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The settlement experience of Pacific migrants in New Zealand: Insights from LISNZ and the IDI

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Disclaimer

The results in this paper are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI), managed by Statistics New Zealand. The opinions, findings, recommendations, and conclusions expressed in this paper are those of the authors, not Statistics NZ, Motu Economic and Public Policy Research, the Ministry for Business, Innovation and Employment. Access to the anonymised data used in this study was provided by Statistics NZ under the security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, household, business, or organisation, and the results in this paper have been confidentialised to protect these groups from identification and to keep their data safe. Careful consideration has been given to the privacy, security, and confidentiality issues associated with using administrative and survey data in the IDI. Further detail can be found in the Privacy impact assessment for the Integrated Data Infrastructure available from www.stats.govt.nz. The results are based in part on tax data supplied by Inland Revenue to Statistics NZ under the Tax Administration Act 1994. This tax data must be used only for statistical purposes, and no individual information may be published or disclosed in any other form, or provided to Inland Revenue for administrative or regulatory purposes. Any person who has had access to the unit record data has certified that they have been shown, have read, and have understood section 81 of the Tax Administration Act 1994, which relates to secrecy. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.

Abstract

New Zealand has a long history of migration from the Pacific. Migrants from the Pacific, like all people moving to a new country, face the challenges of finding suitable employment and a place to live, accessing education, and forming new social, professional, and community networks while adapting to differences in culture. Our research uses the Longitudinal Immigration Survey New Zealand (LISNZ) and Statistics New Zealand's Integrated Data Infrastructure to focus on differences in outcomes between migrants from different Pacific countries who gained residence approval under different visa types. Pacific migrants interviewed in LISNZ faced a number of challenges to becoming successful and settled in New Zealand, including limited English and low education, which may have caught many in low-paying or part-time work and made them particularly vulnerable to economic conditions. Although most reported good health and generally positive non-economic outcomes in New Zealand, some of their outcomes grew worse over their first three years after residence approval. The reasons for these declines are not wholly clear and could be investigated in future research.

JEL codes

F22, J15, J61

Keywords

Pacific migration, New Zealand, migrants, labour market, housing, health, club membership, migrant integration

Summary haiku

Pacific migrants:
high employment, low pay rates,
trapped by poor English.

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Summary

New Zealand has a long history of migration from the Pacific. In the 2016/17 year, 47,684 people were approved for New Zealand residence, including 5,243 Pacific individuals (11%). The 2013 census shows 151,500 usual residents of New Zealand were born in Pacific countries: 52,800 (35%) in Fiji, 50,700 (33%) in Samoa, 22,400 (15%) in Tonga, and 13,000 (9%) in the Cook Islands, among others.

Like all people moving to a new country, Pacific migrants face the challenges of finding suitable employment and a place to live, accessing education, and forming new social, professional, and community networks while adapting to differences in culture. Our paper helps to understand outcomes in New Zealand across some of these social and economic dimensions for permanent migrants from the Pacific region.

Study approach

This study uses individual-level data from the Longitudinal Immigration Survey New Zealand (LISNZ) and Statistics New Zealand's Integrated Data Infrastructure (IDI). The migrants in our study gained residence approval between 1 November 2004 and 31 October 2005. They were either already in New Zealand when they gained residence or arrived within twelve months of approval. The three survey waves were conducted six months, eighteen months, and thirty-six months either after residence approval for onshore migrants or after arrival for offshore migrants.

LISNZ provides a rich picture of migrants' experiences in New Zealand for a limited period of time. We supplement LISNZ data with housing information from the 2013 Census and data on economic outcomes from the IDI from 2005 to 2017. Our primary focus is on differences in outcomes between migrants from different Pacific countries who gained residence approval under different visa types, as outlined in the table below.

Pacific Access Category (PAC)	Annual ballot for 75 I-Kiribati, 75 Tuvaluans, 250 Tongans, and 250 Fijians. Principal applicant (aged 18-45) must have a job offer that "pays enough to support you and your family in New Zealand". Expectation that the migrant can speak, read, and write some English.
Samoan Quota (SQ)	Annual ballot for 1,100 Samoans. Same conditions as PAC.
Skilled/Business Categories Our analysis aggregates Skilled Migrant and Business Categories.	Skilled Migrant Category: Points-based system for those under 55. Factors include qualifications, work experience, English language ability, and current job or job offers in skilled employment. Business Categories are visas targeted towards those who will be self-employed in their own business. In the 2016/17 financial year, 1,025 Pacific migrants approved for residence in Business/Skilled category.
Family Category	Designed to "help partners, dependent children and parents of New Zealand citizens, residents and visa holders join family here". In the 2016/17 financial year, 2,260 Pacific migrants were approved for residence under Family category.
Other (e.g. refugee visas)	Number of people in this category is very small.

The Pacific migrants in our study sample come from: Fiji, Kiribati, The Federated States of Micronesia, Papua New Guinea, Samoa and American Samoa, The Solomon Islands, Tonga, Tuvalu, and Vanuatu. Pacific migrants from Niue, the Cook Islands and Tokelau have automatic right to New Zealand citizenship. For this reason, they were not surveyed as part of the LISNZ study, and so we cannot include them in our study.

The main Pacific countries we compare in our analysis are Fiji, Tonga, and Samoa, because these are the most common Pacific source countries of migrants in LISNZ. Fiji is the outlier among these three countries. Its income per capita is 12% higher than those of Tonga and Samoa and its population is multiple times larger. Tonga and Samoa are more similar to each other on these dimensions.

Many migrants come from the Pacific region on resident visas that are open to people from all parts of the world, such as Skilled, Business, and Family visas. In addition, the number of migrants from Samoa is buoyed by the Samoan Quota Resident Visa, while the Pacific Access Category Resident Visa provides an additional avenue for migrants from Fiji, Tonga, and to a lesser extent Kiribati and Tuvalu to move permanently to New Zealand.

Profile of migrants in our study

About 18% of Pacific migrants in our sample arrived through the Pacific Access Category and 20% via the Samoan Quota visa. Nearly half came from Fiji. Most of the rest came from either Samoa or Tonga.

Pacific migrants in our sample were slightly more likely than non-Pacific migrants to be in the younger age categories (15-17, and 18-24) and less likely to be in the middle age group (30-49). Pacific migrants had similar rates of being single with or without children, but were slightly more likely (39% vs 34%) to be married with children than were non-Pacific migrants.

Probably reflecting New Zealand's strong Pacific diaspora, Pacific migrants in our sample were much more likely to know more than 20 people before arriving in New Zealand (27%) than were non-Pacific migrants (5%). The vast majority (76%) of our Pacific migrants settled in Auckland, a substantially higher proportion than that of non-Pacific migrants (46%).

Pacific migrants in our sample were less likely to report feeling discriminated against (13%) than were non-Pacific migrants (26%). Pacific migrants were slightly less likely than non-Pacific migrants to respond that they had "more than enough money" (6% vs. 10%), though this could be driven by a higher number of Pacific migrants reporting "don't know" for this question (8% vs 1%).

Retention

A high proportion of the Pacific migrants interviewed in the first wave of LISNZ (between May 2005 and April 2007) were still in New Zealand in 2017, though the proportion was lower for

migrants from Samoa and Tonga (below 80%) than for those from Fiji or Other Pacific countries (about 90%). Migrants who arrived on Samoan Quota visas were the most likely to leave again, with only about 70% remaining in New Zealand by 2017.

Even though higher proportions of Samoan, Tongan, and Samoan Quota migrants left New Zealand, this does not seem to reflect lower satisfaction with the New Zealand experience. Pacific migrants from all countries and on all visa types were less satisfied with New Zealand in wave 3 than wave 1 of LISNZ. In wave 3, migrants from Samoa and Tonga were similarly satisfied to migrants from Fiji, who stayed in New Zealand at a higher rate, and Samoan Quota migrants had similar satisfaction levels to Pacific Access and Skilled/Business migrants.

Samoan, Tongan, and Samoan Quota migrants were, however, particularly likely to remit money while in New Zealand (53 to 57% of each group reported having sent money back home to others in wave 1), despite reporting lower income adequacy than other Pacific migrants. Only 14% of non-Pacific migrants sent money overseas. This suggests Samoan, Tongan, and Samoan Quota migrants maintained strong ties with friends, family, the church, or the community back home, and may have left New Zealand to return to them. They may also have moved to third countries such as Australia.

Inclusion

Satisfaction with New Zealand in the first three years after residence approval was high among Pacific migrants in our sample, with about 95% reporting being either "very satisfied" or "satisfied" each survey wave. However, satisfaction with New Zealand declined considerably over the three waves of LISNZ: the proportion "very satisfied" fell from over 45% in wave 1 to less than 30% in wave 3, while the proportion "satisfied" increased from 50% to almost 70%.

Satisfaction with New Zealand was relatively similar for Pacific migrants from different countries of origin and in different visa categories. There is no evidence Fijian migrants or Skilled/Business migrants, who were more successful economically, felt higher satisfaction. Pacific migrants of all different types reported a decline in satisfaction with New Zealand over the three waves of LISNZ.

The drivers of this decline in satisfaction are unclear. Worsening economic conditions with the beginning of the Global Financial Crisis, which overlapped with wave 3 interviews, could have been a contributing factor, but the decline in satisfaction was not clearly larger for those subpopulations of Pacific migrants hit harder by the Global Financial Crisis.

Pacific migrants also reported feeling well settled in New Zealand. In each LISNZ wave, 40 to 50% reported feeling "very settled" and 45 to 55% reported feeling "settled". In a similar manner to satisfaction with New Zealand, the feelings of being settled reported by Pacific migrants shifted somewhat from "very settled" to "settled" over LISNZ waves, particularly for Samoan Quota and Family visa migrants.

