# An analysis of recent survey data on the remittances of Pacific island migrants in Australia[*]

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## Abstract

We report initial findings from a household survey of Pacific island migrants and their remittances, conducted in 2010-11 in New South Wales (NSW). The study covers three Polynesian communities, Samoans and Tongans as in previous studies, but also Cook Islanders. We cover migrants in both Sydney and regional NSW. We quantify remittances of all types, formally and informally transferred, and distinguish those sent to households and organizations (mainly churches) or invested, beyond the migrants' home country household, which account for almost 40% of total remittances. We provide the first estimates of remittances to Cook Islands since the mid-eighties, and the first estimates of remittances from regional areas in Australia. We investigate a number of potential socio-economic determinants of remittance behavior including the migrants' income, duration of absence, strength of ties to home country, and major events in home country and Australia. We identify a number of important differences among the three groups, and between the Riverina- and Sydney-based communities. Areas for further research from this dataset are identified.

**JEL Codes:** F22, F24, J61, O15

**Key words**: migration, remittances, household survey, urban and regional Australia, Pacific islands, Cook Islands, Samoa, Tonga

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1. **Introduction**

*Migration and remittances in the South Pacific*

Remittances are increasingly viewed as an important factor in promoting economic development and providing informal, family-based social protection in less developed countries, especially where formal pension schemes do not exist. This is nowhere more applicable than in those Pacific island countries (PICs) from where there has been extensive migration to Australia, New Zealand and the US. Migrants' remittances have been the subject of extensive discussion in the context of sustainable development in the South Pacific (Connell and Brown 2005). Importantly international migration has become a "safety-valve" for PIC governments under increasing pressure to provide employment opportunities and welfare services in conditions of poor domestic economic growth performance. By the 1980s smaller Pacific island countries (initially Kiribati, Tokelau, Cook Islands and Tuvalu) had become conceptualized as MIRAB states by Bertram and Watters (1985), and later extended to larger countries such as Samoa and Tonga, where Migration, Remittances, Aid and the resultant largely urban Bureaucracy were central to the socio-economic system. For these MIRAB countries remittances relative to GDP are among the highest in the world (Ratha *et al.* 2011). Furthermore, civil unrest in the in a number of PICs has raised Australian government concern for the emergence of a so-called 'arc of instability' in the region (Duncan and Chand 2002). For these reasons the impact of migration and migrants' remittances on the economic well-being and development of migrant-sending countries is receiving increasing attention in the migration policy debate in Australia, specifically in relation to the Pacific Seasonal Worker Pilot Scheme (PSWPS) for temporary migration from the Pacific islands.

Support for the PSWPS has come mainly from employer organizations, regional and local governments and academics, in relation to the benefits that would accrue both to Australia in alleviating unskilled labour bottlenecks, and to the sending countries in terms of the expected remittance flows (Maclellan and Mares 2006; World Bank 2006; Maclellan 2008). A survey of Tongan and Samoan migrants in Australia and their island-based families over 15 years ago went some way towards challenging a number of conventional beliefs about remittances, by showing, for instance, that remittance-receiving households tended to save more, that remittances reduced poverty and improved income distribution, and, that there was little evidence of remittance decay over time (Brown 1995; Brown and Walker 1995; Brown 1997; 1998). This earlier work focused exclusively on long-term, urban-based migrants in Brisbane and Sydney.

A more recent survey-based study for the World Bank among migrant-sending and remittance-receiving households in Fiji and Tonga found that remittances make a significant contribution to the alleviation of poverty, as well as promoting saving, investment and human capital (Brown *et al.* 2006; Brown and Jimenez 2008; Jimenez-Soto 2008; Jimenez and Brown 2008; Jimenez-Soto and Brown 2012). It was also found that the impacts of remittances extend well beyond the migrant-sending households; a significant proportion of non-migrant households received remittances either directly from migrants of other households, or indirectly from internal, unrequited transfers made to them by remittance-receiving households (Brown *et al.* 2006).

It was also found in earlier surveys that migrants do not remit exclusively to households but also to community-level organisations, mainly churches, and to community clubs and societies, and relief funds. Through these 'social remittances' the wider community including non-migrant households may benefit. Apart from remittances to households and organisations, migrants also send remittances for the purpose of accumulating assets in their home country. These could be financial assets such as savings accounts, or physical assets such as housing or business investment. Most of the existing literature on remittances focuses exclusively on remittances to households and most often, only the migrants' household. Analysis of the determinants and effects of remittances consequently overlooks a large part of the broader remittances picture. By surveying the migrants themselves, this study allows for broader categories of remittance recipients. Moreover, as previous surveys in Australia were conducted exclusively among migrants in cities we have no information about the migration histories, labour market performance, incomes and remittances behaviours of Pacific islanders in the labour force in regional areas such as the Riverina region of NSW, Mildura and Shepparton in Victoria, and Renmark in South Australia. Unlike any previous household survey-based studies of Pacific islanders in Australia, the research project on which this paper is based focuses explicitly on a comparison of urban and regional Polynesian communities.

The study comprises of a household survey of Polynesian migrants in the greater Sydney area and in the Riverina region was conducted in 2010/11 among three of the largest Pacific island migrant communities in Australia; Tongans, Samoans, and, Cook Islanders.[1] (Further details of the survey are discussed in Section 2 and in Appendix 1).

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[1] The other substantial Pacific island migrant community is from Fiji, but given that this community consists of two distinct sub-groups, Indo-Fijians and Indigenous-Fijians with very different migration histories and motivations, and the relatively low numbers living in the Riverina area, the survey sample was restricted to the three Polynesian communities.

*Background on Polynesian migration to Australia*

Most international migration of Pacific islanders has occurred since the 1950s and so extensive has it become that some of the greatest concentrations of Pacific Islanders are now residing outside their countries of origin in cities such as Auckland, Sydney, Honolulu, and Los Angeles. In all three countries covered in this study more than half their ethnic population currently lives overseas.[2]

The extreme case is Cook Islands where there is now a population of less than 20 thousand domestically resident, and an estimated 70 thousand ethnic Cook Islanders living abroad (Table 1). Most of these (around 60 thousand) are in New Zealand. Cook Islanders have New Zealand citizenship and as such have free access to New Zealand residency.[3] At present there are an estimated 5,000 Cook Island-born people living in Australia, of whom almost one-third hold Australian citizenship (Department of Immigration and Citizenship 2010a). More than 50% of the Cook Islanders surveyed in our study entered Australia via New Zealand as step-migrants under the Trans-Tasman Agreement. The rest presumably entered Australia directly from the Cook Islands as New Zealand citizens.

**Table 1: Country Background Demographic and Economic Data**

|  | Tonga | Samoa | Cook Islands |
|---|---|---|---|
| Population (thous. 2010) | 103.7 | 184 | 17.8 |
| Ethnic Abroad (thous. 2006)* | 125 | 300 | 70 |
| Migrants (thous. 2006)* | 100 | 220 | 30 |
| GDP/Capita (US$ thous. 2009) | 3.32 | 3.14 | 9.14 |
| Imports/GDP (2007-10) | 36.99 | 43.23 | 66.61 |
| Exports/GDP (2007-10) | 2.84 | 2.11 | 1.78 |
| ODA/GDP (2007-09) | 10.00 | 9.60 | 3.90 |
| Net Borrowing/GDP (2007-09) | 2.31 | 4.53 | 0.05 |
| Remittances/GDP (2007-09) | 26.90 | 24.10 | n.a.+ |

* 'Ethnic Abroad' includes overseas-born, and 'Migrants' excludes overseas-born (Bertram 2009).
Sources: Asian Development Bank (2011a; 2011b; 2011c).

There are around 300 thousand ethnic Samoans living abroad, with only 184 thousand resident in Samoa (Table 1). Again most of these live in New Zealand. In 2006, 131,103 people of Samoan ethnicity were living in New Zealand, of whom less than 50% were born in Samoa (50,649). During WW1 New Zealand occupied Western Samoa and administered the

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[2] The demographic data in Table 1 are estimates by Bertram (2009).
[3] From 1901 to 1965, the islands were administered by New Zealand, and since 1965, they have operated in "free association" with New Zealand.

country until independence in 1962. Most Samoans entered New Zealand under the Samoan Quota System, first introduced in 1967, which, since 2002, allows up to 1,100 Samoans access, through a ballot, to permanent residence in New Zealand each year. Like the Cook Islanders, most of the estimated 15 to 20 thousand ethnic Samoans currently living in Australia entered via New Zealand as 'step-migrants'.[4] In our sample around two-thirds of the Samoan migrants entered Australia via New Zealand.

Tongans have historically had less easy access to New Zealand and Australia yet their rate of international migration has also resulted in an almost equal number of Tongan-born migrants living abroad and a domestically-resident population of around 100 thousand hardly growing over the last few decades (see Table 1). There are an estimated 125 thousand ethnic Tongans living abroad, of which 50 thousand are in New Zealand. From the mid-1970s, following the cessation of the New Zealand contract-worker scheme, many Tongans employed in the scheme left New Zealand and came to Australia looking for work. At the 2006 census there were an estimated 7,580 Tongan-born migrants living in Australia (Department of Immigration and Citizenship 2010c). In our sample around 38% of the Tongan respondents migrated to Australia as step-migrants from New Zealand. Most (around 56%) migrated to Australia directly from Tonga.

### Dependence on income from abroad

Common to the three Polynesian countries is a heavy reliance on income from abroad.[5] This is shown most clearly in Figure 1 by the enormous trade gap in all three countries, the extreme being the case of the Cook Islands where imports are equivalent to two-thirds of GDP while exports are less than 2 per cent of GDP.[6] It is also interesting to note that the Cook Islands appears to enjoy a relatively much higher per capita income of over US$9 thousand in comparison with just over US$ 3 thousand in Samoa and Tonga. Income from external sources is consequently of vital importance in all cases, consisting of three main forms; in ascending order of importance - borrowing, foreign aid and international migrants' remittances.
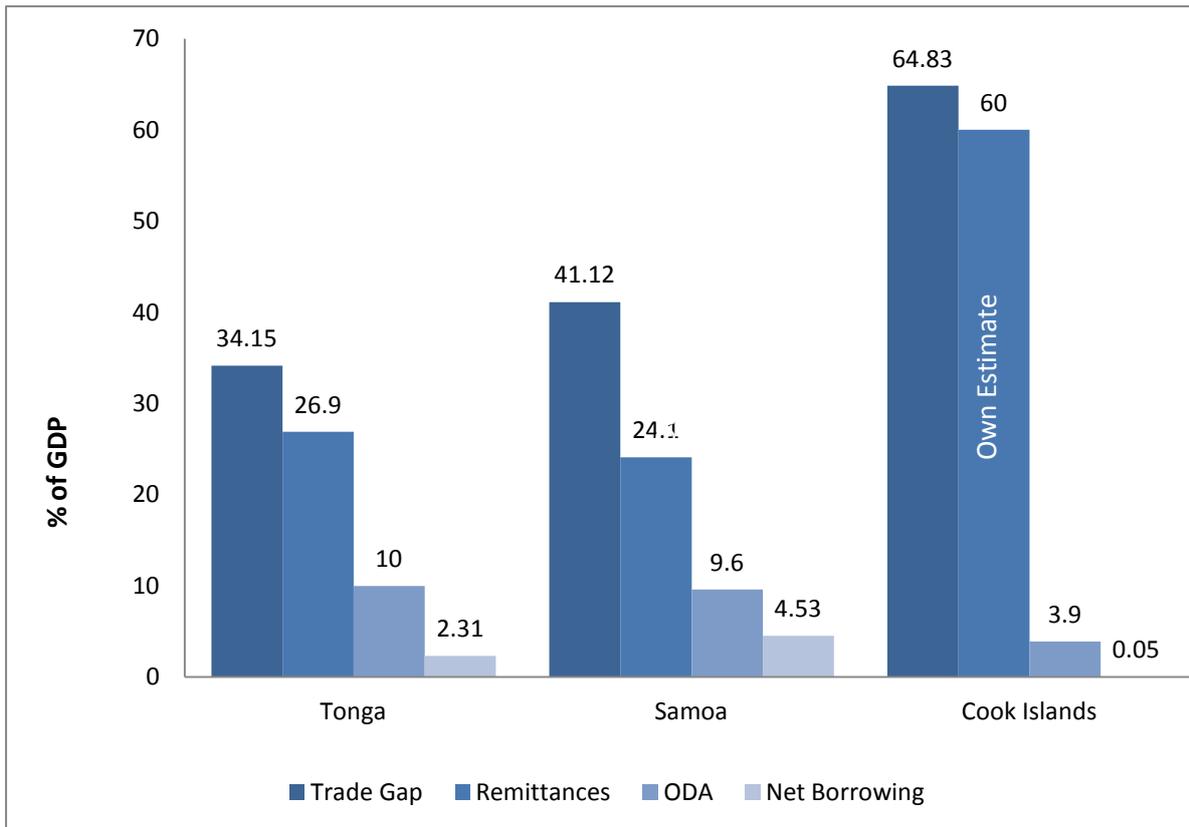
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[4] According to the 2006 census there were 15,240 Samoan-born people living in Australia (Department of immigration and Citizenship 2010b)

[5] The Cook Islands does not have its own currency - it uses the New Zealand dollar.

