migrant households are not self-selected.

families as migrant producing families incur substantial debt in the process of securing overseas employment. In addition, remittances flows to countries like India, Pakistan and Bangladesh are also mainly used to finance wedding expenditures, dowries and the purchase of jewellery (Stahl and Arnold, 1986).

In the case of Latin American nations, Taylor (1992) using data on rural Mexico finds that remittances recipient families tend to invest more in farm assets such as livestock. This is contrary to the observations of the Asian economies by Stahl and Arnold (1986) who report productive investment as a low priority in the region. Similarly, Adams (2004) show that Guatemalan families tend to spend lower share of their remittance income on food and other non-durable goods and more on consumer durables, housing, education and health. Overall the literature suggests that these funds are merely private flows directed to improving the quality of lives of the recipient families.

The findings from various studies on developing countries have varied conclusions on the impact of remittances on welfare development as development is also complex. The use of remittances can be induced by immediate needs and also for expenditures that improve the standard of living. Brown et al., (2006) note that there can be a direct relationship of remittances that can reduce financial constraints of the households which can lead to investment in human capital that may not otherwise be the case of many households. The indirect relationship as explained by Brown et al., note that the nexus between remittances and human capital investment cause migration which in turn can cause investment in human capital.

There are various factors that impact the flow of remittances. Doubling of remittances over the past years have been attributed to better measurement flows, increased scrutiny since the September 11 terrorist attacks, cost reduction of remitting money and expansion of networks in the money transfer industry (Ratha, 2007). In addition, depreciation of the US dollar has essentially raised the dollar value of remittances in other currencies and the growth in world migrant stocks have contributed positively to the significant growth in remittances. Improvements in data recording by central banks and as a result of broader efforts to improve data quality have generated sharp increases in the recorded remittances flows. In addition, heightened security and

scrutiny by immigration and financial authorities in many high-income countries may have encouraged outward surges in remittances, as illegal migrants responded to increased uncertainty and risk of deportation or other legal action by remitting a larger share of their savings or income (World Bank, 2006). This factor has reportedly been important in Pakistan, which recorded the tripling of remittance receipts from 2001 to 2003.

The surge in remittances is likely to continue in the medium term in light of an increasing world migrant stock along with compositional features, such as the mix between temporary and permanent workers (temporary workers are believed to remit a larger share of their income), skill mix (low-skilled workers tend to send a higher portion of their lower incomes), opportunities for employment and the cost of living in host countries determine the surplus of funds that could be remitted (World Bank, 2006). It has been noted that remittances flows have declined in many countries since 2001 due to tightened scrutiny, for e.g. remittance flows to Pakistan have flattened since 2003 (ibid). Decline in remittances also may occur especially if temporary or undocumented workers are allowed permanent and legal residence. While the marginal propensity to remit tends to decline with the length of a migrant's stay in the host country and ties with the home country weaken over time, there is no empirical evidence support that the dollar amount of remittances declines under these circumstances (Asian Development Bank, 2005; World Bank, 2006, Simati and Gibson, 2001).

The development impact of workers' remittances provides evidence of various remittance usages and an understanding of an individual chooses to migrate and then chooses to send remittances. Migration and development nexus emphasis mainly as being economic in nature amongst which the impact of remittances can be beneficial and yet there is also the detrimental consequences of the brain drain for local labour markets in the countries of origin. Fiji has large off-shore labour markets through specific employment abroad for teachers, nurses, care takers, sports personnel, military personnel and security officers in Australia, New Zealand, Dubai, United Kingdom, Middle East and the United Nations peace keeping force in the conflict-laden countries.

Remittances Flows in the context of Fiji

Fiji Islands is classified as a lower middle-income country and the GDP per capita of US\$4,200 in 2011 (World Bank, 2013). The 2011 population of 889,000 has 51 percent urban population and 49 percent as the rural population. About 70 percent live on the main island of Viti Levu, 17 percent in Vanua Levu with the rest across smaller inhabited islands. Fiji's literacy rate is over 90 percent with life expectancy at birth of 70 years and infant mortality of 13 per thousand population (Ministry of Finance and National Planning, 2006). Fiji Human Development Index in ranking dropped from 44th (out of 174 countries) in 1996 to 81st in 2009 (United Nations Development Programme, 2009).