Perhaps surprisingly, feelings of being settled were not strongly related to economic outcomes: Fijian migrants were more economically successful but reported feeling less settled than Tongan or Samoan migrants, at least in the first two waves. Samoan Quota migrants, who had relatively weak economic outcomes and the highest rate of leaving New Zealand over the following decade, reported the highest feelings of settlement.

Participation in most types of groups and clubs was lower among Pacific migrants than non-Pacific migrants, with religious groups being the major exception. Pacific migrants from all countries and with all visa types reported high participation in religious groups across LISNZ waves. In wave 1, religious group participation was below 20% for non-Pacific migrants, whereas it ranged from 35% for Fijians to 40% for Samoans and 60% for Tongans. By wave 3, it had fallen by 10 percentage points for Tongans and Samoans, while it held constant for Fijian and non-Pacific migrants. Tongans also reported high participation in sports and ethnic groups.

Health and well-being

In general, Pacific migrants reported a high level of health in their first three years after residence approval or arrival in New Zealand. In the first wave of LISNZ, nearly 45% reported "excellent" health, over 35% reported "very good health", 17% reported "good" health, and only about 3% reported "fair" or "poor" health. However, by wave 3 the percentage reporting excellent health had fallen to 28% and the percentage reporting good health had risen to a similar level. The proportion reporting fair or poor health had doubled since wave 1.

Pacific migrants from most countries of origin and on most visa types showed some decline in reported health over this period, particularly between waves 2 and 3, with the exception of migrants from Tonga. The causes of the decline in health are unclear from this analysis, but there are several possibilities. The data uses self-reported health rather than any objective health measure. It is possible that migrants reported lower health over time because other aspects of their lives were less than satisfactory and made them feel less well, rather than because their health was objectively worse. The second possibility is that migrants did not come to New Zealand unless they were healthy, and once in New Zealand they experienced a normal range of accidents, illness, and ageing. The third possibility is that the lifestyles of these Pacific migrants in New Zealand were less healthy than their lifestyles back home. The fourth possibility is that the tight economic conditions in the Global Financial Crisis had a negative impact on the health of Pacific migrants for the third wave of LISNZ.

Most Pacific migrants reported in LISNZ that they were satisfied with the quality of their housing. In wave 1, 35% were "very satisfied", 55% were "satisfied", fewer than 10% were "neither satisfied nor dissatisfied", and fewer than 5% were "dissatisfied" or "very dissatisfied". Although the proportion in the less satisfied categories fell over LISNZ waves, so did the proportion who were "very satisfied". The decrease in "very satisfied" was driven entirely by migrants from Samoa, for whom the proportion fell from almost 30% in wave 1 to 10% in wave

3. This is unlikely to have been driven by increased crowding. Over the same period, average occupants per bedroom, which we show is negatively correlated with satisfaction with housing, fell for Pacific migrants. The satisfaction levels may have been affected by changing expectations.

In the long run, housing outcomes were closely linked to economic outcomes. Fijian migrants, who had strong economic outcomes, reported high satisfaction with their housing in LISNZ, and years later in the 2013 census they had the lowest average occupants per bedroom of any Pacific migrants. They also had a home ownership rate of 45%, compared with around 10% for other Pacific migrants. Unsurprisingly, those on Skilled/Business visas had the highest home ownership rates of any visa group in 2013, at over 50%.

English language

Pacific migrants in our sample had much lower average English language proficiency at wave 1 than non-Pacific migrants. Pacific migrants were much less likely to report that English was the language they spoke best (38% vs 62%), although only 12% stated that their English was poor (compared with 8% of other migrants).

Very few Pacific migrants for whom English was not their best language had studied English in New Zealand by wave 1 (9%). In contrast, 40% of such non-Pacific migrants had done so.

This lack of English skill is likely to have been a substantial impediment to employment in New Zealand. Among Pacific migrants, those with lower English proficiency at wave 1 still had much lower employment and higher benefit receipt ten years later.

English skill varied between Pacific migrant groups. Whereas 58% of Fijians spoke English as their best language, only 16% of Samoans and 20% of Tongans did so. English proficiency was also higher among Pacific migrants on Skilled/Business visas than among those on other visa types (65% of Pacific Skilled/Business migrants spoke English as their best language, compared with 12% to 38% of Pacific migrants on other visas).

Employment and benefit receipt

Nineteen percent of Pacific migrants in our sample were offshore migrants who had a job arranged before they arrived in New Zealand, compared with 23% of non-Pacific migrants.

Over 2006 to 2017, Pacific migrants had a similar likelihood of being employed to non-Pacific migrants of the same gender. However, Pacific migrants of both genders had considerably lower wage earnings conditional on being employed than non-Pacific migrants, and higher rates of both being employed but still receiving a benefit and of receiving a benefit while not employed.

Our findings suggest many Pacific migrants were underemployed and in low-paying jobs. Pacific migrants had lower English proficiency and level of education than migrants from other regions. For instance, 22% of Pacific migrants had 10 or fewer years of education compared with

8% of non-Pacific migrants. These characteristics likely drove low-wage, low-hours employment.

Fijian migrants had stronger economic outcomes than Samoan or Tongan migrants, with higher employment, higher wage earnings conditional on employment, and lower rates of benefit receipt over 2006 to 2017. Fijians' higher level of education (29% had 15+ years of education at residence approval compared with 24% of Samoans and 20% of Tongans) and higher English proficiency (English was the best language of 58% of Fijian migrants, but only 16% of Samoan and 20% of Tongan migrants) were likely important drivers of this. Furthermore, 38% of Fijian migrants came on Skilled/Business visas, compared with 7% of Tongan migrants and a tiny proportion of Samoan migrants.

Skilled/Business and Pacific Access Category migrants had higher employment than Samoan Quota and Family Pacific migrants. Skilled/Business migrants also had markedly higher median incomes conditional on employment, and low benefit receipt rates. Furthermore, their benefit receipt rate was minimally affected by the Global Financial Crisis, staying below 5% most of the period 2006 to 2017. However, migrants who were self-employed and did not pay themselves a wage are not included as employed in our analysis; the fraction employed thus likely understates the economic success of certain types of migrants, particularly business/investor migrants. For Pacific migrants, the proportion that had experienced self-employment since the previous survey wave rose from around 2% in wave 1 to just under 5% in wave 3, compared with an increase from 8% to over 15% for non-Pacific migrants.

Pacific Access Category migrants had much lower rates of benefit receipt than Pacific migrants who came in on other visas. Nearly half of Pacific Access Category migrants were from Fiji, and they shared some of advantageous characteristics of Fijian migrants, such as high English proficiency.

Pacific migrants experienced larger increases in benefit receipt than non-Pacific migrants over the Global Financial Crisis. This was especially true for Pacific women. The proportion of female Pacific migrants receiving a benefit rose from 7% in 2006 to over 20% in 2010, and fell only gradually over the following years. Benefit receipt also rose dramatically at this time for Pacific migrants on Samoan Quota and Family visas, reaching a peak of over 20%, and rose somewhat for Pacific Access migrants. It is likely Pacific migrants were particularly vulnerable to weak economic conditions due to their relatively low English proficiency and education levels compared with other migrants.

Pacific migrants of both genders had low rates of receiving neither wage nor benefit income relative to non-Pacific migrants. This suggests Pacific migrants were more successful than migrants from other regions at accessing benefits to which they were entitled. However, Pacific migrants also had a lower rate of self-employment than migrants from other regions.

Because self-employed people are likely to appear in our data as neither employed nor on a benefit, this could explain some of the difference.

Overall

Pacific migrants interviewed in LISNZ faced a number of challenges to becoming successful and settled in New Zealand, including limited English and low education, which may have caught many in low-paying or part-time work and made them particularly vulnerable to economic conditions. Although most reported good health and generally positive non-economic outcomes in New Zealand, a number of their outcomes on these dimensions grew worse over their first three years after residence approval. The reasons for these declines are not wholly clear and could be investigated in future research.

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1 Introduction

This study examines the settlement outcomes of migrants from the Pacific region using information from the Longitudinal Immigration Survey New Zealand (LISNZ) and data in Statistics New Zealand's Integrated Data Infrastructure (IDI) from the 2013 Census, Inland Revenue Department (IRD) income data, and Ministry of Business, Innovation and Employment (MBIE) data on movements overseas. Using this detailed longitudinal data, we are able to provide a rich picture of how Pacific migrants have fared, both economically and in terms of other wellbeing outcomes, for more than 10 years since they gained residence approval. In particular, we study Pacific migrants' employment and benefit outcomes, their housing outcomes, their stated satisfaction with living in New Zealand, how well they integrated into New Zealand communities, and how long they remained in New Zealand.

The rest of this paper is set out as follows: Section 2 provides a very brief review to place our study in the context of some of the earlier research in this area. Section 3 describes the data we use and how we selected our different study samples. Section 4 describes our results, and Section 5 concludes.

2 Background and literature

2.1 Pacific migrants in New Zealand

New Zealand has a long history of migration from the Pacific. The 2013 census shows 151,500 usual residents of New Zealand were born in the Pacific Islands: 52,800 (35%) in Fiji, 50,700 (33%) in Samoa, 22,400 (15%) in Tonga, and 13,000 (9%) in the Cook Islands, among others.[1] Each year, several thousand Pacific people are approved for New Zealand residence. Residence approvals of Pacific individuals rose from 5,027 in 2012/13 to 5,476 in 2015/16, though fell to 5,243 in 2016/17.[2] Thus in 2016/17 Pacific individuals represented 11% of the 47,684 total residence approvals.

In addition to these first-generation Pacific migrants, there exists a large group of later generation migrants who strongly identify as Pacific. The 2013 census identified a total of 295,000 people, or 7% of the population, who identified "Pacific" as one of their ethnic groups. Of these Pacific individuals, 66% lived in Auckland, compared with 33% of the total population.[3]

Pacific migrants, like all people moving to a new country, face the challenges of finding accommodation, finding suitable employment and education, and in general forming new social,

[1] http://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE8011&_ga=2.215145431.1755538629.1532898194-1391704255.1532898194#
[2] Ministry of Business, Innovation, and Employment
[3] http://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE8011&_ga=2.215145431.1755538629.1532898194-1391704255.1532898194#

professional, and community networks while adapting to differences in culture. Our paper helps to understand outcomes across some of these dimensions.