[6] In this study we define trade gap as the value of imports minus the value of exports.

**Figure 1: Trade Gap by Source of External Income (2007-2009)**



Source: Based on data reported in Table 1. Trade gap defined here as imports *minus* exports. Upper-limit estimate of Cook Islands remittances based on unfinanced trade gap.

The cases of Tonga and Samoa are very similar. Tonga's trade gap is equivalent to about 34% of GDP and estimated foreign income flows amount to approximately 40% of GDP: 2.3% from borrowing; 10% through foreign aid and 27% through remittances. Samoa's trade gap amounts to around 41% of GDP and foreign income flows add up to about 38% of GDP with very similar proportions from the three main sources to Tonga.

The case of the Cook Islands is different in a number of respects. As already noted, the national accounts data indicate a very much higher level of per capita income and an associated trade gap equal to around 65% of GDP. Net foreign borrowing is negligible and foreign aid is less than 4% of GDP. What also distinguishes the Cook Islands case is that there are no official or unofficial estimates of international remittances. Indeed, the balance of payments statistics show no data on private income transfers from abroad in any form. This is puzzling given our previous observation that while the domestically-resident population is less than 18 thousand  in comparison with over 70 thousand ethnic Cook

Islanders living abroad (Table 1).[7] Given that we know from a much earlier study in the early 1980s (Loomis 1986), and from this survey, that Cook Islanders share similar remittances behaviours to other Polynesian migrants (discussed in section 3), and, assuming that the trade, foreign aid and borrowing aggregates reported in Table 1 and Figure 1 are reasonably accurate, it can reasonably be assumed migrants' remittances cover a substantial part of the unaccounted trade gap. With a trade gap equal to 65% of GDP and foreign borrowing and aid totaling 4% of GDP, the 'unfinanced' trade gap amounts to around 60% of GDP as shown in Figure 1. However, given that approximately 60% of imports are from New Zealand, for which foreign exchange earnings are not required, it does not necessarily follow that the entire trade gap is met from migrants' remittances. Our 60% estimate is thus an upper limit which we examine further in section 3.

### *The focus of this study*

A main aim of this research project is to assess the net benefits of migration for Pacific islanders in relation to both the welfare of their households in urban and rural Australia, and the benefits to their communities in the migrant-sending countries of the Pacific from the remittances sent home. This paper reports some of the initial findings from this survey, consisting of a combination of descriptive and econometric analysis. The focus is particularly on the quantification and comparison of the propensities and magnitudes of remittance flows and saving in all forms (cash, in-kind, payments to third-parties), through all channels (formal and informal), and to all recipients. Given what was noted previously about remittances not being sent exclusively to the migrant's households in the home country, our survey was designed to allow for a disaggregated analysis of remittances in four separate categories: (i) to own household in home country; (ii) to other households in home country; (iii) to charitable institutions (mainly churches) in home country; and (iv) towards own asset accumulation in home country.

The questionnaire was also designed to allow for the capture of remittances in the various forms they take; viz. money transfers; in-kind transfers; and, payments made to third parties on behalf of a household in the migrants' home countries, such as electronic bank payments or the purchase of an air-ticket, neither of which would involve a payment directly to

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[7] As the currency of the Cook Islands is the NZ$ it would be extremely difficult if not impossible to track income earned in and remitted from New Zealand. This probably explains the absence of any balance of payments data on private transfers. If GDP includes consumption from remittances but does not exclude current transfers from abroad as would normally be the case, it is likely that GDP is highly over-estimated, explaining also the apparently substantially higher per capita income than in Tonga and Samoa. This requires further investigation.

the benefiting household. Where money transfers are involved, the questionnaire also acquired information on the main transfer channels used which enables us to ascertain the extent to which migrants use formal financial channels versus informal channels such as hand-carried transfers. We also provide details of the migration histories, and demographic and socio-economic characteristics of the migrant households, disaggregated by country of origin and urban vs. regional current residency.[8]

The main purpose of the analysis is to identify factors and migrant characteristics associated with differences in remittance behaviours. Of particular interest is whether the main drivers of remittances differ depending on the category of remittances recipient, the country of origin of the migrant, and, the regional vs urban residency of the migrant household. Attention is given to factors such as: income level and education; length of absence from their home countries; the strength of their ties to their home country, including the presence of a parent and/or other family members in the home country, their intentions to return home, and their ownership of substantial assets in their home country and in Australia. Where possible, comparisons with the previous survey of Pacific islanders in Australia will be made.

The rest of this paper is structured as follows: section 2 discusses the survey, including details of the questionnaire design, sampling and administration of the survey, and presents a selection of summary socio-demographic statistics relating to the migrant households, their migration histories and occupations; section 3 presents and discusses a number of tables of descriptive statistics from the survey concerning the migrants' remittances, in terms of their size and composition and relationship to key variables of potential interest such as household income, location and duration of absence; section 4 presents some preliminary econometric results on the factors most associated with the probabilities of migrants remitting to the various categories of recipient and of the choice if informal versus formal financial institution for making their transfers; section 5 summarises and discusses the main findings and identifies areas for further investigation using this dataset. As indicated previously, comparisons are made among the three migrant communities, and, between those living in regional versus urban areas.

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[8] The questionnaire allowed for the possibility of some migrants in the Riverina area being temporary internal migrants from Sydney or other large Australian cities, but none of the respondents was in that category.

## 2. Survey design and profile of respondents

### *The survey*

The survey was administered over a six month period from late September 2010 to early March 2011. A total of 824 households from these communities were surveyed. The sample represents about 5% each of the total Tongan- and Samoan-born populations and approximately 12% of the Cook Islands-born population in New South Wales (NSW) as estimated by the 2006 Census (Department of Immigration and Citizenship 2010a; 2010b; 2010c). The surveys were administered in urban (greater Sydney) and rural (Riverina region) NSW. New South Wales was chosen as the study location for two main reasons. First, it has the largest Tongan, Samoan and Cook Islander populations in Australia. Second, it would facilitate comparisons over time in remittance and migration patterns of Tongans and Samoans with survey data from an earlier study in Sydney by Brown and Walker (1995).

Approximately 92% of the interviews were conducted face to face at the interviewers' or respondents' home, public gathering places (such as churches, libraries, RSL clubs) and at respondents' workplaces. The remaining 8% of the interviews were conducted via telephone. As no sample frame exists the respondents were recruited through a combination of methods, initially through interviewer networks combined with snowball sampling. Additional participants were recruited through intercepts at specific community localities frequented by Pacific islanders (churches, community support services, social organisations and gatherings) and street intercepts at various community organisations and public locations.

A total of 837 surveys were completed with 636 from urban and 201 from regional NSW. Table 2 shows the sample distribution.

**Table 2: Sample Distribution in Urban and Regional areas**

| Country of origin | Riverina | Sydney | Total |
|---|---|---|---|
| Tonga | 60 | 173 | 233 |
| Samoa | 73 | 271 | 344 |
| Cook Islands | 61 | 186 | 247 |
| Other | 7 | 6 | 13 |
| Total | 201 | 636 | 837 |

The largest group of participants was from Samoa (344 households or 41.1% of the sample) followed by the Cook Islands (247 households or 29.5% of the sample) and Tonga (233

households or 27.8%).[9] The survey gathered information about each household member giving a total number of individual observations of 5,289, 80% of whom are adults and 20% children.

### *Profile of surveyed migrant households*

Table 3 shows the mean values for a selection of migrant household characteristics for the Riverina and Sydney households in the combined sample. (The disaggregated data by country of origin are shown in Appendix Table A.2.)

**Table 3: Migrant Household Characteristics** (Mean values)

| Variables ( N=**824)** | Riverina N=**194** | Sydney N=**630** |
|---|---|---|
| *Household Characteristics* | | |
| Total HH income ('000) | 80.16 | 99.54 |
| Income earners in HH (no.) | 2.34 | 2.34 |
| Income per earner ('000$) | 34.84 | 42.76 |
| Household size (no.) | 3.95 | 4.47 |
| Per capita income ('000$) | 22.91 | 25.54 |
| *HH Head Characteristics* | | |
| Gender Male (%) | 84.02 | 80.83 |
| Age (yrs) | 42.08 | 45.45 |
| Married/de facto (%) | 77.32 | 77.30 |
| Education (yrs) | 10.41 | 10.97 |
| Employed (%) | 88.66 | 84.44 |
| Urban Origin (%) | 59.28 | 77.94 |

As expected, the Sydney-based households earn, on average, higher incomes, in both absolute terms, on a per-earner basis and on a per capita basis. They also have a larger mean household size. Over 80% of household heads in both localities are male and employed, have an average age in the low to mid 40s, have 10 to 11 years of education, and over three-quarters are partnered. It is noteworthy that the employment rate is higher in Riverina (89%)

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[9] The sample also included a small number of respondents (1.6%) from other Pacific Island Nations of Niue, Fiji, Tuvalu and American Samoa. These were excluded from the sample for data analysis purposes, with the final sample size being 824 (194 regional and 630 urban).

than in Sydney (84%), and, a relatively higher proportion of migrants in Riverina originate from a rural region in their home countries (41%).[10]

Table 4 provides information about the occupations of all those who were employed at the time of the survey. Approximately 85% fall into the semi-skilled or unskilled categories and less than 10% in manager and professional categories.

**Table 4: Occupation of Employed Migrants***

| Occupational category (N=1763) | N= | % | Skill category | % |
|---|---|---|---|---|
| Managers | 57 | 3.23 | | |
| Professionals | 107 | 6.07 | Skilled | 15.03 |
| Technicians & Trade | 101 | 5.73 | | |
| Community & Personal service | 296 | 16.79 | | |
| Clerical & Administration | 141 | 8.00 | Semi-skilled | 46.69 |
| Sales Workers | 111 | 6.30 | | |
| Machine operators | 275 | 15.60 | | |
| Labourers | 675 | 38.29 | Unskilled | 38.29 |
| Total Employed | 1763 | 100.00 | | |

**\*** Of the 4,236 adults covered by the survey 1,763 (41.6%) were employed at the time.

Table 5 presents information about the migration history of the sampled households. The mean number of years the household head lived abroad is very similar; greater than 20 years, in both Sydney and Riverina, although the number of years living in Australia is somewhat lower for the Riverina migrants (15 years as opposed to 18 years for those in Sydney). We also find a relatively high incidence of step migration from another country (57%), and in a very high proportion of cases, via New Zealand (53%).

When we disaggregate the data by country (see Appendix Table A.3) we find that in the cases of Tonga and the Cook Islands a higher proportion of rural migrants were step-migrants (58%), while, for Samoa, a much higher proportion of Sydney-based migrants had step-migrated (70%). Given the extremely high rates of migration from the three countries it is also not surprising to see that over 90% of households have migrants from their home country household living elsewhere. In most cases the household has other migrants living elsewhere in Australia, but the incidence is much lower for those in Riverina (78%) in comparison with Sydney (89%). There is a relatively small proportion of households with

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[10] It is not surprising that almost 75% of all migrants originate from rural areas in their home countries given the very high concentrations of Pacific island populations in capital cities.

other migrants living in other countries (mainly New Zealand) and not in Australia, and in this case, a greater proportion reside in Riverina (11%) compared with Sydney (7.5%).

**Table 5: Migration History of Migrant Households**

| Variables ( N=**824**) | Riverina N=**194** | Sydney N=**630** |
|---|---|---|
| *Household Head Characteristics* | | |
| Total years abroad of HH Head | 21.58 | 23.81 |
| Years in Australia of HH Head | 15.40 | 18.42 |
| Step Migrant (%) | 57.73 | 56.35 |
| Step Migrant via NZ (%) | 53.61 | 53.02 |
| *Household Characteristics* | | |
| Other migrants (%) | 89.18 | 96.67 |
| Other migrants in Australia (%) | 77.84 | 89.21 |
| Other migrants in other countries (%)* | 11.34 | 7.46 |
| Other migrants in USA / UK (%)+ | 5.15 | 9.84 |
| Members in Origin Country (%) | 96.91 | 86.19 |
| Parent in Origin Country (%) | 55.15 | 29.05 |
| Visitor from Origin Country (%) | 38.66 | 38.10 |
| Intent to return (%) | 11.34 | 20.48 |

HH=household; * No others in Australia; + Whether or not others in Australia as well.