Fiji's relatively high growth since the independence in 1970 suffered from sluggish growth performance in the last two decades mainly due to political instability caused by the coups in 1987, 2000 and 2006. The coups precipitated a collapse in business confidence retarding private and foreign investment, outflow of capital and skilled workers accompanied by a large negative trade balance. In response the government implemented various initiatives in terms of fiscal, monetary and exchange rate policies focusing on discouraging capital outflows, reduce inflation, correct imbalances in exchange rates, and encouraging investors to take export-oriented activities (Gounder, 2002).

The emigration of skilled labour, in particular has been a major impediment on growth and development in the post-1987 coup period. On the other hand the movement of labour has been marked by a higher flow of remittances to Fiji. The flow of remittances has grown substantially over the years which generally have been used for the recipients' wellbeing. It also is a source for foreign exchange. The critical role of remittances and the increase in migration numbers have seen Fiji receiving a substantially higher proportion of remittances over the last two decades. In comparison remittance flows have been higher than foreign aid and foreign direct investment. An assessment of these financial flows is crucial to understanding the leveraging of remittances for development.

Models, Data and Methodology

The empirical literature and the theoretical issues of remittances and welfare development discussed above have been applied in the estimation of the models in the case of Fiji. The models illustrate the impact of remittances on household expenditure and human capital development. Following the studies on Latin America by World Bank (2006) 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. The econometric package STATA has been utilized to estimate the models.

Remittances and Household Expenditure Specification

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:

$$E_i = \alpha + \beta X_i + \gamma H_i + \delta R_i + \varepsilon_i \quad (1)$$

where E_i represents different dependent variables, i.e., 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, i.e., 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, i.e., a dummy if the household head is working in the agricultural sector, age is in quartic form for household head.

R is a dummy variable for households that receive remittances; and

ε_i is a random error term.

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. 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. Thus, following Hanson and Woodruff (2003) and World Bank (2006), the empirical model to

assess the impact of remittances on human capital development in Fiji is expressed as follows:

$$E_i = \alpha + \beta X_i + \gamma M_i + \lambda C_i + \delta R_i + \varepsilon_i \quad (2)$$

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.

X_i is a vector of child and household characteristics, i.e., age of the child, a dummy variable for the child being the oldest in the household, indicators for 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, i.e., education attainment of the mother, mother's marital status, mother's household head status, and a quartic form of mother's age.

C_i represents the community characteristics, i.e., the proportion of households with sanitary services, 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.

Fiji's 2002-03 HIES dataset indicates social and economic indicators for 5,245 households. The survey methodology conducted by the Fiji Islands Bureau of Statistics has a two-stage sampling strategy with representative samples of Urban and Rural Enumeration Areas (EA) for all household information.³ The household expenditure and per capita consumption data are recorded in a logbook over a month. The summary statistics for the remittance recipient and non-recipient households by regions and ethnicity are provided in Table 1 based on the 2002/03 HIES data. The OLS estimates for remittances and household expenditures equation (1) and remittances and human capital (equation 2) are presented in Tables 2 and 3, respectively.

Table 1 Remittance Recipient and Non-Recipient Household Composition HIES, 2002/03

Households	Remittance Recipient Households		Non-Remittance Recipient		
	No. of Households	Percentage	No. of Households	Percentage	
Total No. of Households	882	16.8	Total No. of Households	4363	83.2
Urban	398	45.1	Urban	2617	60.1
Fijian Households	148	16.8	Fijian Households	990	22.7
Indo-Fijian Households	221	25.0	Indo-Fijian Households	1438	33.0
Others	29	3.3	Others	189	4.3

³ The selected EAs (sample of 860 EAs) stratum survey is proportional to its size with a systematic random sampling that indicates the standard normal cumulative density function for the expenditures (Fiji Islands Bureau of Statistics, 2006).