The main Pacific countries we compare in our analysis are Fiji, Tonga, and Samoa, because these are the most common Pacific source countries of migrants in our data. As Appendix Table 1 shows, Fiji is the outlier among these three countries. Its income per capita is 12% higher than those of Tonga and Samoa, and its population is multiple times larger. Tonga and Samoa are more similar to each other on these dimensions.

Many migrants come from the Pacific region on resident visas open to people from all parts of the world, such as Skilled, Business, and Family visas. In addition, the number of migrants from Samoa is buoyed by the Samoan Quota Resident Visa, while the Pacific Access Category Resident Visa provides an additional way for migrants from Fiji, Tonga, and to a lesser extent Kiribati and Tuvalu to move permanently to New Zealand. The requirements for these visas are described in the following subsection.

The Pacific migrants in our study sample come from: Fiji, Kiribati, The Federated States of Micronesia, Papua New Guinea, Samoa and American Samoa, The Solomon Islands, Tonga, Tuvalu, and Vanuatu. Pacific migrants from Niue, the Cook Islands and Tokelau have automatic right to New Zealand citizenship. For this reason, they were not surveyed as part of the LISNZ study, and so we cannot include them in our study.[4]

2.1.1 Visa categories

New Zealand offers migrants a number of routes to New Zealand residence that have different requirements and conditions. For instance, some require the migrant to live in New Zealand for a period before applying whereas some are for offshore applicants; some are conditional on the migrant having a job offer before arriving in New Zealand; some have country of origin, skill, or capital requirements. Migrants who become residents under different visa categories thus tend to have different characteristics and may have very different settlement outcomes in New Zealand.

The remainder of this section briefly describes the residence visa categories used in this study.

Pacific Access Category (PAC): This visa applies to those from Kiribati, Tuvalu, Tonga, or Fiji and involves a ballot process currently for 75 I-Kiribati, 75 Tuvaluans, 250 Tongans, and 250 Fijians (including partners and dependent children aged 24 and under) per year to come to New Zealand.[5] This is currently available for those aged 18-45 and includes the condition that the

[4] http://archive.stats.govt.nz/browse_for_stats/population/Migration/LongitudinalImmigrationSurveyNewZealand_HOTPWave1/Commentary.aspx

[5] The Pacific Access Category was closed to Fijians when the country experienced a military coup in December 2006, and was reopened to them only in 2015. Note that the selection of migrants for inclusion in LISNZ, specifically that their residence was approved between November 2004 and October 2005, means LISNZ migrants from Fiji were able to migrate to New Zealand on Pacific Access Category visas.

principal applicant have a job offer that "pays enough to support you and your family in New Zealand" as well as the expectation that the migrant can speak, read, and write some English.[6]

Samoan Quota (SQ): This visa involves a ballot process for 1,100 Samoans (including partners and dependent children aged 24 and under) per year and is currently available for those aged 18-45. Conditions and expectations are the same as the Pacific Access Category Visa (outlined above).[7]

Skilled Migrant Category: New Zealand's skilled migrant visa category is currently available to those 55 years and under, and involves a points-based system that considers factors including qualifications, work experience, English language ability, and current job or job offers in skilled employment in New Zealand.[8]

Business Categories: Whereas the skilled visa is targeted towards skilled migrants who will be employed by a firm, the business visas are a number of different visas that are targeted towards those who will be self-employed in their own business.[9] Some of these visas include minimum capital investment requirements, a points system that awards points around "the likely success of the business and its value to New Zealand", and English language requirements. Our analysis aggregates the Skilled Migrant Category and Business Categories. In the 2016/17 financial year, a total of 1,025 Pacific migrants were approved for residence in the Business/Skilled category.[10]

Family Category: This category also includes a range of visas, primarily "Partner of a New Zealander resident visa", "Dependent child resident visa" and "Parent resident visa". These visas are typically designed to "help partners, dependent children and parents of New Zealand citizens, residents and visa holders join family here".[11] In the 2016/17 financial year, 2,260 Pacific migrants were approved for residence under the Family category.

Other: We include those entering on visas other than those in the categories above here. This includes, for example, refugee visas. The number of people in this category is very small relative to those in the above categories.

2.2 The effects of migration and the integration of Pacific migrants in New Zealand

Internationally, many people migrate long distances in order to improve their economic opportunities, and migration often results in gains in material wellbeing. However, migration

[6] https://www.immigration.govt.nz/new-zealand-visas/apply-for-a-visa/about-visa/pacific-access-category-resident-visa

[7] https://www.immigration.govt.nz/new-zealand-visas/apply-for-a-visa/about-visa/samoan-quota-scheme-resident-visa

[8] https://www.immigration.govt.nz/new-zealand-visas/apply-for-a-visa/about-visa/skilled-migrant-category-resident-visa

[9] https://www.newzealandnow.govt.nz/investing-in-nz/visas/entrepreneur-visa

[10] Ministry of Business, Innovation, and Employment

[11] https://www.immigration.govt.nz/new-zealand-visas/options/join-family/all-family-visas. The Parent category visa temporarily ceased in October 2016.

may also affect outcomes such as physical or mental health. For example, in a series of papers that use the natural experiment of the migration lottery for Tonga-to-New Zealand migrants, Gibson, Stillman, and McKenzie found that migration increased blood pressure and hypertension (Gibson *et al*., 2013) and increased BMI and obesity in three- to five-year-olds, but increased height and reduced stunting in infants and toddlers (Stillman *et al*., 2012) and improved mental health, particularly for women and those with poor mental health in the home country (Stillman *et al.*, 2009).

Although most Pacific-to-New Zealand migrants have better economic outcomes in New Zealand than they would have had at home, this does not necessarily mean that their incomes catch up with those of New Zealand-born individuals of the same age, education level, and other observable characteristics. Stillman and Maré (2009) implemented a synthetic cohort approach using data from the New Zealand Income Survey to investigate the economic integration of migrants in New Zealand in terms of employment, wages, and annual income. They found that Pacific migrants, particularly males, still lagged behind New Zealand-born individuals on these outcome measures after 35 years in the country. In contrast, migrants from other origin regions either entered New Zealand with incomes similar to those of New Zealand-born individuals or caught up with them over time.

In a political environment concerned with whether Pacific migrants were being "a drain on the New Zealand economy," Bedford *et al.* (2010) used the first wave of LISNZ to investigate whether such concerns were warranted. They compared the economic integration of Pacific migrants with that of migrants from other regions. They found that differences were generally small, and were "not indications of 'underachievement' or any systemic failure of policies regulating immigration from the Pacific."

Several other studies have investigated the economic outcomes of Pacific migrants in New Zealand using LISNZ, Census, or other data sets. Masgoret *et al.* (2012) used all three waves of LISNZ to study migrants' economic integration, by looking at their labour force participation, work seeking rates, income, and earnings. They found that migrants who entered under the Pacific visa categories (i.e. PAC and SQ) had high employment rates, since they are required to have a job offer to get New Zealand residence, but low hourly wages, because the job need not be high-paying. Migrants from all origins who possessed New Zealand work experience before they were granted New Zealand residence were initially better integrated into the labour market than migrants without prior New Zealand work experience. By the third wave, New Zealand work experience prior to gaining residence no longer mattered for labour market outcomes. In contrast, English proficiency mattered for wages right from the start and its importance only increased over successive interview waves.

This report complements previous reports by using the IDI to study economic outcomes over a much longer period, investigating non-economic outcomes in addition to labour market

outcomes, and focusing primarily on within-Pacific differences by visa type and country of origin. The linkage of LISNZ data to the IDI also allows us to observe migrants who subsequently leave New Zealand and distinguish them from those who merely drop out of the survey.

3 Data description and sample

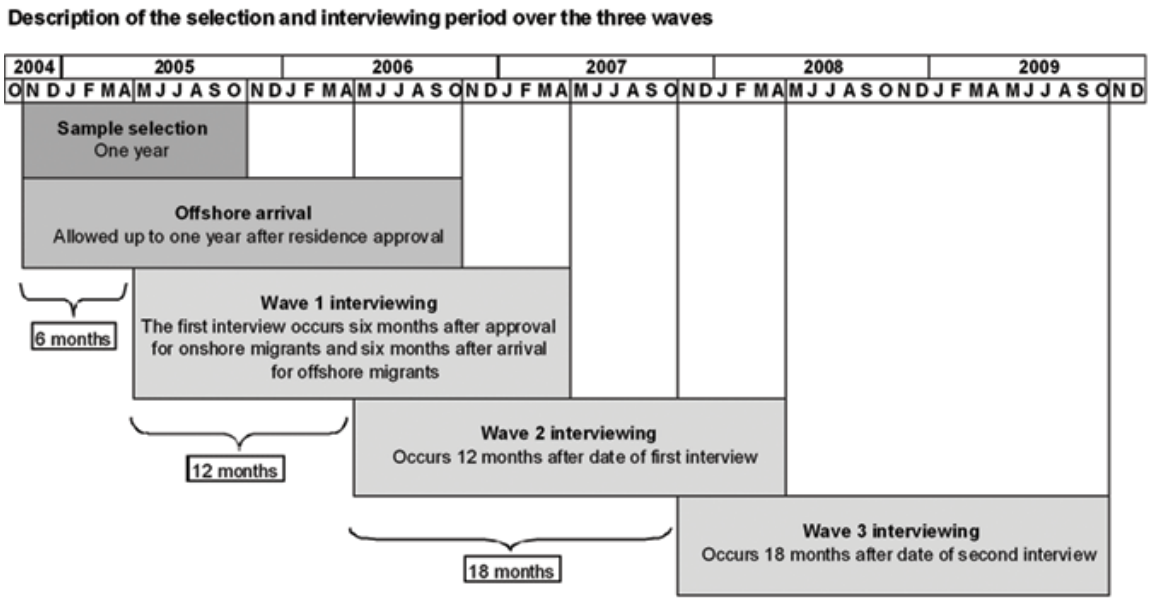
3.1 Data

LISNZ is a longitudinal immigration survey created as a collaboration between the (then) Department of Labour and Statistics New Zealand. It was designed to "trace the pathways of migrants and to produce a detailed, ongoing information base of their experiences and settlement outcomes". The LISNZ survey sampled 7,137 people aged 16 years and over who were approved for permanent residence between 1 November 2004 and 31 October 2005 and were either in New Zealand when approved or arrived here within 12 months of approval.