Together these observations suggest that migrants living in Riverina are not as closely connected to their extended households and potentially less susceptible to the 'sharing norm' pressures often experienced by Pacific island migrants living in more heavily concentrated communities in large cities. This is explored further in our analysis of remittances, noting that the differences we have identified are likely to give rise to opposing influences on remittance behavior signaling the importance of multivariate analysis to isolate the association between remittances and particular factors such as location.

Given that previous research found that factors such as: a parent still living in home country; having hosted a visitor from home country; and, intending to return home, were all strongly correlated with remittances, we include mean values for these variable in Table 5, and note that: (i) a much higher proportion of Riverina migrants still have a parent at home and a much lower proportion in Riverina intend to return home.

### 3. Remittances: Propensities, amounts, categories, forms, and channels

*Propensities, amounts and composition of remittances*

In this section we examine the survey data relating to migrant households' remittances. Tables 6a and 6b provide information about the households' remittance patterns.

First, in terms of the proportion of households remitting (Table 6b), there appears to be very little difference between Riverina and Sydney for the combined sample (approximately 93% in each case). However, the relative size of these proportions varies between the country groups. For the Tongans, a much lower proportion of households in Riverina remitted (90%) in comparison with Sydney (99%), whereas for Samoa and Cook Islands, a slightly higher proportion of households in Riverina remitted.

Second, in terms of the levels of remittances (among remitting households), the mean level of remittances as shown in Table 6b is considerably higher among the Sydney-based migrants ($8.36 thousand) in comparison with Riverina ($5.80 thousand). This could be due to the lower income levels in Riverina noted earlier, but could also be at least partially attributable to the notion that migrant households in Riverina are less exposed to sharing norm pressures than those in Sydney. However, there are again differences among the three groups. The mean amount remitted by Cook Islanders, in both Riverina and Sydney, is considerably lower than the mean amounts sent by Tongans and Samoans. However, unlike the Tongans and Samoans, Cook Islanders living in Riverina remitted more on average than those in Sydney. For Cook Islanders in Riverina, a higher proportion remitted and they sent much higher amounts than those in Sydney. In terms of the aggregate level of remittances, Cook Islanders remitted much less than Tongans and Samoans.

Third, from the breakdown by category of remittance in Table 6a it can be seen that while a very high proportion of remitters remit to their home country households (85%), a large proportion of migrants also remit to other categories of recipient; viz. to charitable organizations (78%); to other households (26%); and, towards their own asset accumulation (26%). To focus exclusively on remittances sent to the migrants' own household would omit a sizeable part of the remittance flows to the migrants' home country. Indeed, only 123 households (about 16% of the remitters) remitted exclusively to their home country household.

**Table 6a: Categories of Recipients**
(Numbers of households; % of remitters in parentheses)

| Recipient Category | Total (N=**824**) | Own HH | Organizations | Other HHs | Own Assets | Exclusively |
|---|---|---|---|---|---|---|
| Own HH | 651 (84.7) | | 490 | 171 | 202 | 123 |
| Organizations | 603 (78.4) | 490 | | 172 | 178 | 89 |
| Other HHs | 196 (25.5) | 171 | 172 | | 77 | 2 |
| Own Assets | 205 (26.7) | 202 | 178 | 77 | | 0 |
| Exclusively | 214 (27.8) | 123 | 89 | 2 | 0 | |
| Total Remitters | 769 | 651 | 603 | 196 | 205 | 214 |
| Non-Remitters | 55 (6.7) | | | | | |

HH=household; HC=home country

**Table 6b:  Remittances of Migrant Households** (Mean values)

| | Tonga N=**233** | | Samoa N=**344** | | Cook Islands N=**247** | | Total N=**824** | |
|---|---|---|---|---|---|---|---|---|
| Variables | Riverina N=**60** | Sydney N=**173** | Riverina N=**73** | Sydney N=**271** | Riverina N=**61** | Sydney N=**186** | Riverina N=**194** | Sydney N=**630** |
| Remitters  (n) | 54 | 172 | 70 | 252 | 56 | 165 | 180 | 589 |
| % of all HHs | [90.00] | [99.42] | [95.89] | [92.99] | [91.80] | [88.71] | [92.78] | [93.49] |
| *Mean value of remittances for remitting HHs (in $ '000s)* | | | | | | | | |
| Total value of HH remittances | 6.77 | 9.47 | 5.76 | 10.69 | 4.91 | 3.67 | 5.80 | 8.36 |
| Per capita HH remittances | 1.55 | 2.51 | 1.68 | 2.68 | 1.70 | 0.88 | 1.65 | 2.13 |
| Remit to own HC HH | 5.27 | 5.99 | 3.78 | 6.01 | 3.49 | 2.30 | 4.14 | 4.97 |
| Remit to organizations in HC | 0.65 | 1.20 | 0.61 | 1.94 | 0.60 | 0.69 | 0.62 | 1.37 |
| Remit to other households in HC | 0.38 | 0.95 | 0.32 | 0.50 | 0.19 | 0.33 | 0.30 | 0.58 |
| Remit to own assets in HC | 0.47 | 1.33 | 1.05 | 2.24 | 0.63 | 0.35 | 0.75 | 1.44 |

Table 6a also shows the incidence of multiple recipients of a household's remittances. The first column shows the total number of households that remitted to each category; 651 to own household; 603 to organizations; etc. Then looking along the row, it can be seen that of the 651 that remitted to own household, 490 also remitted to organizations, 171 to other households, and 202 towards own asset accumulation. What is interesting to observe is that 490 of the 769 remitting households (64%) remitted to their home country household and to an institution/church. What appears to differentiate remitters the most is whether they remitted to other households in their home country or, towards their own asset accumulation. There is relatively very little overlap between these two categories of recipient. While 196 remitted to other households and 205 remitted to accumulate assets, only 77 households (10%) remitted to both these categories. In subsequent econometric analysis where a comparative analysis of factors associated with the different categories of remittances is undertaken, it will be interesting to identify those factors that most differentiate these two categories of recipient.

In terms of the amounts of remittances sent to the different categories of recipient, Table 6b shows that although the mean levels sent to the migrants' own households far exceeds the amounts sent to the other categories of recipient, the combined amounts sent to the other categories of recipient are substantial. The composition for Riverina and Sydney is shown in Figure 2. For the combined sample it can be seen that the main difference between the Sydney and Riverina communities is not only that the former remit more in total - $8.4 and $5.8 thousand respectively – but in addition, they sent a larger proportion to the other categories besides their own home country households (40% and 29% respectively). Again, this could be attributable to lower incomes in the Riverina region allowing for less discretionary remitting beyond the migrants' own households, or, it could also be attributable to there being less community pressure to share beyond the immediate household; a phenomenon referred to as 'social sharing norms' in the anthropological literature, and receiving increasing attention in the development economics literature as an obstacle to the earners' use of their income for saving and investment (Platteau 2000; Duflo and Udry 2004; Fafchamps *et al.* 2011). It is interesting to note that the mean amounts remitted towards own asset accumulation is in most instances greater than the mean levels sent to organizations or other households, the exceptions being Tongans in Riverina and Cook Islanders in Sydney who sent more on average to organizations.

**Figure 2 Composition of Remittances by Category of Recipient**



**Sydney**

Own Assets 17%

Other HHs 7%

Church 16%

Own HH 60%

**Riverina**

Other HHs 5%

Own Assets 13%

Church 11%

Own HH 71%
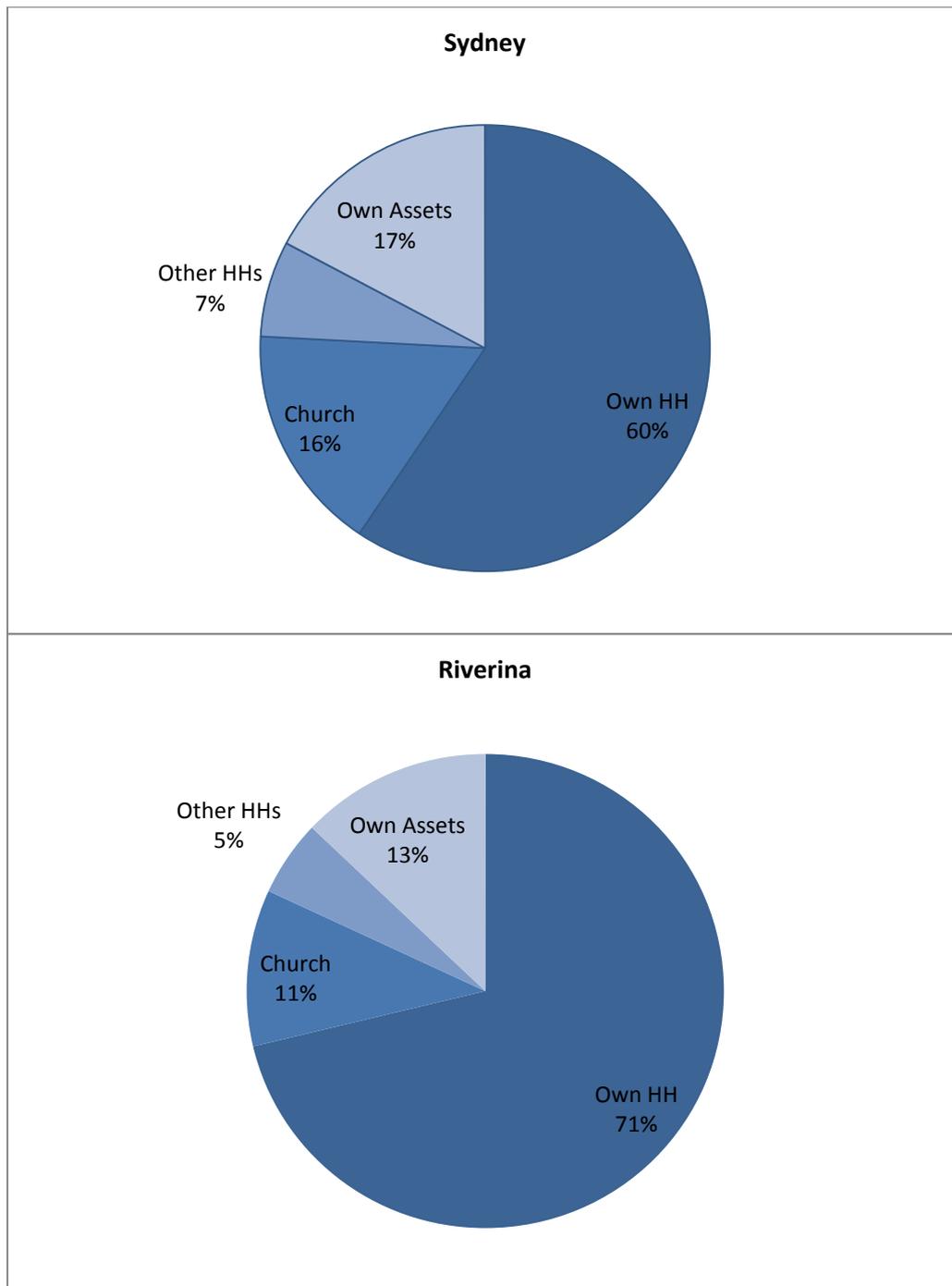
HH = household

Another important finding from this study is in relation to the magnitude of remittances to the Cook Islands. It was noted in section 2 that there are no official balance of payments estimates of remittances to the Cook Islands. The only other detailed study of Cook Islander migrants' remittances was undertaken in New Zealand in the early 1980s (Loomis 1986; Loomis 1990). From the trade gap data in Table 1, we arrived at a rough estimate of the 'unfinanced' foreign exchange gap equivalent to 60% of GDP (see Figure 1). To what extent are our findings from this study consistent with this estimate? To recap: we found that 90% of Cook Islander households had remitted and the mean value was $3,951 per remitting household. Given that there are currently around 5,000 Cook Island-born migrants in Australia, or, approximately 800 households assuming the same mean size as in our sample, total remittances from Australia in 2010 would have amounted to approximately $2.85mn. This would be equivalent to more than 10% of the Cook Islands GDP in that year. If we then assume that Cook Islanders living in New Zealand (approximately 25,000) share the same remittances propensities as their Australian counterparts, total remittances from New Zealand would be equal to approximately 50% of GDP. The combined amount from Australia and New Zealand would be equivalent to 60% of GDP – the same magnitude as the estimate based on the 'unfinanced' trade gap from the macro-data in Table 1 and shown in Figure 1.