Rural	484	54.9	Rural	1746	40.0
Fijian Households	281	31.9	Fijian Households	1053	24.1
Indo-Fijian Household	184	20.9	Indo-Fijian Households	662	
15.2					
Others	19	2.1	Others	31	0.7

Remittance Recipient Households

All Fijians	429	2043
All Indo-Fijians	405	2100
Others	48	220

Non-Remittance Recipient Households**Total Number of Households 5245**

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

Empirical Results

The empirical results are presented for the impact of remittances on the household expenditure and the impact of remittances on human capital development in the case of Fiji. The estimations for both the models are undertaken using STATA for the four dependent variables for all remittance-expenditure recipient household category and recipient-educational attainment nexus. The model diagnostics indicate no concern and the conventional tests for the models indicate a good fit to the data. The results presented in Tables 2 and 3 should the estimated remittances coefficient. Each equation has all the variables shown in equations (1) and (2).

Remittances and Household Expenditure Nexus

The estimated results for remittances and household expenditures are reported in Table 2. The remittances impact for the food expenditure share is negative but insignificant; this may be as very small share of remittances may be spent on food compared to other expenditure categories. The disaggregated results by urban and rural areas and by ethnic groups indicate some interesting results. All these disaggregated components are positive for food expenditure-remittances relationship except for urban Fijian households that shows a negative impact but the coefficient is not significant. The conventional wisdom note for household remittances expenditure is that it is mostly used for household consumption good which is for other basic needs. 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 as seen by the significance of households expenditure that has other substantive categories of remittances.

The results for expenditure on durables (i.e. household electrical appliances and machinery) and non-durables (i.e. clothing and footwear) are positive and significant at the 5 percent level for all remittance recipient households. For the rural households the remittances are spent on durable and non-durable goods, in particular the rural Fijian household coefficient is positive and significant at the one percent level while that of Indo-Fijians is positive but not significant at the conventional level. The urban Indo-Fijians remittances for durable and non-durable goods coefficient is negative and significant, this implies a significant decline in this category. It is seen that Indo-Fijians expenditure reduction for durable and non-durable goes into increased for the housing category. The urban Fijian households' coefficient is negative but not significant. The results overall for all recipient households show that remittances serve as a catalyst for investment in housing share.

For the housing expenditure category, the coefficient is positive for all remittance recipient households significant at the 10 percent level. This relationship between remittances and housing development suggest that families in Fiji improve their houses from poorly constructed to have additional rooms, housing improvement and even acquisition of land for housing development that becomes a priority (Stahl and Arnold, 1986). This observation is supported by the positive and significant coefficient 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'; the coefficient is significant at the 1 percent level. This result supports the view that expenditure on housing increased as the need for housing in urban areas has risen following the rural-urban migration due to the 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. The finding here supports the view noted in a report by the Ministry of Finance National Planning (2006) on the issue of higher housing needs in the urban areas.

Table 2 Results for Remittances and Expenditure Nexus

Household Categories	Dependent Variables			
	Food	Durables & Non-Durables	Housing	Human Capital
All Remittance Recipient Households	-0.005 (0.90)	0.02 (2.55)***	0.006 (1.93)*	0.002 (2.87)***

Total Urban Households	0.003 (0.23)	-0.002 (2.17)**	0.18 (2.44)***	-0.004 (1.01)
Urban Fijian	-0.003 (0.21)	-0.007 (0.60)	0.006 (0.70)	0.002 (0.30)
Urban Indo-Fijian	0.003 (0.27)	-0.02 (-2.15)**	0.03 (2.34)***	-0.005 (1.00)
Total Rural Households	0.001 (0.17)	0.02 (1.46)	-0.006 (-1.40)	0.005 (1.81)*
Rural Fijian	0.005 (0.63)	0.017 (3.69)***	-0.002 (-0.53)	0.008 (1.87)*
Rural Indo-Fijian	0.004 (0.30)	0.021 (1.02)	-0.009 (-1.47)	-0.001 (0.32)

Notes: ***, ** and * indicate significance levels at the 1%, 5% and 10% levels respectively, t-ratios in brackets. Total number of households surveyed = 5245, and 882 households reported as receiving remittances.