The first wave of interviews was conducted between May 2005 and April 2007 and interviewed migrants 6 months after their approval (for onshore migrants) or 6 months after arrival (for offshore migrants). The second interview was conducted 12 months after the first, and the third 18 months later.[12] This means the third wave of interviews occurred between November 2007 and October 2009, and thus many of these interviews occurred after the beginning of the Global Financial Crisis; respondents' answers to the survey may have been affected by the downturn in economic conditions.

[12] http://archive.stats.govt.nz/browse_for_stats/population/Migration/LongitudinalImmigrationSurveyNewZealand_HOTPWave1/Commentary.aspx

Figure 1: Timing of LISNZ migrant selection and interviews



Source: http://archive.stats.govt.nz/browse_for_stats/population/Migration/lisnz-survey-information.aspx#definitions

LISNZ has been recently linked to the IDI. This means that, for those linked, we can see how much they earn through Inland Revenue's wage earnings data collected via PAYE taxes, what benefits they received through the Ministry of Social Development's benefits data, when they are in and out of New Zealand through MBIE's Immigration NZ movements data, and their responses to 2013 Census questions.

3.2 Study samples

We use three primary study samples. Our first sample includes all LISNZ wave 1 respondents who are linked to the IDI spine, have a consistent birth date and Residence Approval Date, and have visa information available in the IDI (so that we can observe their country of origin). Table 1 shows the effects of applying these successive criteria. We use this first sample to investigate wage earnings and benefit receipt using IDI data for the period 2005 to 2017. In the analysis that uses this sample, we weight observations by LISNZ wave 1 survey weights.

Table 1: The effect of our study criteria on study sample size

Sample/Sample rule	# of unique people	# of person-waves	# of unique people who are Pacific	# of person-waves for people who are Pacific
Total number of people in survey scope	10,323	23,094	-	-
Usable (surveyed)	7,092	18,228	1,194	3,105
Linked to spine	7,056	18,135	1,188	3,093
Consistent birth and RAD	7,050	18,114	1,188	3,084
Has visa information	7,020	18,036	1,188	3,084
		Study samples		
First sample: Wave 1	7,020	18,036	1,188	3,084
Second sample: Waves 1-3	5,052	15,156	900	2,700
Third sample: Wave 1 & Census	4,407	11,907	798	2,145

Notes: This table shows the results of successive drop rules on the overall sample. Our first sample, wave 1 respondents, applies all of the above drop rules. Our second sample, wave 1 to 3 respondents, takes the first sample and subsets to people in all three waves. Our third sample, wave 1 and Census respondents, takes our first sample and subsets to those linked to the Census. RAD is Residence Approval Date. All numbers have had random or deterministic rounding applied to meet confidentiality requirements.

Statistics New Zealand describes their weighting procedure as follows:[13]

> "Longitudinal weights are produced after each wave, so that the number of migrants interviewed for each wave is weighted up to represent the population of interest. The population of interest was all migrants who were approved for permanent residence between 1 November 2004 and 31 October 2005, and offshore migrants to arrive in New Zealand within 12 months of the residence approval.
>
> A basic sampling weight is attached to each migrant to reflect that probability of that migrant being selected in the sample. An initial adjustment is made to the basic sampling weight to account for the retention of a maximum of two migrants per application. Two further adjustments are then applied to account for unit non-response and benchmark to the known population. The weighting classes used for non-response adjustments are based on the strata and type of application migrants had. For benchmarking, totals are the actual number of migrants selected for survey taken by sex and age from administrative data."

Statistics New Zealand has calibrated these weights so that the LISNZ sample is representative of all migrants who fit LISNZ selection criteria. Our results based on the first sample are thus representative of all migrants who were eligible to be included in LISNZ.

Our second sample is a subset of the first. It includes individuals from the first sample if they were interviewed in all three waves of LISNZ. This sample allows us to compare LISNZ outcomes across waves using a consistent sample of individuals. We use this second sample to investigate how economic and non-economic outcomes changed over the three waves of LISNZ. In the analysis that uses this sample, we weight observations by LISNZ wave 3 survey weights. Because these weights compensate for respondents non-randomly dropping out of LISNZ, our

[13] Source http://archive.stats.govt.nz/browse_for_stats/population/Migration/lisnz-survey-information.aspx

results based on this sample are again representative of all migrants who were eligible to be included in LISNZ.

Our third sample is an alternative subset of our first sample. It restricts to individuals in the first sample who can be linked to the 2013 Census. We use this sample to analyse housing outcomes in the 2013 Census. In this analysis, we weight observations by LISNZ wave 1 survey weights.

3.3 Survey questions

Much of our analysis is based on migrants' responses to survey questions in LISNZ. This section gives the wording of the main LISNZ questions we use.

Migrants' **satisfaction with their dwellings** is based on the question, "Please use card B30 to tell me how satisfied or dissatisfied you are with the overall quality of the place you are currently living in." The options offered were "very satisfied", "satisfied", "neither satisfied nor dissatisfied", "dissatisfied", or "very dissatisfied". A very small number of respondents answered "don't know". Because of the low number of "dissatisfied" and "very dissatisfied" responses, we group these categories together in our analysis. The following question asks the reasons for any dissatisfaction, but analysing responses to it is beyond the scope of the current report.

Migrants' **satisfaction with New Zealand** is based on the question, "Please use card J10 to tell me overall how satisfied or dissatisfied you are with living in New Zealand." The same options are offered as with housing satisfaction. Our analysis aggregates "neither satisfied nor dissatisfied", "dissatisfied", and "very dissatisfied" into one group.

Migrants' **feelings of settlement** are based on the question, "Thinking about all the things we have talked about, please use card M1 to tell me how settled or unsettled you feel in New Zealand." The options offered are "very settled", "settled", "neither settled nor unsettled", "unsettled", "very unsettled".

Self-reported health is based on the question, "In general would you say your health is excellent, very good, good, fair or poor?" The following question asks about any medical conditions the migrants have, but analysing it is beyond the scope of this study.

In relation to their **participation in clubs and groups**, respondents are asked, "Please look at card H12 and tell me if you currently belong to any of these groups or clubs". Those who answer yes are then asked, "Please use card H13 to tell me which groups or clubs you belong to." Card H13 gives the options: sports club or group; ethnic association; hobby or cultural club or group eg choir, film group, gardening, Mah-Jong club; youth club or group eg Scouts, Guides; job related association eg professional body, union; religious group eg church, temple, mosque, synagogue; service club eg Rotary, Lions; other community or voluntary group; and other - please state.

Our data on **years of education** at residence approval comes from the LISNZ question, "Before you got New Zealand residence on [date], how many years of full-time education did you complete? Please include primary school, secondary school and post secondary education."

To determine migrants' **proficiency in English**, LISNZ first asks, "Which language do you speak best?" Respondents whose best language is a language other than English are subsequently asked, "Please use card C8 to tell me how well you are able to speak English in day to day conversation." Card C8 offers the options, "very well - I can talk about almost anything in English", "well - I can talk about many things in English", "fairly well - I can talk about some things in English", "not very well - I can only talk about basic or simple things in English", and "no more than a few words or phrases". In our analysis we combine responses to the two questions.

Migrants whose best language is not English are also asked, "Have you ever done any study or training in New Zealand to help improve your English?" LISNZ subsequently asks if migrants wanted to study English in New Zealand but for some reason did not, and if so why not. We leave analysing responses to the latter question for future work.

The survey asks two questions in relation to **people the migrant knew in New Zealand before coming here**. First, "When you were still living outside of New Zealand did you know anyone in New Zealand?" and then, "About how many people did you know in New Zealand?" Our analysis combines responses to the two questions.

To determine if they had a **job offer before coming to New Zealand**, offshore applicants are asked about each job mentioned in the interview (including casual work, paid work, and self-employment), "Was this job arranged before you came to New Zealand?". They are also asked, "Did you arrange work in New Zealand before you moved here?" Answers are combined in Statistics New Zealand's processing of the survey to create an indicator for whether the individual was an offshore applicant and had a job offer before coming to New Zealand, whether or not the offer was taken up.

To determine whether respondents have **felt discriminated against**, LISNZ asks, "While in New Zealand, have you ever felt that someone was discriminating against you because you were a migrant?"

We categorise migrants as having **remitted money** based on the LISNZ question, "Since [date], have you sent any money outside of New Zealand to your family, your friends, your church, or any other community groups? DON'T count any money you've sent overseas to accumulate as savings or as investments." The date inserted into the question in the first wave is the date of residence approval.

The **income adequacy** experienced by migrants comes from the question, "Now you're in New Zealand, how well does your total income meet your every day needs for things such as

housing, food, clothing and other necessities? Please use card E308 to tell me." Card E308 gives the options, "not enough money", "enough money", and "more than enough money".