*Forms and channels of remittances*

It is also important to note that remittances are sent in a variety of forms and through various channels as shown in Table 7. By far the most common form of remittances is money, but it is worth noting that migrants in Riverina are more likely to send money and less likely to send goods or to make payments to third parties on behalf of the home country households in comparison with those living in Sydney. This is likely to be due to the greater access to tradeable goods (especially second-hand goods often favoured by migrants) and transportation means and costs. It is also interesting to note that a relatively small proportion of migrants sending money do so through formal channels. Of those sending money to their home country households, less than 12 % in Riverina and 21% in Sydney used formal financial institutions. The preferred remittance channel for sending money remains informal, mainly hand-carried, either by the migrants themselves, or by friends, relatives or paid money courier. However, the much higher use of formal channels in Sydney suggests that accessibility and proximity to banks and other financial institutions could be important in determining a migrants' choice of transfer method.

**Table 7: Sending Decisions of Remitting Migrant Households**

| Variables ( N=824) | Riverina N=194 | Sydney N=630 |
|---|---|---|
| Remit Money to own HC HH (%) | 88.33 | 77.08 |
| Remit Goods to own HC HH (%) | 42.22 | 46.18 |
| Payments on behalf of own HC HH (%) | 30.00 | 44.82 |
| Formal channel (%) | 11.67 | 21.05 |
| Consulted OMs before remitting (%) | 10.56 | 18.85 |

HH=household; HC=home country; OMs=other migrants from same HC HH

However, when we look at the same data disaggregated by country (see Appendix Table A.4) some important differences emerge. For instance, among the Samoan community, a higher proportion of those living in Riverina send in-kind remittances (50%) in comparison with those in Sydney (45%). In relation to remittances in the form of payments on behalf of home country households a higher proportion of Cook Islander households in Riverina (36%) chose this method in comparison with Cook Islanders in Sydney (32%) and in comparison with the other two groups in Riverina.

### *Remittances and migrants' income levels and duration of absence*

It is clear from the preceding discussion that there are some observable differences in remittance behaviours between Riverina and Sydney based households and among the three migrant communities in our survey. Two of the main drivers of remittances we explore further in this section are: (i) household income; and (ii) duration of absence from home country. To the extent that remittances are determined by the migrants' capacity to save out of current income, we can expect to find a positive relationship between income and level of remittances. To the extent that the longer the duration of absence of migrants from their home countries the weaker the ties are, we can expect to find a negative relationship between time away and propensity and amounts remitted. Strength of ties to both their home country communities and to their respective community groups in Australia are also likely to be associated with the social pressure on the migrant to share their income with the broader community at home, as discussed earlier in relation to the concept of 'social sharing norms'. The remittance decay hypothesis is based on the assumption that the strength of ties and the associated pressures to share weaken over time. Previous research found no evidence of such

remittance decay (Brown 1997; 1998). However, if, as hypothesized here, migrants who live in the more remote regional areas such as Riverina, are less vulnerable to social sharing norms and pressures, it is likely that they would be remitting less to recipients beyond their immediate household. The association of remittance levels with migrants' income and length of absence are explored initially examining the cross-tabulations presented in Tables 8 and 9 and in the corresponding Figures 3 and 4. (In the regression analysis (section 4) we test for the effect of income, length of absence, and location in Riverina *vs* Sydney on the probability of the migrants remitting to each of the four categories of recipient.)

In Table 8 it can be seen that a relatively much lower proportion of rich households live in Riverina. In terms of remittances, the proportion of remitting households does not vary substantially across income groups, however, there is clearly a positive relationship between income level and amount remitted (see also Figure 3).[12]

**Table 8:  Selected Remittances Variables by Income Category***

| Income category | Bottom 40% | Middle 40% | Top 20% |
|---|---|---|---|
| N=**807** | **324** | **330** | **153** |
| Riverina (%) | 23.15% | 28.79% | 13.73% |
| Remitting HH (%) | 91.67% | 95.76% | 92.81% |
| Mean HH remittance ($ '000s) | 5.75 | 7.65 | 9.88 |
| Remittances (% of income) | 11.98 | 7.60 | 6.35 |
| Using formal channels (%) | 17.28% | 17.58% | 10.46% |
| HH Head Total years abroad | 21.92 | 23.97 | 24.97 |

HH=household

However, when we examine the same data on an individual country group basis it becomes clear that it is only in the case of the Tongans that there is a strong positive relationship between income and amount remitted (see Appendix Table A.5 and Appendix Figure A.1).

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[12] The income categories are based on per capita incomes. The categories were then created by splitting the entire sample of individuals into the three income groups; e.g. In the Case of Tonga the Bottom Income Category consists of the 40% poorest individuals living in 76 households, while the Middle Income Category consists of the 40% middle income individuals living in 107 households.

**Figure 3: Remittances by Income Group**
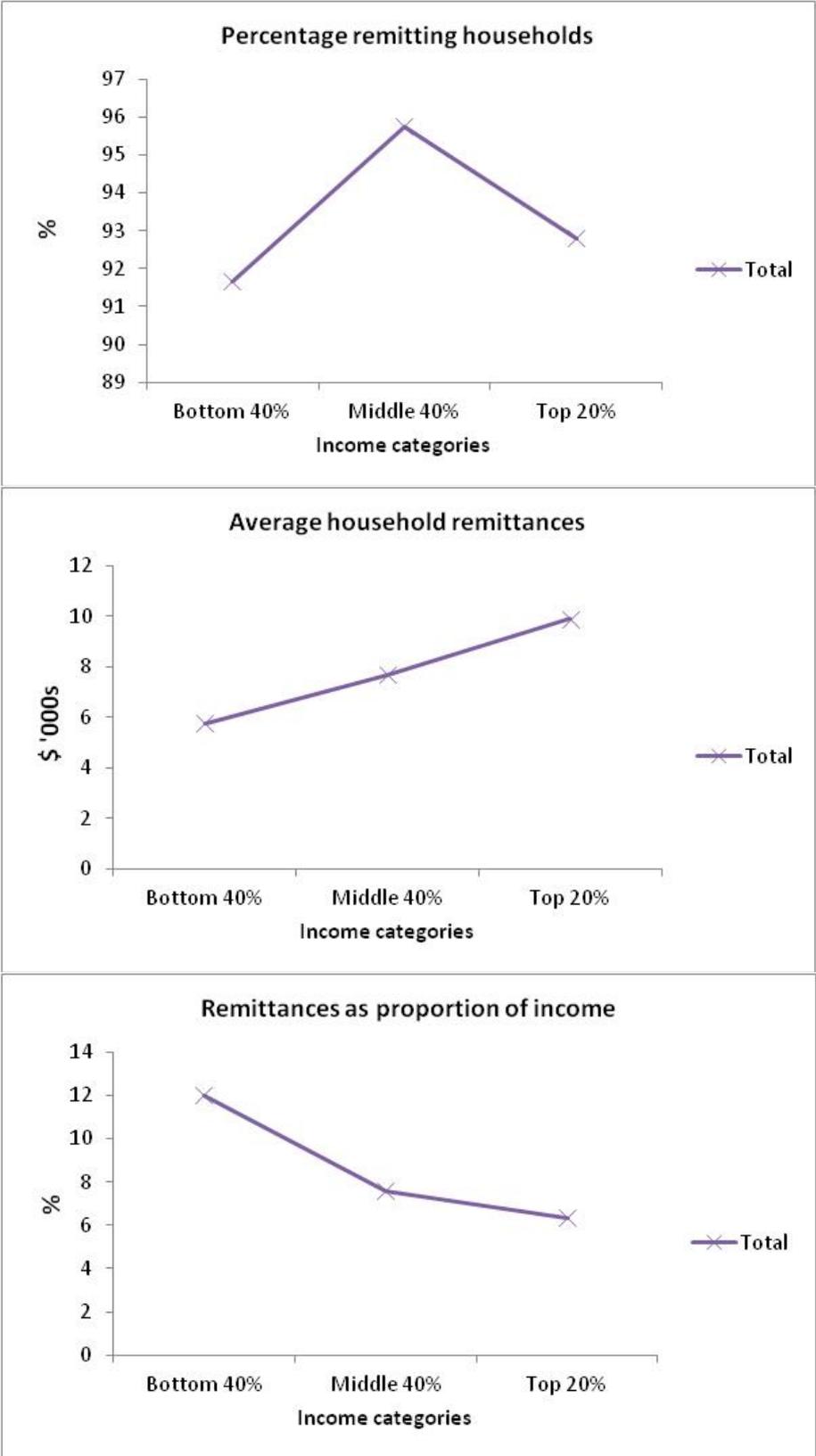
Indeed, the top income group remits on average $14.2 thousand in comparison with $5.6 thousand for the poorest group. For the two other countries the amount remitted does not appear to vary with income level. It is also worth noting that it is the highest income group that relies least on formal transfer channels.

Table 9 shows the relationship between remittances and the duration of the household head's absence from home country.

**Table 9:  Selected Remittance Variables by Migrant's Length of Absence**

| Length of absence (years) | 0-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25+ |
|---|---|---|---|---|---|---|
| N=**824** | **39** | **68** | **118** | **131** | **159** | **309** |
| Proportion HHs in category (%) | 4.73 | 8.25 | 14.32 | 15.90 | 19.30 | 37.50 |
| Riverina (%) | 53.85 | 30.88 | 15.25 | 25.95 | 26.42 | 18.77 |
| Remitters (%) | 89.74 | 94.12 | 95.76 | 90.84 | 94.34 | 93.20 |
| Mean per capita inc. ('000$) | 25.18 | 23.03 | 21.31 | 23.94 | 25.62 | 26.69 |
| Mean HH remittance('000$) | 5.21 | 7.15 | 6.39 | 6.44 | 7.46 | 8.09 |
| Remittances as % of income | 10.19 | 10.01 | 8.16 | 10.21 | 9.35 | 8.57 |
| Intent to return (%) | 7.69 | 22.06 | 20.34 | 18.32 | 18.24 | 18.12 |

HH=household

First, it is worth noting that a very small proportion of the sample has been away for less than 10 years (13%) and more than half (57%) has been away for 20 years or longer. Second, it is also important to note that the more recent the migrants' departure from home, the greater the likelihood that the household will reside in Riverina; 54%  for those away for 0 to 5 years as opposed to 19% for those away for 25 years or longer. Third, the mean per capita income for the most recent arrivals is comparable with those who have been away longest, despite the previous observation that more than 50% reside in Riverina where the mean income level is generally lower. Overall, it is apparent that the mean level of remittances does not decline substantially with the duration of absence, either in terms of absolute levels or as a proportion of income (see Figure 4). It is also interesting to observe that the most recent cohort are least likely to state an intention of returning home (less than 8%) in comparison with over 20% for those away for 5 to 15 years. Given the high likelihood that the older the cohort the greater

**Figure 4: Income and Remittances by Duration of Absence**



Percentage remitters



Average household remittances



Remittances as proportion of income



Per capita household income
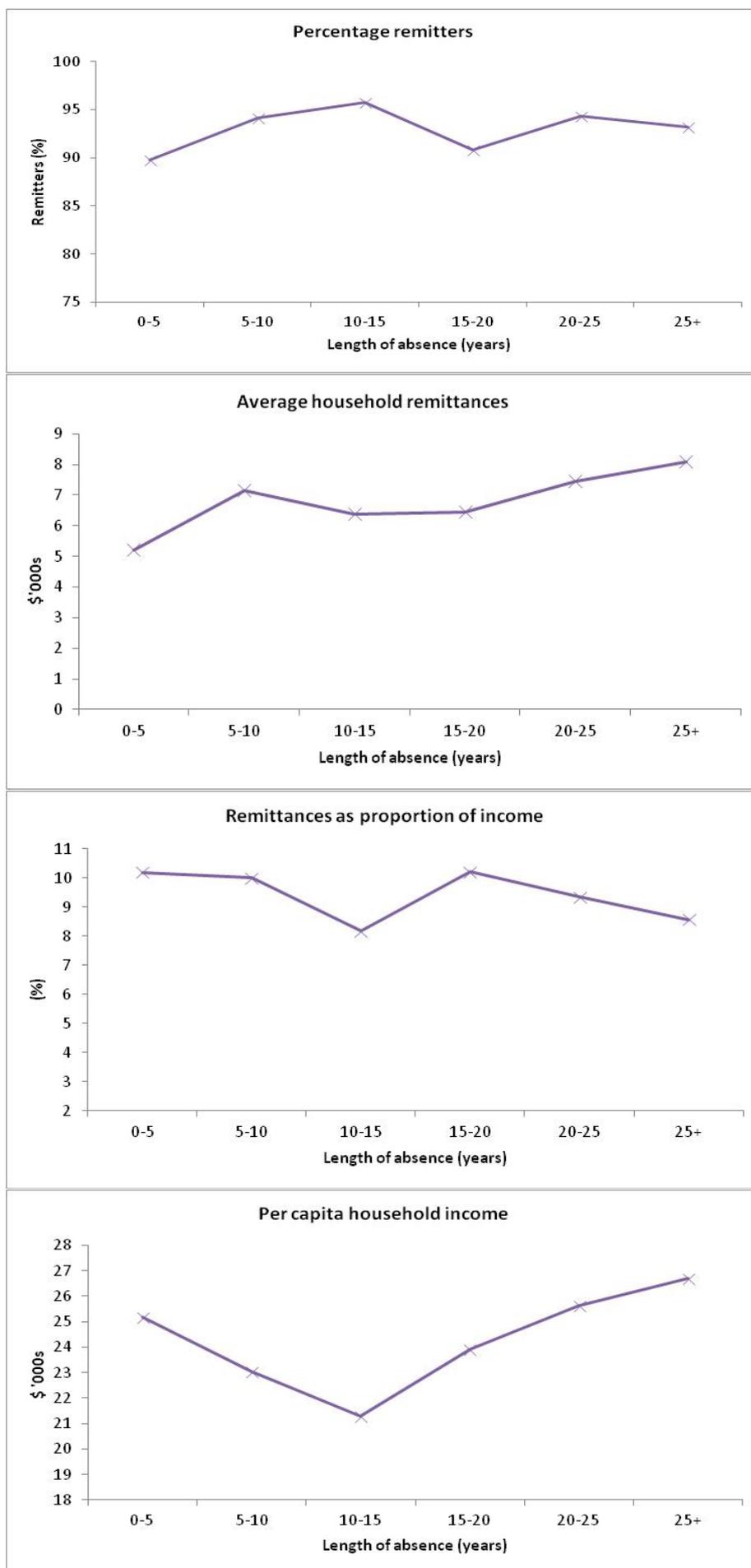
the proportion who have already returned home one would expect a lower proportion among the older cohorts intending to return. Our finding could be associated with some qualitative difference among the most recent cohort or simply reflect the effects of the passage of time; ie. after the first few years away the desire to return increases.