The estimated result for human capital expenditure (i.e. education and health) for all recipient households is positive sign and statistically significant at the 1 percent level. This result provides strong evidence of remittances-induced health and education spending in Fiji. The disaggregated results for the human capital category is undertaken for the urban and rural households, and by ethnicity, i.e., urban Fijian and Indo-Fijian households and rural Fijian and Indo-Fijian households. The estimated rural human capital expenditure is positive and significant, this suggests that household expenditure increases through remittances. The urban remittances household coefficient is negative but not significant. The Fijian household expenditure in urban areas is positive and that of rural households is negative, but both the estimated coefficients are not significant. For the rural areas, Fijian households tend to spend more on education and health compared to Indo-Fijian households. The coefficient for the Indo-Fijian households is negative but insignificant. Overall, it can be said that Fijian households that receive remittances incur greater expenditure on health and education compared to the rural Indo-Fijian households. This results reflect that in the rural areas education and health deprivation of the Indo-Fijian households is high without access to remittances.

Remittances and Human Capital Development Results

The model diagnostics of human capital and remittances relationship (equation (2)) perform quite well and the model has a relatively high explanatory power in terms of conventional tests of adjusted R^2 and F -statistics. The estimated results for the remittances coefficients for the educational attainment are presented in Table 3. The impact of remittances on schooling of children for is positive and significant for All

Children which suggest that remittance make a positive contribution on the education attainment of the children. This result is consistent with the findings of Brown et al., (2006) for Fiji from their survey of a sample of households. Further disaggregation of All Children is undertaken by All boys and All Girls. The estimated coefficients show that remittances are spent on educational attainment for All Boys which is positive and significant at the 1 percent level while the estimated coefficient for All Girls is positive but it is not significant.

Understanding the level of impact of remittances on the educational attainment shown by ethnicity indicates that All Fijian and All Indo-Fijian boys have higher educational attainment at 0.38 and 0.21 percent, respectively, although the All Indo-Fijian coefficient indicates a weak relationship. These estimated positive and statistically significant coefficients suggest that remittances support the educational attainment for boys in these recipient households. The finding is reflective of the societal values associated with the education decisions of boys and also where the argument is that in the case of a male migrant member then remittance flows maybe generally directed to educating the remaining male members of the family who are envisaging future migration.

The estimation in term of disaggregating by Girls, the results show that remittances exert a positive and significant effect on the education of All Fijian Girls compared Indo-Fijian Girls where the estimated coefficient is positive but not significant. Remittance are utilised for All Fijian Girls but the magnitude of the coefficient is much lower at 0.29 compared to 0.48 for the All Fijian Boys. The classification of Indo-Fijian boys and Indo-Fijian girls results show that remittances finance the educational attainment of All Indo-Fijian boys (exhibited by positive coefficient of 0.29, but weak significance level) to that of All Indo-Fijian girls that show an estimated insignificant coefficient of 0.14.⁴ Culturally Indo-Fijian families still do not educate their girls.

Table 3 Results for Remittances and Education Attainment Nexus

Dependent variable: Education attainment (> Class 8) of children aged between 14 & 17 years			
All Children	0.26 (2.76)***	All Boys 0.39 (3.09)***	All Girls 1.21 (0.23)
All Fijians	0.38	All Indo-Fijians	0.21

⁴ The World Bank (2006) study establishes a positive and significant link between remittances and education development of urban boys in the case of El Salvador, Honduras and Ecuador.

	(3.06)***		(1.54)*
All Fijian Boys	0.48 (2.84)***	All Fijian Girls	0.29 (1.65)*
All Indo-Fijian Boys	0.29 (1.44)*	All Indo-Fijian Girls	0.14 (0.78)
Urban		Rural	
All Urban Children	0.14 (1.14)	All Rural Children	0.40 (3.08)***
All Urban Boys	0.45 (2.56)***	All Rural Boys	0.42 (2.30)**
All Urban Girls	-0.21 (1.22)	All Rural Girls	0.37 (1.96)*
Fijian Boys	0.28 (1.16)	Fijian Boys	0.66 (2.66)***
Fijian Girls	-0.34 (0.16)	Fijian Girls	0.65 (2.34)**
Indo-Fijian Boys	0.59 (2.02)**	Indo-Fijian Boys	0.22 (0.08)
Indo-Fijian Girls	0.28 (0.95)	Indo-Fijian Girls	-0.12 (0.10)

Notes: ***, ** and * are the levels of significance at the 1, 5 and 10% levels, *t*-ratios in brackets. Total number of children aged between 14 and 17 years in the 2002/03 HIES was 1823.