4 Results

4.1 Description of migrants at wave 1

Table 2 describes the migrants at wave 1, which occurred 6 months after their approval (for onshore migrants) or 6 months after arrival (for offshore migrants), and between May 2005 and April 2007. Notably, there is little difference among the three main study samples for Pacific migrants. This gives us some confidence that our findings are not driven by sample selection. The table shows:

- Pacific migrants in our sample were slightly more likely than non-Pacific migrants to be in the younger age categories (15-17 and 18-24) and less likely to be in the middle age group (30-49).
- At their Residence Approval Date, Pacific migrants were less likely to have had more than 15 years of education and much more likely to have had fewer than 10 years of education.
- About 18% of our Pacific migrants arrived through the Pacific Access Category and 20% via the Samoan Quota visa.
- Nearly half our Pacific migrants came from Fiji. Most of the rest came from either Samoa or Tonga.
- The vast majority (76%) of Pacific migrants settled in Auckland, a substantially higher proportion than that of non-Pacific migrants (46%).
- Pacific migrants were much less likely to report that English was the language they spoke best (38% vs 62%) but only 12% stated that their English was poor (compared with 8% of other migrants).
- Very few of the Pacific migrants for whom English was not their best language studied English in New Zealand (9%). In contrast, 40% of such non-Pacific migrants did so.
- Probably reflecting New Zealand's strong Pacific diaspora, Pacific migrants were much more likely to have known more than 20 people before arriving in New Zealand (27%) than were non-Pacific migrants (5%).
- 19% of Pacific migrants were offshore migrants who had a job arranged before they arrived in New Zealand, compared with 23% of non-Pacific migrants.
- Pacific migrants were less likely to report having felt discriminated against (13%) than were non-Pacific migrants (26%).
- Pacific migrants were more than twice as likely as non-Pacific migrants to have sent money overseas (38% vs 14%).

- In contrast, Pacific migrants were slightly less likely than non-Pacific migrants to respond that they had "more than enough money" (6% vs. 10%), though this could be driven by a higher number of Pacific migrants reporting "don't know" for this question (8% vs 1%).
- Pacific migrants had similar rates to non-Pacific migrants of being single with or without children, but were slightly more likely (39% vs 34%) to be married with children than were non-Pacific migrants.

Table 2: Summary statistics at wave 1 by Pacific/Non-Pacific and study sample

Variable name	Variable category	Non-Pacific migrants	Pacific migrants: Percentage with each characteristic		
			First Sample: Wave 1	Second Sample: Waves 1-3	Third Sample: Wave 1 & Census
Gender	Male	48.3	51.2	50.7	49.3
	Female	51.7	49.3	49.3	50.7
Age at Residence Approval Date	15-17	2.8	6.6	7.2	6.5
	18-24	11.7	22.5	22.0	23.2
	25-29	17.0	17.4	16.7	17.4
	30-49	57.5	42.3	42.6	41.3
	50-64	8.2	8.9	8.6	9.4
	65+	2.9	2.8	2.9	2.2
Years of education (at Residence Approval Date)	0-10	8.0	21.6	22.6	21.7
	11-12	17.6	29.6	29.8	30.4
	13-14	18.3	23.0	23.6	22.5
	15+	56.1	25.4	24.5	25.4
Principal/Secondary migrant	Principal	66.6	62.9	61.7	60.9
	Secondary	33.4	37.1	38.3	39.1
Visa type	Pacific Access	S	17.8	17.7	19.6
	Samoan Quota	S	19.7	19.6	15.9
	Skilled/Business	70.0	20.2	20.6	22.5
	Family	28.6	39.9	39.7	40.6
	Other	1.4	2.8	2.4	2.2
Country of origin	Fiji		48.8	51.7	55.8
	Samoa		31.9	30.6	26.1
	Tonga		14.1	11.5	13.0
	Other Pacific		5.2	5.7	5.8
Region settled	Auckland	46.3	76.4	75.1	77.8
	Other North Island	33.0	17.8	19.5	18.5
	South Island	20.7	5.8	5.4	3.7
English proficiency	English best language	62.1	38.0	37.8	40.6
	Very well	13.3	15.0	14.8	16.7
	Well	11.2	21.1	23.4	20.3
	Fairly well	5.3	13.6	13.4	11.6
	Not well/poorly	8.1	11.7	10.5	10.1

Studied English in NZ	Yes	14.8	5.6	4.8	5.8
	No	21.8	56.3	57.2	53.6
	English best language	62.1	38.0	37.8	40.6
How many people in NZ known	0	39.5	7.6	7.7	8.8
	1-4	35.2	24.6	25.5	23.4
	5-9	12.1	19.0	19.7	18.2
	10-19	8.4	22.7	23.1	21.2
	20+	4.9	26.5	24.0	27.7
Job arranged (offshore migrants)	Yes	22.9	18.8	17.3	18.8
	No	77.1	81.2	82.7	81.3
Felt discriminated (in Wave 1)	Yes	25.6	12.7	12.0	12.3
	No	74.0	86.4	87.1	87.0
	Don't know	0.4	0.9	0.5	0.7
	Refused	S	S	S	S
Money remitted (in Wave 1)	Yes	13.6	37.6	35.9	34.1
	No	86.3	62.4	64.1	65.9
Income adequacy (in Wave 1)	Not enough money	29.7	32.4	30.1	30.4
	Enough money	58.9	54.5	54.5	55.1
	More than enough	10.3	5.6	6.7	6.5
	Don't know	1.0	7.5	8.6	8.7
Family structure at Residence Approval Date	Single, no dep children	33.6	34.3	34.4	34.1
	Married, no dep children	30.4	25.4	23.9	25.4
	Single, dep children	2.5	1.9	1.9	2.2
	Married, dep children	33.5	39.0	39.2	38.4

Note: Our first sample, wave 1, is all LISNZ wave 1 respondents who meet the non-missing data requirements described in Section 3.2. Our second sample, waves 1-3, takes the first sample and subsets to people in all three waves. Our third sample, wave 1 & Census, takes our first sample and subsets to those linked to the 2013 Census. Percentages are calculated from counts that have been rounded for confidentiality reasons and thus may add up to more or less than 100%. S denotes values that are small or zero and have been suppressed for confidentiality reasons. The responses "Don't know" and "Refused" are not shown unless they include a non-trivial number of responses.

Much of our analysis focuses on differences between Pacific migrants from different countries of origin and with different visa types. Given the number of Pacific migrants in each of our samples, this table shows our first sample, wave 1 migrants, contains roughly 580 migrants from Fiji, 380 migrants from Samoa, 170 migrants from Tonga, and 60 migrants from other Pacific countries. Numbers in our second sample are about three quarters as large, and in our third sample are two thirds as large. Similarly, our first sample contains roughly 210 Pacific Access migrants, 230 Samoan Quota migrants, 240 Skilled/Business migrants, 470 Family migrants, and 30 migrants on Other visas.

Appendix Table 2 shows the characteristics of Pacific migrants by gender. It shows male and female Pacific migrants were similar in many dimensions, but also differed in a number of ways. Notable differences include:

- Men were more likely than women to be the principal applicant (71.6% vs 53.3%);

- Women were more likely than men to come on Family visas (42.9% vs 36.7%);
- Men were more likely than women to come from Samoa (35.8% vs 28.6%), and less likely to come from each other Pacific country. This suggests many Samoan men came to New Zealand without bringing partners;
- Men were more likely than women to be offshore migrants who had a job arranged before arrival (22.6% vs 12.5%); and
- Men were more likely to have remitted money as of the first wave (41.3% vs 33.3%).

Overall, these patterns suggest that males from Pacific countries were more likely than females to have led their families to New Zealand; Pacific women were more likely to follow their husbands.

Appendix Table 3 shows these results for Pacific migrants broken down by country of origin. Care should be taken when interpreting the results by country and visa type, because the number of people behind these percentages was often small and hence the results are imprecisely estimated. The table reveals considerable heterogeneity between Pacific migrants from different countries. In particular, Fijian migrants differed from Samoan and Tongan migrants in a number of ways that might have contributed to their economic success in New Zealand.

- Fijians were more likely to have 15 or more years of education (29% as opposed to 24% of Samoans and 20% of Tongans).
- Fijians were much more likely to arrive on Skilled/Business visas (38% compared with 7% of Tongans and a small, suppressed percentage of Samoans).
- Fijians were much more likely to have English as their best language (58% compared with 16% of Samoans and 20% of Tongans).

In addition:

- Fijians knew fewer people in New Zealand before coming here than did Tongans or Samoans.
- Fijians were less likely to be offshore migrants who had a job arranged before they arrived in New Zealand (7% compared with 29% of Samoans and 18% of Tongans).
- Fijians were less likely to have remitted money (22% compared with 53% of Samoans and Tongans).
- Fijians were much more likely than Samoans or Tongans to be living at wave 1 as a couple *without* dependent children, and less likely to be living as a couple *with* dependent children.

Appendix Table 4 shows the characteristics of Pacific migrants by visa type. It shows:

- Pacific migrants on Family visas were considerably less educated than Pacific migrants on other visas, and those on Skilled/Business visas were the most educated. For instance, only 18% of Family migrants had 15 or more years of education, compared with 26% of Samoan Quota and Pacific Access migrants, and 42% of Skilled/Business migrants.
- Pacific migrants on Skilled/Business visas disproportionately came from Fiji (91%).
- Pacific Access and Family migrants were more likely than Samoan Quota and Skilled/Business migrants to settle in Auckland.
- Skilled/Business migrants had the highest English proficiency (65% had English as their best language), followed by Pacific Access and Family migrants (37% and 38% respectively), and Samoan Quota migrants had the lowest English proficiency (just 12% had English as their best language, and 14% spoke English not well/poorly).
- Skilled/Business migrants were least likely to know at least 20 people in New Zealand (19%, compared with 26% to 30% for migrants on other visa types).
- Despite their skill in English, Skilled/Business migrants were most likely to report in wave 1 that they had felt discriminated against (19% compared with under 12% for migrants on other visa types).
- Samoan Quota migrants were most likely to have remitted money, although Skilled/Business migrants reported the highest income adequacy.
- Pacific Access and Samoan Quota migrants were more likely to be living at wave 1 as couples *with* dependent children, whereas Skilled/Business and Family migrants were more likely to be living as couples *without* dependent children.