When we examine the same data disaggregated by country of origin, the observations made here for the whole sample are very similar for each of the three country groups, with one exception; mean per capita income among the more recent cohorts (10 years or less) is relatively lower in the cases of Tonga and Cook Islands but is considerably higher among the most recent cohort in the Samoan community.

## 4. Econometric estimations

### *Probability of remitting by category of remittances*

In this section we seek to explore more formally whether there are significant differences in the propensity to remit between the different categories of migrants, in terms of both country of origin and location in Riverina and Sydney, as well as the influence of other household characteristics on different forms of remittances. The analysis to this point has been purely descriptive and univariate. The associations and differences we have identified thus far could be spurious given that we have not controlled for differences in other variables. It is therefore necessary to re-examine some of the relationships using appropriate multivariate, econometric methods. In the next section we summarize the results of a preliminary econometric analysis.

Specifically, we use probit regressions with each of the four categories of remittance as the dependent variable. In each case we started with a version that includes a number of observable characteristics of the remitting household only (*Model 1*). We then extended this to include the impact of unexpected events in the Australian or home country household (*Model 2*). Finally, we added in a set of variables describing the strength of association between the remitting household and the home country (*Model 3*). We estimated these three models for each of the four forms of remittance in turn. Initially we pool the sample and use dummy variables for the migrants' country of origin, then we disaggregate the data into the three country groups, and run the full model (*Model 3*). In this paper we report only the summary findings from the full model (*Model 3*) for each of the three countries separately. These results have to be treated with some caution as the variation in significance may reflect a lack of cases to identify effects within each country sample rather than genuine differences in motive to remit. The results are summarized in Table 10 and the full regression results showing average marginal effects are reported in Appendix Tables A.7 and A.8.

**Table 10: Probit Regression Results by Category of Remittances Sent and by Country of Origin**

| Remittances sent to: | *Own HH* | | | *Other HH* | | | *Organizations* | | | *Own Assets* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tonga | Samoa | Cook Islands | *Tonga* | *Samoa* | *Cook Islands* | Tonga | Samoa | Cook Islands | Tonga | Samoa | Cook Islands |
| Years of education | | | | ++ | | | | - - | - - - | + | | |
| Total HH income | | | | | | | | +++ | | ++ | | |
| Own house in Australia | + | + | | - - | | | - - - | | | | | |
| Total years away from HC | ++ | | - | ++ | | | | | | | | - |
| Origins in rural area of HC | | | - - | | | | | - - | | | - - | |
| Living in Riverina | | + | | | + | | - - | | | | | - - - |
| Unexpected events in Aus HH | | | | | +++ | | - | | +++ | | | |
| Unexpected events in HC HH | | +++ | | | | + | | | | | + | |
| Own house in HC | +++ | | +++ | | | ++ | | | | +++ | +++ | |
| Intend to return to HC | | +++ | | +++ | | + | +++ | | | - - - | | |
| Had visitor from HC | +++ | +++ | +++ | + | +++ | - | ++ | ++ | | | | |
| Parent living in HC | +++ | +++ | +++ | | | | | +++ | | | +++ | ++ |
| Other migrants associated | - - - | | | ++ | | | | +++ | ++ | | | |
| Active in church | | | | ++ | | | | +++ | | | | |

+++, ++, + indicate positive effect and statistically significant at the 1%, 5% and 10% levels respectively
-, - -, - - - indicate negative effect and statistically significant at the 1%, 5% and 10% levels respectively
HH=household; HC=home country

First, it is apparent that residing in the Riverina region as opposed to Sydney is associated with differences in the probability of remitting almost exclusively for the Samoan group. It has a positive effect on their likelihood of remitting to their *own households* and to *other households* and a negative effect on the likelihood of remitting towards their *own asset accumulation*. The only other effect is in the case of Tongan remittances to *charitable organizations* which is negative.

Second, duration of absence of the household head does not appear to have a negative effect on any category of remittances for the Tongan and Samoan groups. It has a negative effect on Cook Islanders' remittances to *own household* and towards *own asset accumulation*. Surprisingly, length of absence is associated with a strong *positive* effect on Tongans' remittances to *own household* and to *other households*.

Third, it is interesting to note that the probability of remitting is hardly affected by the household's income level across all three groups and in both regions. In the case of Samoans, income has a positive effect on the probability of remitting to *charitable organization* and in the case of Tongans, of remitting towards *own asset accumulation*. The household head's years of education has a negative effect on remittances to *charitable organization* for both the Samoan and Cook Islander communities, suggesting that it is the less-educated who are more likely to make church donations. It is also the case that among the Samoans, being active in the local church is positively associated with donations to *charitable organizations* in the home country.

Fourth, strength of ties to home country as proxied by factors such as ownership of a house in home country, having hosted a visitor from home country, and having a parent still living in home country all have positive effects on one or more categories of remittances. In the case of Tongans and Cook Islanders, intention of returning home is positively associated with remittances to *other households* while among the Samoans it is positively associated with remittances to *own household*. For Tongans it is also positively associated with remittances to organizations but negatively with *accumulation of own assets*.

Other noteworthy findings: it is only Cook Islander households that are less likely to remit to o*wn household* because the home country household is in a rural area of the country; Tongan household probability of remitting is linked negatively to the number of other migrants associated with the household, suggesting in this case, that the remittance decision is made on a collective basis by all migrants from the same household; and, unexpected events in the home country household increase the likelihood of remittances amongst Samoan households but have no effect on Cook Islander and Tongan households.

## 4. Concluding comments

The main purpose of this paper was to present some initial findings from our recent survey of Pacific island migrants from three Polynesian countries; Cook Islands, Samoa and Tonga. A similar survey undertaken some 15 years ago and covered only the Samoan and Tongan communities and was restricted to households living in urban areas - Brisbane and Sydney. In this paper we rely mainly on descriptive analysis, but also report some preliminary findings from econometric analysis of the probability of a migrant remitting.

Three aspects of this study of remittances distinguish it from previous research. First, is the inclusion of the Cook Islander migrant community, not only because there has been no previous such survey of this community in Australia, with the last New Zealand study undertaken more than 25 years ago, but also because there are no official estimates of total remittance flows to the Cook Islands. Based on official national accounts and balance of payments data we estimate an 'unfinanced' trade gap of around 60% of GDP which is most likely financed by unrecorded migrants' remittances. Extrapolating our Australian sample survey estimates of remittance propensities to the rest of the Cook Island communities in Australia and New Zealand yields an estimate of total remittances to the Cook Islands also of around 60% of GDP. It would therefore seem that the Cook Islands is substantially more reliant on migrant remittances than commonly believed by policy makers in the region.

A second aspect that distinguishes this from most other studies of remittances is that the questionnaire was designed to allow for a disaggregation of remittances according to the category of recipient, where we distinguish between remittances to: (i) the migrants' own household in the respective home country; (ii) other households in the home country; (iii) charitable organizations such as churches in home country; and, (iv) accumulation of the migrants' own assets in the home country. It was found that in most instances migrants remitted to multiple categories of recipient. Although their own households were clearly the main recipients, it was found that around 30% of remittances from Riverina and 40% from Sydney went to the other categories. This reinforces previous findings that the benefits of remittances extend well beyond the migrants own households, and that analysis based exclusively on remittances received by migrant households will underestimate the magnitude and effects on the wider community.

A third important contribution of this study is that it covers migrants in both urban and regional areas. Previous surveys have been restricted exclusively to migrants in large cities. Given that our data show that an increasing proportion of relatively recent arrivals are living in the Riverina area it is important to ascertain whether the knowledge we have

previously gained about remittance behaviours of Pacific islanders from studies of urban-based households also applies to those in the regional and rural areas. One reason why those in regional areas might behave differently is that their relative remoteness could be associated with less community pressure to remit, especially to recipients beyond their immediate households in their home countries. From the descriptive analysis we found some important differences in both the levels and allocation of remittances to the various categories of recipients. Despite a similarly very high proportion of remitting migrants in Riverina (93%), the amounts remitted are lower, and, a much smaller share of remittances is sent to recipients beyond the immediate household. Moreover, a much lower proportion of migrants in Riverina (11%) stated their intention to return home, compared with 20% in Sydney. The results from the preliminary econometric analysis also indicated that residing in Riverina had a significant, negative effect on Tongans remittances to charitable organizations (mainly churches). The reasons for these findings need to be examined further; one possibility being that there is less community pressure to share when the migrant is located in the more remote regions of the host country. Migrants could be opting to move away from the larger concentrations of their communities in the big cities precisely to avoid the social pressures to remit, or, it could be that having chosen to live in a more remote area perhaps for employment reasons, the migrants find themselves less exposed to social sharing norms. Our survey included questions put to those in Sydney about their knowledge of the Riverina region, its employment possibilities and earnings expectations, and the same questions to migrants in Riverina about employment prospects in Sydney. This is one possible avenue of investigation that could shed more light on the migrants' motivations for choice of place to live.

Finally, in relation to remittances a number of interesting initial observations can be made, all of which require further investigation using appropriate econometric methods: (i) household income do not appear to be strongly associated with the probability of remitting or the amount remitted, although the descriptive data suggest that Tongans could be an exception with average remittance levels rising with mean income levels; (ii) the duration of the migrants' absence from the home country does not appear to adversely affect, the probability of remitting nor the amount remitted – the descriptive data suggests the opposite (positive relationship) could be the case; (iii) from the preliminary regression analysis it appears that conditions in the migrants' home country are a stronger determinant of remitting, including such factors as there being a parent (or parent-in-law) still living at home, the migrant's intention to return home, or whether someone from their home country had visited

recently; (iv) in terms of transfer channels it was found that only 21% of migrants in Sydney and 12% in Riverina used formal financial institutions for their remittances, and, in all cases this proportion is lower for the highest income group; by far the most preferred method was the use of informal channels such as cash hand-carried. In future research these and other related issues will be studied in greater depth using appropriate econometric methods.

**Appendix 1:   The Survey Design and Implementation**

The survey was designed to collect information about migration and remittance patterns from three major Pacific Island nations – Tonga, Samoa and the Cook Islands. The survey was administered over a six month period from late September 2010 to early March 2011. A total of 824 households from these communities were surveyed. The sample represents about 5% each of the total Tongan and Samoan born populations and approximately 12% of the Cook Islander born population in New South Wales (NSW) as estimated by the 2006 Census.

The target population was first generation migrant households, that is, where either the respondent or the respondent's spouse was born in one of the three targeted Pacific island nations. A mixture of households remitting and not remitting to their country of origin were targeted.  Additionally the respondent had to be 18 years or older to participate in the survey. The surveys were administered in urban (greater Sydney) and regional (Riverina) NSW. New South Wales was chosen as the study location for two main reasons. First, it has the largest Tongan, Samoan and Cook Islander populations in Australia. Second, it would facilitate comparisons over time in remittance and migration patterns of Tongans and Samoans with survey data from an earlier study by Brown and Walker (1995) in Sydney.