The impact of remittances on the educational attainment by urban and rural areas indicate differential impacts and also by ethnicities. The impact of remittances induces a positive and significant effect on the educational attainment of All Rural Children and this relationship is positive and significant for All Rural Boys and Girls. Comparing that to All Urban Children it is seen that remittances has a positive and significant contribution for All Urban Boys in their educational attainment but is not significant for All Urban girls. By classifying this further by gender, the results show that in urban areas, Urban 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 education for urban Indo-Fijian boys but not so for Urban Indo-Fijian girls.⁵ The estimated coefficient is positive for Urban Indo-Fijian girls but the coefficient is not significant.

At a further disaggregation by gender in the rural areas it is found that remittances receiving households allocate remittances towards the educational attainment for both the Fijian and Indo-Fijian children. The estimated remittances coefficients for All Fijian boys and All Fijian Girls are positive and have significant impacts on the education attainment. The result for Rural Indo-Fijian Boys coefficient is positive but not significant at the conventional level while that of Indo-Fijian Girls shows a negative insignificant impact on their educational attainment. Overall, these results provide

⁵ McKenzie and Rapoport (2005) note such issues of inequality in the case of rural Mexico.

strong evidence of remittance usage for education purposes in the Rural Fijian households.

Conclusion

The workers' remittances and its impact on development have received increasing importance given its large flows and improving the wellbeing of the recipient households. Fiji's migration pattern shows the surge in the flow of remittances that provides a strong platform for growth and development. The use of remittances in Fiji and also in other islands of the Pacific is diverse; therefore its effect on household wellbeing and its domestic activities will be vital for growth and development. Remittances as a safety net for consumption and its flows to the urban and rural areas can have differential impact on those households. This study examines the impact of remittances on welfare development for various categories, which is further disaggregated by ethnicity, using the household income and expenditure survey 2002-03 dataset for 5,245 households.

The results show that remittances induce consumption of consumer durables and non-durables, housing and human capital (education and health). However, the expenditure patterns differ between urban and rural areas, by ethnicity between Fijian and Indo-Fijian households and also gender between the Fijian and Indo-Fijian boys and girls. The remittance expenditure share by the Fijian households utilise remittance for durable and non-durable goods, housing and human capital development. The Indo-Fijians have a higher effective use of remittances on housing and human capital expenditures. The rural Fijians use remittance income substantially on durable and non-durable goods, and human capital. The results imply that remittances reduce expenditure constraints in the urban Indo-Fijian households and it reduces the deprivation of rural Fijian households.

The impact of remittances on schooling of children is overall positive and significant on the educational attainment of children. The disaggregated results by gender support that Fijian boys and girls have higher educational attainment in all remittance recipient households while the Indo-Fijians' impact is weak and is not significant for Indo-Fijian girls. In the rural areas Fijian households utilise remittances for educating

both the boys and girls, whereas this is not seen in the case of Indo-Fijian rural households.

The use of remittances for household expenditures suggests that housing and human capital categories take a priority over other expenditures. Findings for the rural region support increased incidence of remittances emanating from recent migration from rural Fijian communities for the military deployment overseas, security purposes and for contractual sports engagements, particularly for rugby. These temporary migrants maintain close links with the families at home and channel financial remittances and goods on a regular basis. The Fijian households have very close communal and extended family lifestyles that provide substantial support for use of remittances in the educational development of children in the rural areas. The insignificant coefficient for the rural Indo-Fijian households can be explained where these families have lower levels of remittance inflows (only 29.9% (184 households), Table 1) and use remittances mostly for food and durable and non-durable goods (Table 2) beside also culturally there is a lower level of allocating remittances for the educational attainment for the girls.

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