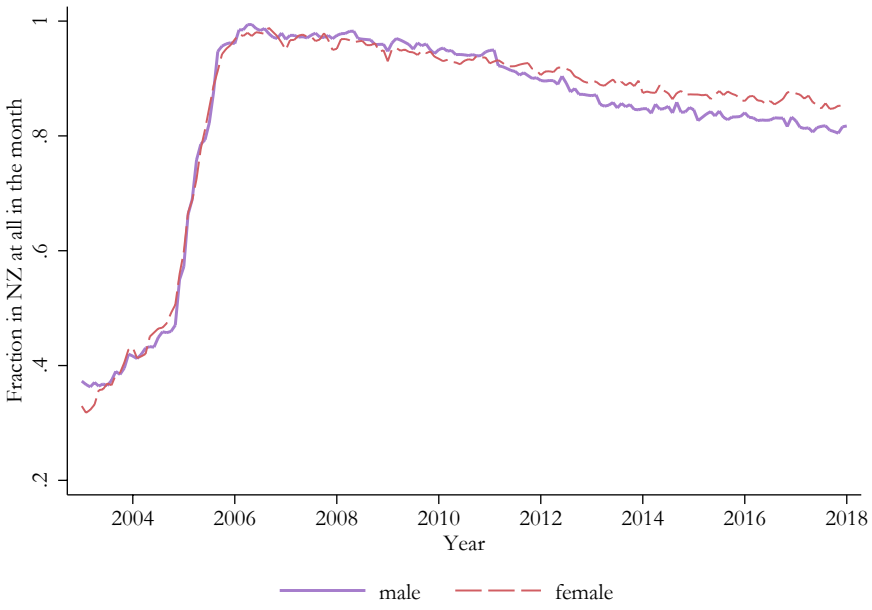
4.2 Retention over time

In this section we investigate the proportion of Pacific migrants who remained in New Zealand at any given time. This is important for the interpretation of our subsequent findings on the outcomes of those in New Zealand. For instance, if a high proportion of migrants subsequently returned home and the ones who left tended to be those who did not find economic success in New Zealand, the outcomes of those who remained would give an overly optimistic picture of how well this cohort of Pacific migrants on average did in New Zealand. However, we show that retention of all groups of Pacific migrants was high and fairly similar, so this is not a serious concern.

The analysis in this section uses our first sample, migrants surveyed in the first wave of LISNZ. We categorise a migrant as being in New Zealand in a month if MBIE's Immigration NZ movements data show he or she was in the country for at least seven days during the month.

Figure 2 shows the proportion of Pacific migrants who were in New Zealand in a given month. It shows a sharp increase through to about the start of 2006. This reflects the selection of the LISNZ sample: it includes only people approved for permanent residence between 1 November 2004 and 31 October 2005 and who arrived in New Zealand no later than 12 months after approval. In 2006 nearly all of our sample were in the country. In any given month, the proportion who were not in the country comprised those who had left for a short period (e.g. a holiday or to visit family) as well as those who had left New Zealand and did not intend to return. After 2006, the proportion in New Zealand slowly declined until the end of our observed period, late 2017, when around 20% of male and just under 20% of female Pacific migrants had left. Since the proportion away for short periods such as holidays was likely stable over time, this decline largely reflects migrants returning home permanently or else migrating to a third country.

Figure 2: Proportion of Pacific migrants in New Zealand by gender

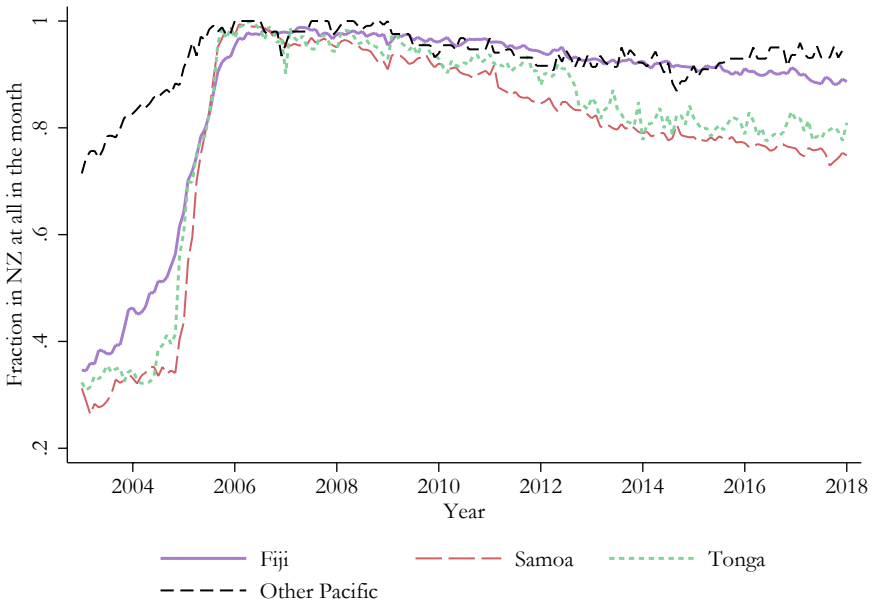


Notes: This figure shows the proportion of male and female Pacific migrants in LISNZ who were in New Zealand each month. The sample is Pacific migrants surveyed in wave 1 of LISNZ. Observations are weighted by wave 1 weights.

Figure 3 shows how the retention rate of Pacific migrants varied by country of origin. The retention of Samoans and Tongans was lower than that of Fijian and Other Pacific migrants. By 2018, the proportion of Samoan and Tongan LISNZ migrants still in New Zealand had fallen below 80%, whereas around 90% of Fijian and Other Pacific migrants remained in the country. As Appendix Table 3 showed, migrants from Tonga and Samoa were much more likely than Fijian migrants to remit money. This suggests they were more likely to maintain close ties to

friends, family, the church, or the community back home, which may have led more of them to return home to their country of origin.

Figure 3: Proportion of Pacific migrants in New Zealand by country of origin

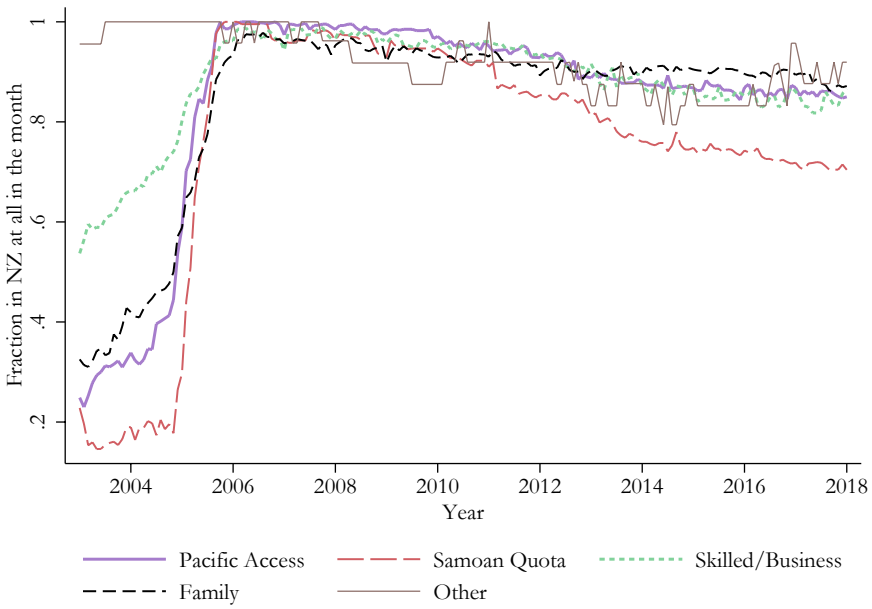


Notes: This figure shows the proportion of Pacific migrants in LISNZ from each origin country who were in New Zealand each month. The sample is Pacific migrants surveyed in wave 1 of LISNZ. Observations are weighted by wave 1 weights.

Figure 4 shows the retention of Pacific migrants by visa type. Those Pacific migrants on Samoan Quota visas mostly arrived in late 2004 or early 2005, the period over which all LISNZ migrants received residence approval. This is likely due to their visa conditions: approved Samoan Quota applicants have 3 months from their approval date to come to New Zealand, and their dependents have 12 months.[14] Samoan Quota migrants also left New Zealand at the highest rate. By 2018, only about 70% remained in the country. Although the migrants on Pacific Access Category visas faced the same entry conditions as the Samoan Quota migrants, they were more likely to have arrived before their approval and they remained in New Zealand at a higher rate. By 2018, more than 80% were still in New Zealand, a similar proportion to Pacific migrants on Skilled/Business visas, Family visas, and Other visas.

[14] https://www.immigration.govt.nz/new-zealand-visas/apply-for-a-visa/about-visa/samoan-quota-scheme-resident-visa

Figure 4: Proportion of Pacific migrants in New Zealand by visa type



Notes: This figure shows the proportion of Pacific migrants in LISNZ on each visa type who were in New Zealand each month. The sample is Pacific migrants surveyed in wave 1 of LISNZ. Observations are weighted by wave 1 weights.

4.3 Employment and wage income

4.3.1 Proportion employed

This section examines the fraction employed among various subpopulations of LISNZ migrants from November 2005 until December 2017. We study the proportion of migrants of working age who were employed, rather than the employment rate (employed individuals as a proportion of the labour force), because data on labour force participation are not available for everyone in the IDI. The sample used in this section is our first sample, LISNZ migrants surveyed in wave 1 with non-missing data. We classify migrants as employed or not from IRD data on taxable wage earnings.