The surveys were first piloted on University of Queensland students from Tonga, Samoa and the Cook Islands before being field tested in Sydney. The survey instrument was refined on the basis of feedback received from the pilots and field tests before data collection began. Interviewers from Pacific island communities were recruited to conduct the interviews. Approximately 92% of the interviews were conducted face to face at the interviewers' or respondents' home, public gathering places (such as churches, libraries, RSL clubs) and at respondents' workplaces. About 8% of the interviews were conducted via telephone. Each respondent was given a $20 shopping voucher as an incentive to complete the survey.

The first respondents were obtained from interviewer networks and then snowball sampling was applied. Initially, every respondent was asked to provide three potential respondents outside their own household, from which one respondent would be selected for the survey.  However it was difficult to rely exclusively on this method as only 9% of the respondents provided names of possible additional. However most of these contained only partial details, such as providing only names without contact details or providing only one or two names with contact details, and hence could not be used for snowballing. Therefore

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opther methods were employed such as recruiting through interviewer networks and specific community channels frequented by Pacific islanders (churches, community support services, social organisations and gatherings etc) and street intercepts at various community organisations and public locations.

The target sample size was initially set at 800, with 500 and 300 in urban and regional NSW respectively. The target sample size for urban NSW was easily reached, but the sample size of 300 for regional NSW was difficult to achieve for two main reasons; the large distances that needed to be covered by both the respondents and interviewers and the floods in December 2010 and January 2011 which made travel more difficult due to road closures. Hence in the interest of both respondent and interviewer safety, it was decided to reduce the regional sample to 200 and increasing the urban sample to 600 and to administer the survey via telephone to some of the participants in the regional areas. A total of 837 surveys were completed with 636 from urban and 201 from regional NSW. Of the 201 surveys administered in regional areas approximately one third 61 (32%) were conducted via telephone. These were administered between February and March 2011 after the floods. The distribution of surveys during the data collection period September 2010 to March 2011 is presented in Table A.1. Data collection in rural NSW began 4 weeks later than in Sydney to enable the interviewers to establish networks in regional areas.

**Table A.1: Distribution of Surveys During the Data Collection Period**

| Month of interview | Tonga | | Samoa | | Cook Islands | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Riverina | Sydney | Riverina | Sydney | Riverina | Sydney | Riverina | Sydney |
| Sep-10 | ------ | 9 | ------ | 6 | ------ | 11 | ------ | 26 |
| Oct-10 | 4 | 26 | 7 | 25 | 1 | 35 | 12 | 86 |
| Nov-10 | 15 | 37 | 11 | 89 | 9 | 19 | 35 | 145 |
| Dec-10 | 3 | 42 | 11 | 55 | 9 | 68 | 23 | 165 |
| Jan-11 | 10 | 34 | 19 | 27 | 14 | 15 | 43 | 76 |
| Feb-11 | 5 | 15 | 5 | 57 | 3 | 35 | 13 | 107 |
| Mar-11 | 23 | 10 | 20 | 12 | 25 | 3 | 68 | 25 |
| Total | 60 | 173 | 73 | 271 | 61 | 186 | 194 | 630 |

**Appendix Table A.2: Profile of Migrant Households by Country of Origin**

| Variables | Tonga N=233 Riverina N=60 | Tonga N=233 Sydney N=173 | Samoa N=344 Riverina N=73 | Samoa N=344 Sydney N=271 | Cook Islands N=247 Riverina N=61 | Cook Islands N=247 Sydney N=186 | Total N=824 Riverina N=194 | Total N=824 Sydney N=630 |
|---|---|---|---|---|---|---|---|---|
| *Household Averages (Standard deviation)* | | | | | | | | |
| Household size | 4.13 (1.59) | 4.72 (2.56) | 3.78 (1.68) | 4.40 (1.74) | 3.97 (1.59) | 4.33 (1.81) | 3.95 (1.62) | 4.47 (2.02) |
| Number of children below 16 yrs | 1.03 (1.26) | 1.43 (1.73) | 1.15 (1.37) | 1.30 (1.44) | 0.98 (1.10) | 1.34 (1.39) | 1.06 (1.25) | 1.34 (1.51) |
| Income earners | 2.62 (1.19) | 2.40 (1.38) | 2.12 (1.07) | 2.32 (1.29) | 2.31 (1.19) | 2.29 (1.22) | 2.34 (1.16) | 2.34 (1.30) |
| Total HH income ('000) | 87.79 (36.35) | 107.28 (69.97) | 72.28 (48.60) | 100.06 (58.21) | 82.02 (45.66) | 91.41 (50.64) | 80.16 (44.41) | 99.54 (59.92) |
| Income per earner ('000$) | 35.76 (11.82) | 45.44 (18.47) | 34.54 (16.73) | 42.89 (13.87) | 34.26 (9.89) | 40.03 (14.27) | 34.84 (13.35) | 42.76 (15.50) |
| Per capita income ('000$) | 23.79 (11.51) | 27.94 (18.67) | 22.09 (14.40) | 25.20 (14.93) | 23.01 (11.96) | 23.75 (15.03) | 22.91 (12.76) | 25.54 (16.14) |
| *Household Head* | | | | | | | | |
| Gender Male (%) | 80.00 | 78.03 | 87.67 | 86.25 | 83.61 | 75.54 | 84.02 | 80.83 |
| Age (yrs) | 41.98 (11.89) | 48.23 (11.12) | 41.66 (12.28) | 44.30 (11.72) | 42.67 (12.61) | 44.56 (9.58) | 42.08 (12.21) | 45.45 (11.08) |
| Married/de facto (%) | 75.00 | 72.83 | 82.19 | 80.81 | 73.77 | 76.34 | 77.32 | 77.30 |
| Education (yrs) | 10.44 (2.36) | 12.03 (2.43) | 10.03 (3.51) | 10.81 (3.17) | 10.84 (2.99) | 10.23 (3.22) | 10.41 (3.04) | 10.97 (3.07) |
| Employed (%) | 88.33 | 83.82 | 87.67 | 84.13 | 90.16 | 85.48 | 88.66 | 84.44 |
| Urban Origin (%) | 58.33 | 81.50 | 52.05 | 82.66 | 68.85 | 67.74 | 59.28 | 77.94 |

**Appendix Table A.3: Migration History of Migrant Households by Country of Origin**

| Variables | Tonga N=**233** Riverina N=**60** | Sydney N=**173** | Samoa N=**344** Riverina N=**73** | Sydney N=**271** | Cook Islands N=**247** Riverina N=**61** | Sydney N=**186** | Total N=**824** Riverina N=**194** | Sydney N=**630** |
|---|---|---|---|---|---|---|---|---|
| *Household percentages* | | | | | | | | |
| Other migrants (%) | 90.00 | 95.95 | 82.19 | 96.31 | 96.72 | 97.85 | 89.18 | 96.67 |
| Other migrants in Australia (%) | 76.67 | 89.60 | 69.86 | 88.93 | 88.52 | 89.25 | 77.84 | 89.21 |
| Other migrants only in NZ & other countries except Australia (%) | 13.33 | 6.36 | 12.33 | 7.38 | 8.20 | 8.60 | 11.34 | 7.46 |
| Other migrants in USA / UK (%) | 10.00 | 15.61 | 5.48 | 11.81 | 0.00 | 1.61 | 5.15 | 9.84 |
| Members in Origin Country (%) | 96.67 | 98.27 | 98.63 | 86.72 | 95.08 | 74.19 | 96.91 | 86.19 |
| Parent in Origin Country (%) | 50.00 | 26.59 | 60.27 | 36.90 | 54.10 | 19.89 | 55.15 | 29.05 |
| Visitor from Origin Country (%) | 43.33 | 51.45 | 27.40 | 35.79 | 47.54 | 29.03 | 38.66 | 38.10 |
| Intent to return (%) | 13.33 | 26.59 | 12.33 | 16.97 | 8.20 | 19.89 | 11.34 | 20.48 |
| Remittances (%) | 90.00 | 99.42 | 95.89 | 92.99 | 91.80 | 88.71 | 92.78 | 93.49 |
| *Household Head (Standard deviation)* | | | | | | | | |
| Total years abroad | 24.07 (10.54) | 24.86 (10.62) | 18.86 (11.55) | 23.70 (9.71) | 22.39 (12.73) | 23.00 (12.47) | 21.58 (11.79) | 23.81 (10.84) |
| Years in Australia | 18.00 (8.45) | 20.94 (10.39) | 13.23 (8.30) | 17.35 (8.14) | 15.44 (9.40) | 17.64 (9.01) | 15.40 (8.88) | 18.42 (9.17) |
| Step Migrant (%) | 65.00 | 36.42 | 49.32 | 73.06 | 60.66 | 50.54 | 57.73 | 56.35 |
| Step Migrant via NZ (%) | 58.33 | 30.64 | 46.58 | 70.48 | 57.38 | 48.39 | 53.61 | 53.02 |

**Appendix Table A.4: Sending Decisions of Remitting Migrant Households by Country of Origin**

| Variables | Tonga N=233 | | Samoa N=344 | | Cook Islands N=247 | | Total N=824 | |
|---|---|---|---|---|---|---|---|---|
| | Riverina N=60 | Sydney N=173 | Riverina N=73 | Sydney N=271 | Riverina N=61 | Sydney N=186 | Riverina N=194 | Sydney N=630 |
| Remitters (n) [% of all HH] | 54 [90.00] | 172 [99.42] | 70 [95.89] | 252 [92.99] | 56 [91.80] | 165 [88.71] | 180 [92.78] | 589 [93.49] |
| *Remittances to own HC HH (% of remitting HH)* | | | | | | | | |
| Consulted OMs before remitting | 9.26 | 18.02 | 15.71 | 20.24 | 5.36 | 17.58 | 10.56 | 18.85 |
| Remit Money to own HC HH | 92.59 | 90.70 | 94.29 | 82.54 | 76.79 | 54.55 | 88.33 | 77.08 |
| Remit Goods to own HC HH | 38.89 | 55.81 | 50.00 | 44.84 | 35.71 | 38.18 | 42.22 | 46.18 |
| Payments on behalf of own HC HH | 25.93 | 52.91 | 28.57 | 47.62 | 35.71 | 32.12 | 30.00 | 44.82 |
| *Money remittances to own HC HH (% of remitting HH)* | | | | | | | | |
| Formal channel | 14.81 | 13.95 | 10.00 | 32.94 | 10.71 | 10.30 | 11.67 | 21.05 |
| Cost incurred for sending money | 61.11 | 72.67 | 62.86 | 58.73 | 57.14 | 36.36 | 60.56 | 56.54 |
| *Frequency of remitting money to own HC HH (% of remitting HH)* | | | | | | | | |
| Once a year | 15.69 | 3.85 | 19.70 | 9.62 | 16.28 | 16.67 | 17.50 | 9.03 |
| 2 – 4 times a year | 45.10 | 53.85 | 62.12 | 55.29 | 53.49 | 60.00 | 54.38 | 55.73 |
| 5 – 8 times a year | 19.61 | 25.00 | 12.12 | 24.04 | 20.93 | 13.33 | 16.88 | 22.25 |
| 9 – 12 times a year | 9.80 | 12.18 | 3.03 | 8.65 | 6.98 | 8.89 | 6.25 | 9.91 |
| More than 12 times a year | 9.80 | 4.49 | 3.03 | 2.40 | 2.33 | 1.11 | 5.00 | 2.86 |

HH=household; HC=home country; OMs=other migrants from same HC HH

**Appendix Table A.5: Selected Remittances Variables by Income Category and Country of Origin***

| Income category | Tonga N=231 | | | Samoa N=337 | | | Cook Islands N=239 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Bottom 40% N=**76** | Middle 40% N=**107** | Top 20% N=**48** | Bottom 40% N=**147** | Middle 40% N=**120** | Top 20% N=**70** | Bottom 40% N=**101** | Middle 40% N=**103** | Top 20% N=**35** |
| Remitting HH (%) | 98.68 | 96.26 | 95.83 | 91.84 | 95.83 | 94.28 | 86.14 | 95.15 | 85.71 |
| Mean HH size | 5.74 | 4.41 | 3.00 | 4.83 | 4.18 | 3.21 | 4.96 | 3.98 | 3.06 |
| Mean HH remittances ($) | 5.62 | 8.13 | 14.22 | 7.53 | 10.32 | 9.97 | 3.25 | 4.04 | 3.75 |
| Remittances as % of income | 11.96 | 7.35 | 9.17 | 15.48 | 10.50 | 6.23 | 6.89 | 4.47 | 2.74 |
| Riverina(%) | 23.68 | 34.58 | 10.42 | 25.17 | 19.17 | 17.14 | 19.80 | 33.98 | 11.43 |
| Informal channels (%) | 18.42 | 21.50 | 8.33 | 19.05 | 16.67 | 11.43 | 13.86 | 14.56 | 11.43 |
| HH Head total years abroad | 22.78 | 24.69 | 27.60 | 21.57 | 24.24 | 21.92 | 21.77 | 22.92 | 27.47 |

* The income categories are based on per capita incomes. The categories were then created by splitting the entire sample of individuals into the three income groups; eg. In the Case of Tonga the Bottom Income Category consists of the 40% poorest individuals living in 76 households, while the Middle Income Category consists of the 40% middle income individuals living in 107 households.

**Appendix Table A.6: Selected Remittance Variables by Migrant's Length of Absence and Country of Origin**

| Length of absence (years) | Tonga N=233 | | | | | | Samoa N=344 | | | | | | Cook Islands N=247 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25+ | 0-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25+ | 0-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25+ |
| N= | 7 | 13 | 27 | 30 | 59 | 97 | 17 | 29 | 43 | 70 | 66 | 119 | 15 | 26 | 48 | 31 | 34 | 93 |
| % in Category | 3.0 | 5.6 | 11.6 | 12.9 | 25.3 | 41.6 | 4.9 | 8.4 | 12.5 | 20.3 | 19. | 34.6 | 6.1 | 10.5 | 19.4 | 12.6 | 13.8 | 37.7 |
| Remitters (%) | 85.7 | 100 | 92.6 | 93.3 | 100 | 97.9 | 100 | 96.6 | 100 | 91.4 | 95.5 | 89.9 | 80.8 | 88.5 | 93.8 | 87.1 | 82.4 | 92.5 |
| Mean per capita inc. ('000$) | 23.5 | 24.8 | 22.0 | 26.9 | 27.4 | 28.4 | 30.0 | 24.2 | 22.5 | 23.2 | 22.8 | 24.5 | 20.5 | 20.8 | 19.7 | 22.7 | 27.8 | 23.6 |
| Mean HH remittances ('000$) | 7.8 | 9.1 | 7.9 | 4.7 | 8.5 | 10.0 | 6.0 | 8.0 | 9.1 | 8.6 | 9.1 | 9.9 | 3.1 | 5.3 | 3.1 | 3.2 | 2.5 | 9.9 |
| Remittances as % of income | 11.4 | 12.2 | 7.8 | 9.6 | 8.8 | 9.3 | 13.1 | 11.4 | 11.1 | 13.3 | 13.0 | 10.4 | 6.3 | 7.4 | 5.5 | 3.5 | 3.4 | 5.5 |
| Riverina (%) | 42.9 | 38.5 | 14.8 | 26.7 | 30.5 | 22.7 | 64.7 | 41.4 | 13.9 | 20.0 | 24.2 | 11.8 | 46.7 | 15.4 | 16.7 | 38.7 | 23.5 | 23.7 |
| Intent to return (%) | 0.0 | 23.1 | 18.5 | 36.7 | 27.1 | 19.6 | 5.9 | 17.2 | 23.3 | 10.0 | 12.1 | 20.2 | 13.3 | 26.9 | 18.8 | 19.3 | 14.7 | 14.0 |

**Appendix Table A.7: Regression Estimates-Sending Decisions of Remitting Migrant Households by Form of Remittance and Country of Origin**

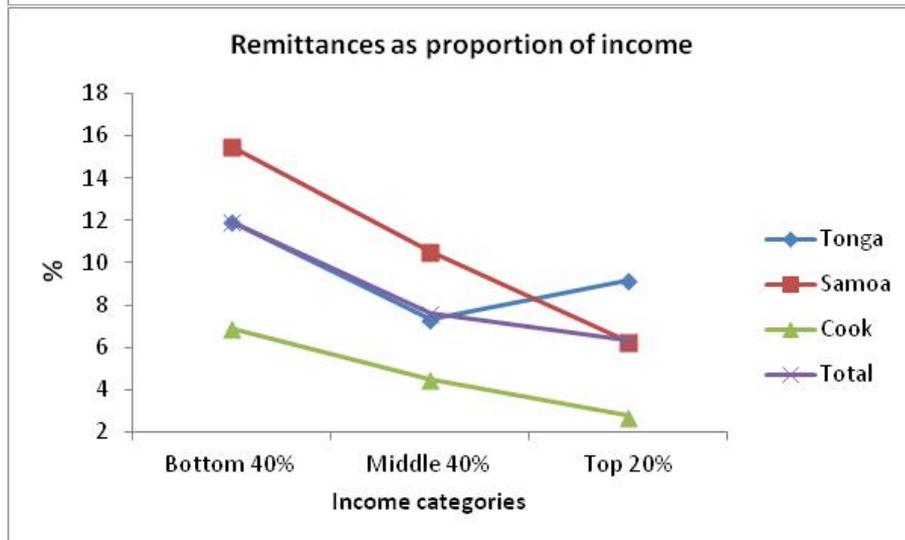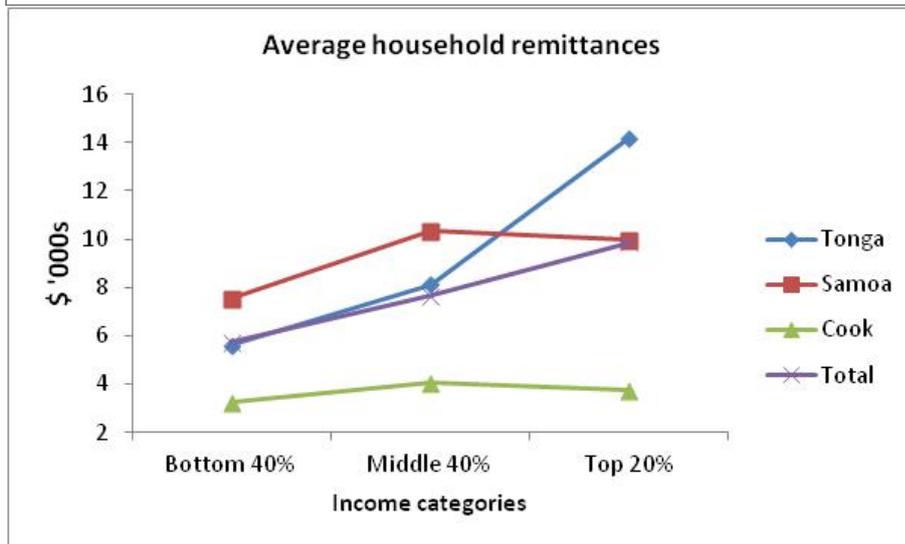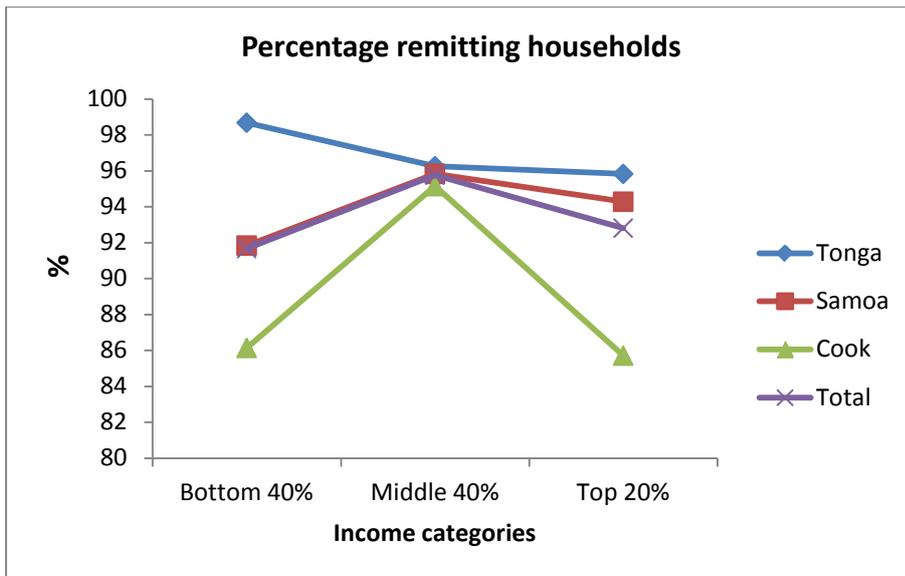| | Probit Regression results: Average Marginal Effects (By Country) | | | | | |
| | Remit to Own Households | | | Remit to Other Households | | |
| | (1) | (2) | (3) Cook Islands | (4) | (5) | (6) Cook Islands |
| VARIABLES | Tonga . | Samoa . | Islands . | Tonga . | Samoa . | Islands . |
|---|---|---|---|---|---|---|
| HH head male | 0.106 | 0.004 | 0.049 | 0.084 | -0.037 | -0.228** |
| | (0.068) | (0.064) | (0.068) | (0.081) | (0.078) | (0.100) |
| Years of education | -0.006 | -0.004 | 0.003 | 0.029** | 0.005 | -0.007 |
| | (0.006) | (0.006) | (0.007) | (0.012) | (0.007) | (0.007) |
| Marital status of HH head | 0.038 | -0.014 | 0.012 | -0.031 | -0.049 | 0.051 |
| | (0.060) | (0.058) | (0.061) | (0.094) | (0.076) | (0.069) |
| Total HH income | 0.000 | -0.000 | 0.000 | 0.001 | -0.000 | 0.001 |
| | (0.000) | (0.000) | (0.001) | (0.001) | (0.000) | (0.000) |
| HH size | -0.003 | 0.013 | -0.003 | -0.011 | -0.000 | -0.010 |
| | (0.009) | (0.010) | (0.016) | (0.015) | (0.014) | (0.015) |
| Own house in Australia | 0.060* | 0.069* | 0.041 | -0.118** | 0.071 | 0.007 |
| | (0.035) | (0.037) | (0.062) | (0.055) | (0.056) | (0.061) |
| Total years away frm HC | 0.005** | -0.001 | -0.004* | 0.006** | 0.002 | 0.002 |
| | (0.002) | (0.002) | (0.002) | (0.003) | (0.002) | (0.002) |
| Origins in rural area of HC | 0.032 | -0.034 | -0.145** | 0.083 | -0.030 | 0.082 |
| | (0.033) | (0.038) | (0.061) | (0.074) | (0.050) | (0.065) |
| Living in Riverina | -0.033 | 0.070* | 0.066 | -0.086 | 0.116* | -0.028 |
| | (0.043) | (0.042) | (0.065) | (0.070) | (0.065) | (0.054) |
| Unexpected events in Australian HH | 0.049 | 0.038 | 0.144 | 0.092 | 0.277*** | 0.157 |
| | (0.047) | (0.055) | (0.088) | (0.098) | (0.086) | (0.118) |
| Unexpected events in HC HH | | 0.128*** | 0.142 | -0.009 | -0.008 | 0.230* |
| | | (0.039) | (0.123) | (0.074) | (0.050) | (0.138) |
| Own house in HC | 0.109*** | | 0.219*** | 0.009 | 0.113 | 0.228** |
| | (0.025) | | (0.085) | (0.061) | (0.069) | (0.101) |
| Intend to return to HC | 0.026 | 0.127*** | 0.057 | 0.247*** | 0.036 | 0.156* |
| | (0.036) | (0.037) | (0.073) | (0.081) | (0.059) | (0.085) |
| Had visitor from HC | 0.169*** | 0.225*** | 0.338*** | 0.094* | 0.169*** | -0.085* |
| | (0.031) | (0.027) | (0.053) | (0.055) | (0.047) | (0.051) |
| Parent living in HC | 0.094*** | 0.261*** | 0.250*** | -0.038 | 0.056 | 0.056 |
| | (0.028) | (0.033) | (0.063) | (0.061) | (0.048) | (0.057) |
| Other migrants associated with HH | -0.015*** | -0.008 | -0.004 | 0.019** | -0.001 | 0.005 |
| | (0.005) | (0.005) | (0.010) | (0.009) | (0.008) | (0.010) |
| Active in church | -0.004 | 0.002 | 0.013 | 0.117** | 0.072 | 0.048 |
| | (0.032) | (0.038) | (0.054) | (0.059) | (0.047) | (0.053) |
| | | | | | | |
| Observations | 230 | 335 | 237 | 230 | 335 | 237 |
| Log likelihood | -45.26 | -79.79 | -92.30 | -114.4 | -144.3 | -102.0 |
| chi2 | 63.08 | 89.13 | 95.06 | 51.33 | 52.44 | 38.23 |
| Pseudo $R^2$ | 0.395 | 0.472 | 0.399 | 0.200 | 0.146 | 0.206 |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