Figure 5 shows the proportion of each gender employed for Pacific and non-Pacific migrants. Male Pacific migrants had slightly higher employment than male non-Pacific migrants in our sample, especially during the first five years after residence approval, though on average over the sample the difference is not statistically significant.[15] On the other hand, female Pacific migrants had similar rates of employment to female non-Pacific migrants. As was the case for non-Pacific migrants, male Pacific migrants had substantially and significantly higher rates of employment than female Pacific migrants. Specifically, until 2009 almost 75% of male Pacific

[15] To test the statistical significance, we collapsed the data to one observation per individual and regressed proportion of months employed on a dummy for being a Pacific migrant. The coefficient on the dummy was not significantly different to zero. Subsequent significance tests on the time series employment outcomes are conducted analogously.

migrants were employed, though this subsequently fell to around 70%. In contrast, 60% or fewer of our female Pacific migrants were employed for most of the period of study, though their employment increased mildly over the twelve years.

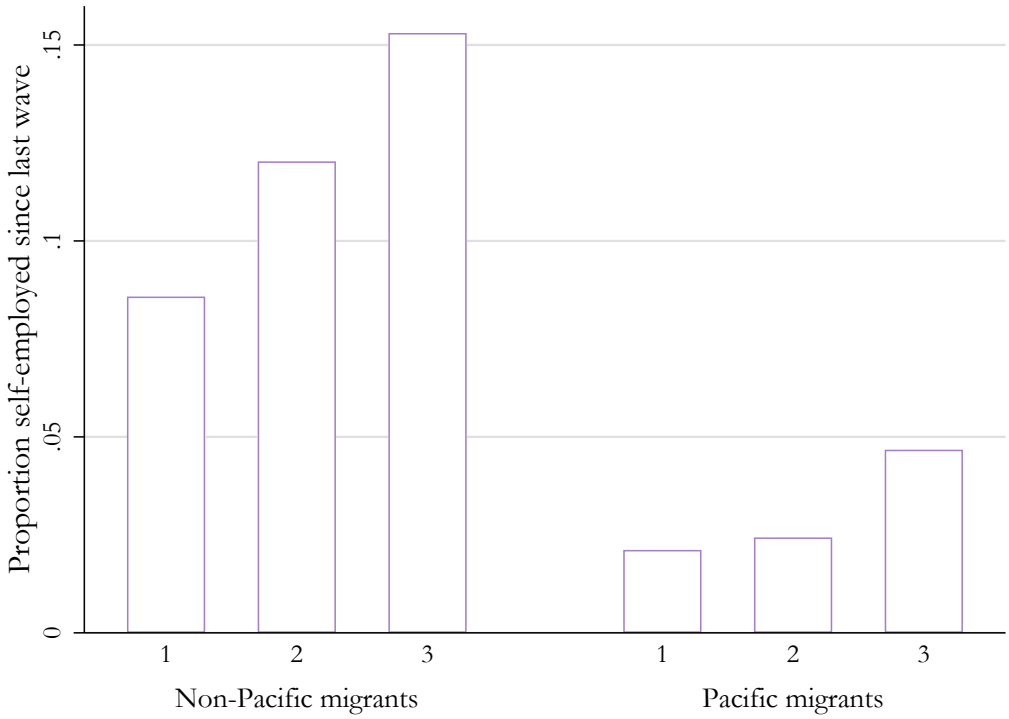
Figure 5: Employment of Pacific and non-Pacific migrants by gender

Notes: This figure shows the proportion of Pacific and non-Pacific migrants of each gender who were employed each month. The sample is migrants surveyed in the first wave of LISNZ who were in New Zealand and aged under 65 in the month in question. Observations are weighted by LISNZ wave 1 weights. A migrant is considered employed if he or she received any wage or salary income. Employment is calculated as a fraction of the total population.

The decrease in male employment and increase in female employment over the 12 years of our data mean that analysis of migrant employment based solely on the three years of LISNZ data will overstate long-term gender differences in the employment of migrants.

Those who were self-employed and did not pay themselves a wage are not included as employed; the fraction employed thus likely understates the economic success of certain types of migrants, particularly business/investor migrants. However, self-employment was uncommon among the Pacific migrants in our study. Figure 6 shows the proportion of Pacific and non-Pacific migrants who reported having been self-employed recently in each wave of LISNZ. For Pacific migrants, this proportion rose from around 2% in wave 1 to just under 5% in wave 3, compared with an increase from 8% to over 15% for non-Pacific migrants.

Figure 6: Proportion of Pacific and non-Pacific migrants self-employed by survey wave

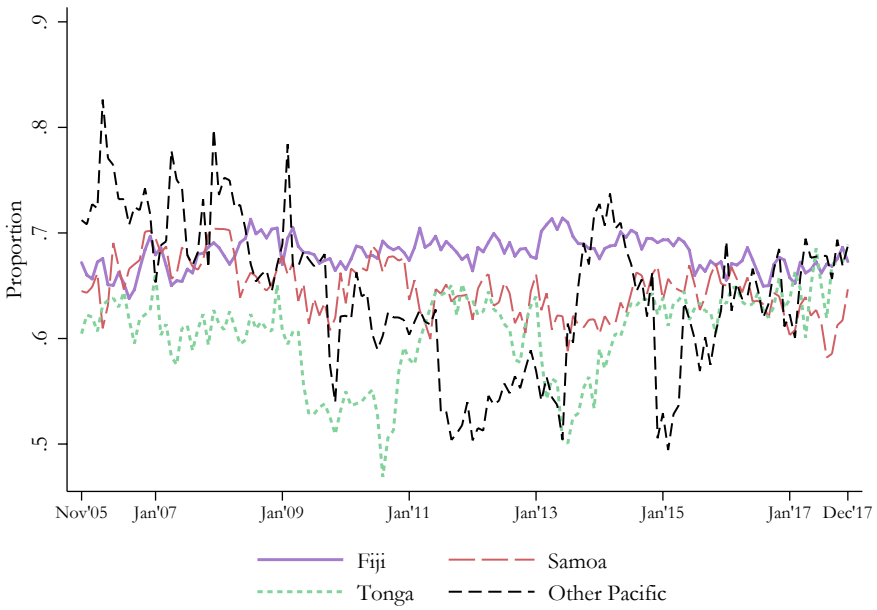


Notes: This figure shows the proportion of Pacific and non-Pacific LISNZ migrants who reported recently being self-employed in each survey wave. The sample is migrants surveyed in all three waves of LISNZ. Observations are weighted by LISNZ wave 3 weights. A migrant is categorised as self-employed if he or she has experienced a spell of self-employment since the previous LISNZ wave (or since residence approval in wave 1).

We next consider how rates of employment varied for different subpopulations of Pacific migrants. Figure 7 shows proportion employed by Pacific country of origin. On average over the period 2005 to 2017, Fijians were more likely to be employed than were Samoans, and Tongans were less likely again.[16] However, these differences are not statistically significant. None of the three groups showed strong increases or decreases in proportion employed over the long run. That is, there is no evidence that having been in New Zealand longer helped these Pacific migrants gain employment.

[16] The Other group has few observations and thus their proportion employed cannot be estimated accurately, as shown by the large month-to-month changes.

Figure 7: Employment of Pacific migrants by country of origin

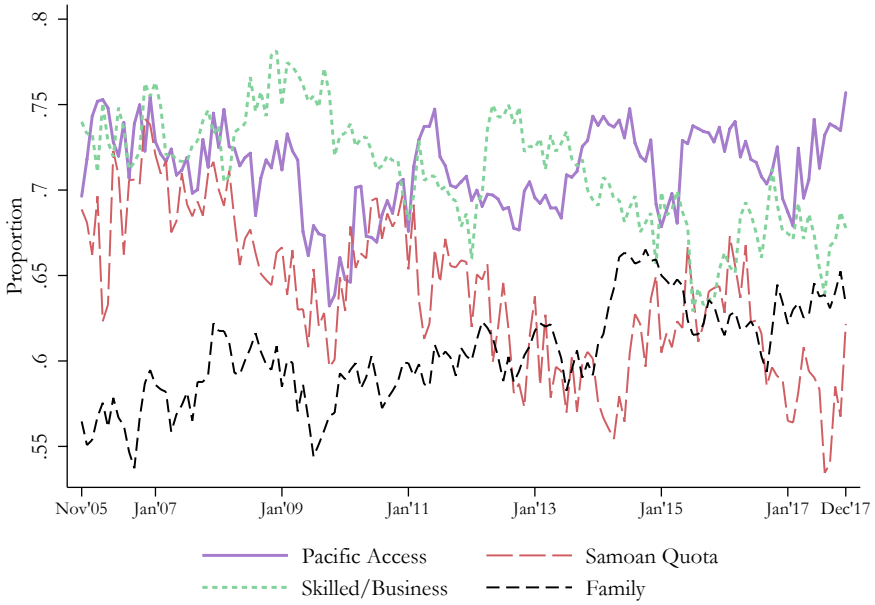


Notes: This figure shows the proportion of Pacific migrants from each country of origin who were employed each month. The sample is Pacific migrants surveyed in the first wave of LISNZ who were in New Zealand and aged under 65 in the month in question. Observations are weighted by LISNZ wave 1 weights. A migrant is considered employed if he or she received any wage or salary income. The employment rate is calculated as a fraction of the total population.

Similarly, Figure 8 shows how the proportion of Pacific migrants employed varied by visa type. Pacific Access and Skilled/Business migrants both started with high rates of employment; these remained in about the 70 to 75% range over the first twelve years for Pacific Access migrants, but declined somewhat for Skilled/Business migrants. A similarly high proportion of Samoan Quota migrants were employed initially, but their proportion employed declined distinctly over time. These decreases over time are not entirely surprising: the principal applicants for Pacific Access and Samoan Quota visas are required to have a job offer, and skilled migrants gain points for having an offer of skilled employment. Over time, many of these employment relationships might end, and some of the migrants may have difficulty securing alternative work.