**Appendix Table A.8: Regression Estimates- Sending Decisions of Remitting Migrant Households by Form of Remittance and Country of Origin**
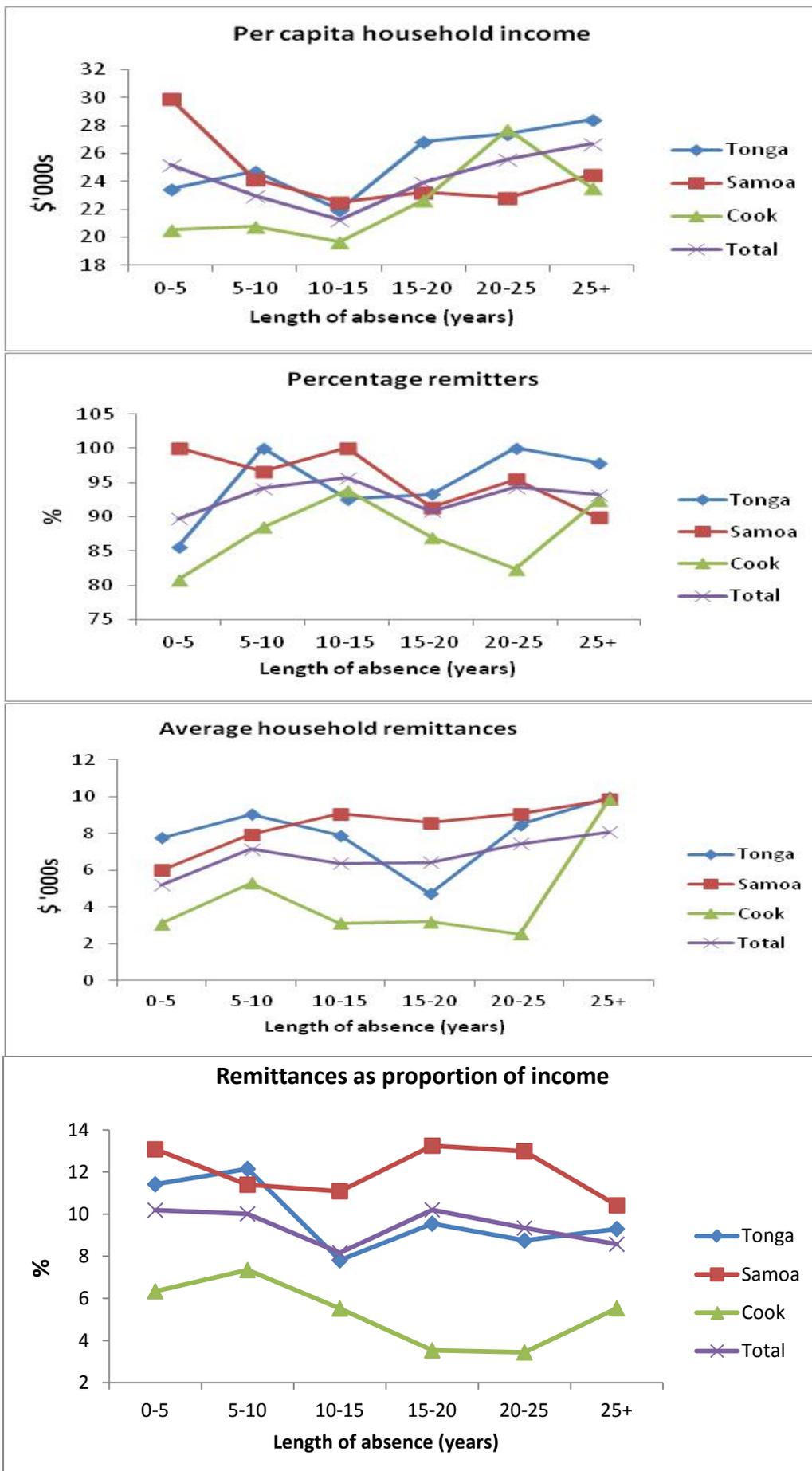
| | Probit Regression results: Average Marginal Effects (By Country) | | | | | |
| | Remit to Organisations | | | Remit to Own Assets | | |
| | (1) | (2) | (3) Cook Islands | (4) | (5) | (6) Cook Islands |
| VARIABLES | Tonga | Samoa | | Tonga | Samoa | |
| | . | . | . | . | . | . |
| HH head male | 0.048 | 0.032 | 0.116 | 0.034 | 0.068 | 0.020 |
| | (0.088) | (0.078) | (0.089) | (0.044) | (0.081) | (0.037) |
| Years of education | 0.009 | -0.014** | -0.028*** | 0.012* | -0.008 | -0.003 |
| | (0.013) | (0.007) | (0.011) | (0.007) | (0.007) | (0.005) |
| Marital status of HH head | -0.026 | 0.039 | -0.084 | 0.033 | -0.029 | -0.016 |
| | (0.086) | (0.074) | (0.071) | (0.044) | (0.083) | (0.039) |
| Total HH income | 0.001 | 0.001*** | 0.000 | 0.001** | 0.000 | 0.000 |
| | (0.001) | (0.000) | (0.001) | (0.000) | (0.000) | (0.000) |
| HH size | -0.015 | -0.015 | 0.011 | -0.015* | -0.007 | 0.007 |
| | (0.014) | (0.014) | (0.016) | (0.008) | (0.014) | (0.007) |
| Own house in Australia | -0.249*** | -0.058 | 0.067 | 0.029 | -0.074 | 0.032 |
| | (0.068) | (0.063) | (0.071) | (0.040) | (0.053) | (0.047) |
| Total years away form HC | 0.002 | -0.002 | 0.003 | 0.001 | -0.001 | -0.003* |
| | (0.003) | (0.002) | (0.002) | (0.002) | (0.002) | (0.001) |
| Origins in rural area of HC | 0.026 | -0.138** | -0.051 | 0.021 | -0.126** | -0.010 |
| | (0.064) | (0.056) | (0.064) | (0.040) | (0.052) | (0.028) |
| Living in Riverina | -0.188** | -0.087 | 0.074 | 0.010 | -0.173*** | 0.031 |
| | (0.075) | (0.059) | (0.068) | (0.050) | (0.053) | (0.039) |
| Unexpected events in Australian HH | -0.185* | 0.046 | 0.189*** | -0.014 | -0.063 | 0.015 |
| | (0.109) | (0.074) | (0.063) | (0.045) | (0.065) | (0.059) |
| Unexpected events in HC HH | 0.055 | -0.012 | -0.089 | 0.045 | 0.095* | 0.024 |
| | (0.069) | (0.057) | (0.128) | (0.052) | (0.054) | (0.053) |
| Own house in HC | -0.036 | -0.006 | 0.070 | 0.213*** | 0.212*** | 0.100 |
| | (0.068) | (0.076) | (0.084) | (0.061) | (0.075) | (0.066) |
| Intend to return to HC | 0.201*** | 0.066 | 0.026 | -0.098*** | -0.035 | -0.040 |
| | (0.059) | (0.062) | (0.080) | (0.029) | (0.052) | (0.029) |
| Had visitor from HC | 0.118** | 0.109** | -0.013 | 0.015 | -0.053 | 0.014 |
| | (0.054) | (0.045) | (0.062) | (0.031) | (0.043) | (0.031) |
| Parent living in HC | -0.012 | 0.145*** | -0.016 | 0.011 | 0.361*** | 0.091** |
| | (0.058) | (0.050) | (0.067) | (0.034) | (0.051) | (0.039) |
| Other migrants associated with HH | 0.014 | 0.025*** | 0.028** | -0.001 | -0.004 | -0.003 |
| | (0.009) | (0.008) | (0.012) | (0.006) | (0.007) | (0.006) |
| Active in church | -0.002 | 0.187*** | 0.033 | -0.005 | 0.025 | 0.027 |
| | (0.058) | (0.060) | (0.058) | (0.037) | (0.047) | (0.028) |
| | | | | | | |
| Observations | 230 | 335 | 237 | 230 | 335 | 237 |
| Log likelihood | -112.1 | -159.4 | -117.9 | -52.10 | -134.4 | -43.01 |
| chi2 | 39.63 | 66.98 | 27.81 | 45.46 | 85.75 | 41.82 |
| Pseudo $R^2$ | 0.157 | 0.206 | 0.121 | 0.259 | 0.314 | 0.191 |

Standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

**Appendix Figure A.1 Remittances by Income Category and Country of Origin**

**Appendix Figure A.2 Remittances by Duration of Absence and Country of Origin**



Per capita household income



Percentage remitters



Average household remittances



Remittances as proportion of income

**References**

Asian Development Bank (2011a). Tonga Fact Sheet, Asian Development Bank, Manila, Philippines.

Asian Development Bank (2011b). Samoa Fact Sheet, Asian Development Bank, Manila, Philippines.

Asian Development Bank (2011c). Cook Islands Fact Sheet, Asian Development Bank, Manila, Philippines.

Bertram, G. (2009). Viability, Aid, Migration and Remittances in the Pacific: Some Thoughts. Victoria University (mimeo), Wellington, New Zeland.

Bertram, G. and Watters, R. (1985). The MIRAB Economy in South Pacific Microstates, *Pacific Viewpoint* vol. 26, (3) 497-519pp

Brown, R. P. C. (1995). Hidden Foreign Exchange Flows: Estimating Unofficial Remittances to Tonga and Western Samoa, *Asian and Pacific Migration Journal* vol. 4, (1) 35-54pp

Brown, R. P. C. (1997). Estimating remittance functions for Pacific Island Migrants, *World Development* vol. 25, (4) 613-626pp

Brown, R. P. C. (1998). Do Pacific Island migrants' remittances decline over time? Evidence from Tongans and Western Samoans in Australia, *Journal of Contemporary Pacific* vol. 10, (1) 107-151pp

Brown, R. P. C., Connell, J., Jimenez, E. and Leeves, G. (2006). Chapter 3 Cents and Sensibility: the Economic Benefits of Remittances, in (eds.), *At Home and Away: Expanding Job Opportunities for Pacific Islanders Through Labour Mobility*. World Bank, Washington DC, pp.

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, (4) 547-571pp

Brown, R. P. C. and Walker, A. (1995). *Migrants and their Remittances Results of a Household Survey of Tongans and Western Samaons in Sydney*. Centre for South Pacific Studies, University of New South Wales, Sydney.

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

Department of Immigration and Citizenship (2010a). Community Information Summary - Cook Islands, Department of Immigration and Citizenship, Canberra.

Department of immigration and Citizenship (2010b). Community Information Summary - Samoa, Department of immigration and Citizenship, Canberra.

Department of Immigration and Citizenship (2010c). Community Information Summary - Tonga, Department of Immigration and Citizenship, Canberra.

Duflo, E. and Udry, C. (2004). Intrahousehold Resource Allocation in Cote d'Ivoire: Social Norms, Separate Accounts and Consumption Choices, NBER Working Paper No. 10498, National Bureau of Economic Research, Cambridge, Massachusetts, USA.

Duncan, R. and Chand, S. (2002). The Economics of the 'Arc of Instability', *Asian-Pacific Economic Literature* vol. 16, (1) 1-9pp

Fafchamps, M., McKenzie, D., Quinn, S. and Woodruff, C. (2011). When is Capital Enough to get Female Microenterprises Growing? Evidence from a Randomized Experiment in Ghana CSAE Working Paper WPS/2011-11, Centre for the Study of African Economies (CASE), Department of Economics, Oxford.

Jimenez-Soto, E. and Brown, R. P. C. (2012). Assessing the poverty impacts of migrants' remittances using Propensity Score Matching: the case of Tonga *Economic Record* vol. in press, (pp

Jimenez-Soto, E. V. (2008). The Social Protection Role of Remittances - The Cases of Fiji and Tonga, Doctoral Thesis, School of Economics, University of Queensland, Brisbane.

Jimenez, E. V. and Brown, R. P. C. (2008). Assessing the poverty impacts of remittances with alternative counterfactual income estimates, School of Economics Discussion Paper No. 375, SSchool of Economics, The University of Queensland, Brisbane, Australia.

Loomis, T. (1986). Remittances and Development: Cook Islands Migrants in New Zealand and Their Influence on Cook Islands Development, Social Research and Development Trust, Auckland, New Zealand.

Loomis, T. (1990). Cook Island remittances: Volumes, determinants and uses, in Connell, J. (eds.), *Migration and development in the South Pacific*. National Centre for Development Studies, Research School of Pacific Studies, The Australian National University, Canberra, pp.

Maclellan, N. (2008). Seasonal Workers for Australia – Lessons from New Zealand, *Farm Policy Journal* vol. 5, (3) 43-53pp

Maclellan, N. and Mares, P. (2006). Labour Mobility in the Pacific: Creating seasonal work programs in Australia, in Firth, S. (eds.), *Globalisation and governance in the Pacific Islands*. ANU E Press, Canberra, pp. 137-172.

Platteau, J.-P. (2000). *Institutions, Social Norms, and Economic Development*. Harwood Academic Publishers, Singapore.

Ratha, D., Mohapatra, S. and Silwal, A. (2011). *Migration and Remittances Factbook 2011*. The international Bank for Reconstruction and Development / The World Bank, Washington DC.

World Bank (2006). *At Home and Away: Expanding Job Opportunities for Pacific Islanders Through Labour Mobility*. World Bank, Washington DC.