In contrast, the proportion employed of Pacific migrants on Family visas was initially low, but climbed steadily over the first twelve years from residence approval. Within this period, the fraction of migrants on Family visas who were employed overtook that of Samoan Quota migrants and essentially caught up with the rate of Skilled/Business migrants. Pacific Access migrants, however, maintained a higher proportion employed. The increase in employment over time for Family migrants suggests that their employment opportunities did increase as they integrated into New Zealand society even though they were permitted to move here without first having a job offer.

Figure 8: Employment of Pacific migrants by visa type



Notes: This figure shows the proportion of Pacific migrants with each visa type who were employed each month. The sample is Pacific migrants surveyed in the first wave of LISNZ who were in New Zealand and aged under 65 in the month in question. Observations are weighted by LISNZ wave 1 weights. A migrant is considered employed if he or she received any wage or salary income. The proportion employment is calculated as a fraction of the total population.

We also investigated employment for various other breakdowns of the Pacific migrant population. Panel A of Appendix Figure 1 shows employment by age at residence approval. In this panel only, migrants were included even after they reached retirement age. Those aged 18 to 49 at residence approval had similar employment, initially around 70%, and falling marginally over the subsequent decade. Those aged 15 to 17 at residence approval initially had much lower employment, likely driven by the combination of many still being in education and the high youth unemployment rate, but their employment rose to around 80% within a decade.[17] Those aged 50 to 64 at residence approval had initial employment barely over 20%; this rose to over 40% after 8 years, then fell as these migrants entered retirement age.

Panel C shows the employment of Pacific migrants by their years of education at residence approval. As expected, those with more education were more likely to be employed, although the gap decreased somewhat over time. Part of this may have been due to those entering New Zealand with limited education having undertaken further education in New Zealand.

Panel E shows Pacific employment by English proficiency at wave 1. As expected, employment was substantially higher among Pacific migrants with greater English proficiency; those whose best language was English had employment over 70% for most of the decade after residence approval compared with consistently under 60% and as low as 40% for those whose

[17] The youngest LISNZ migrants should have been 16 years old at residence approval, but according to IDI data a few were slightly younger.

command of English was not good or poor. Furthermore, those who had poor English skills at wave 1 show limited tendency to increase their probability of employment even a decade after residence approval. Low English proficiency could be expected to be a major barrier to employment in New Zealand. Furthermore, only 9% of Pacific migrants whose best language was not English reported having studied English in New Zealand as of wave 1 (see Table 2). This low rate of English study could help explain why employment remained low for these individuals even after years in New Zealand.

Panel G shows Pacific employment by whether the migrant was the Principal or Secondary applicant. Principal migrants had much higher employment initially, over 70% as opposed to around 55% for secondary migrants. This difference is not surprising because visa employment requirements generally apply only to the Principal applicant. However, the proportion of Principal migrants employed fell steadily over time in New Zealand, while that of Secondary migrants rose. Twelve years after residence approval, the two groups had very similar employment. Comparing employment outcomes of Primary and Secondary applicants using LISNZ data only will thus overstate long-term differences in employment.

Panel I shows Pacific employment by region of residence at LISNZ Wave 1. It shows that the employment of Pacific migrants who initially lived in Auckland was lower than the employment of Pacific migrants in the rest of the North Island. This difference could have resulted from better employment opportunities for migrants outside Auckland, but equally it could have resulted from more employable Pacific migrants choosing to initially locate outside Auckland, or from Pacific migrants choosing to live outside Auckland only if they had a job offer in a different area. The large population of existing Pacific migrants living in Auckland means new migrants with fewer employment prospects might have expected to find more support from the community of their countrymen in Auckland. Too few Pacific migrants initially lived in the South Island to be able to draw conclusions about their employment.

Panel K shows Pacific employment by family structure at residence approval. Among those without children, singles were more likely to be employed than were married people. Married individuals with and without children had similar proportions employed.

4.3.2 Wage income

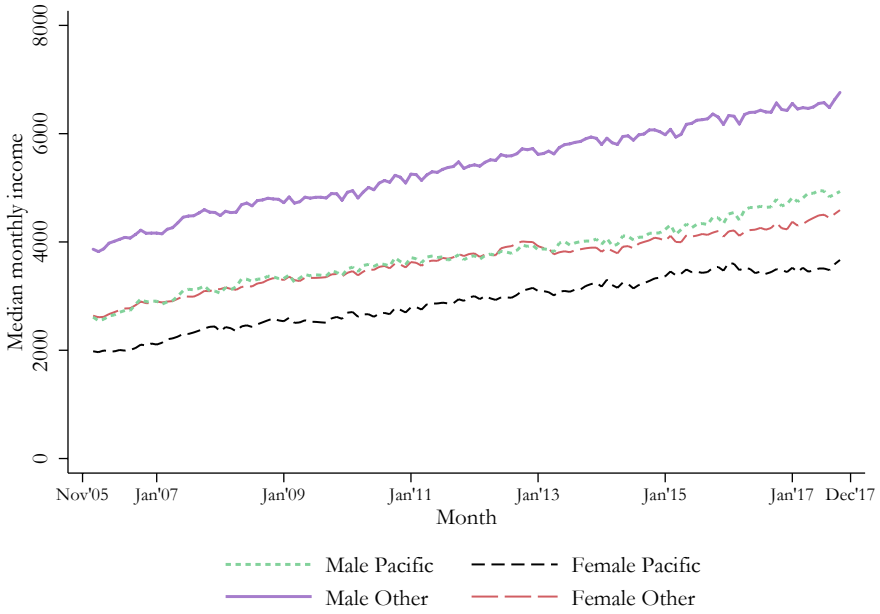
This section examines monthly wage and salary earnings among Pacific migrants who were employed in the month using our first sample, LISNZ migrants surveyed in wave 1 with non-missing data. As in the previous section, we define "employed" as having positive wage or salary earnings in the month, as shown in Inland Revenue's wage earnings data. These results are presented in Figures 9 to 11.[18]

Figure 9 compares the median monthly wage earnings of employed Pacific and non-Pacific migrants of each gender. Employed Pacific men earned over $500 more per month than

[18] Figures are in nominal dollars, not inflation-adjusted dollars.

employed Pacific women over the period 2005 to 2017. However, Pacific men still earned over $1000 less each month than non-Pacific migrant men, a similar amount to non-Pacific migrant women. An important contributing factor to the Pacific/non-Pacific difference is likely to be education. As Table 2 shows, these Pacific migrants were less educated on average than the non-Pacific migrants, so were likely to work in less-skilled, lower-paying occupations. Interestingly, the gender monthly earnings gap was lower among the Pacific migrants than the non-Pacific migrants. A number of factors including differing cultural norms of migrant groups are likely to have contributed to this difference, but it is consistent with prior evidence that has found less of a gender wage gap among lower skilled or lower income workers.[19]

Figure 9: Monthly wage income of employed Pacific and non-Pacific migrants by gender



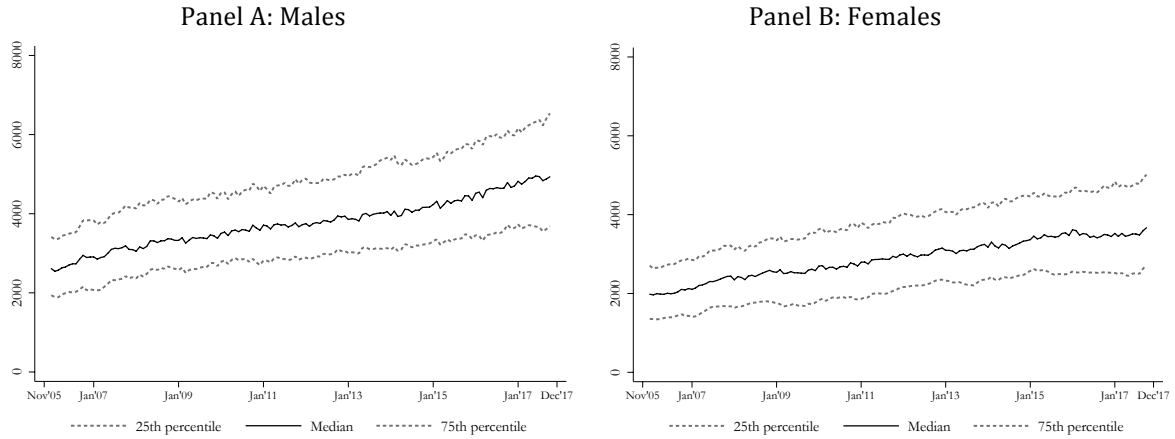
Notes: This figure shows median monthly wage income among employed Pacific and non-Pacific migrants for the two genders. The sample is migrants surveyed in the first wave of LISNZ who were in New Zealand, aged under 65 in the month in question, and who received positive wage or salary income. Observations are weighted by LISNZ wave 1 weights. Lines have been smoothed with a rolling 5-month centred moving average for ease of viewing.

Figure 10 provides further information on how the monthly wages of employed male and female Pacific migrants compared at different points of the income distribution: the 25th percentile, median, and 75th percentile. Each of these percentiles was substantially higher for Pacific males than for Pacific females. The difference at the mean was statistically significant. All three points on the wage distribution for both men and women increased steadily over time. This likely reflects a combination of Pacific migrants integrating into the New Zealand labour market, inflation, real wage growth across New Zealand, and the changing age and experience profile of these migrants. Notably, there is little evidence of a decrease in earnings of either

[19] Pacheco et al (2017)

gender even when the economy suffered through the Global Financial Crisis. This suggests adjustment may have occurred more through increases in unemployment rather than changes in wage rates. Perhaps surprisingly, the difference between the 25th and 75th percentiles of wage earnings was similar for male and female Pacific migrants.

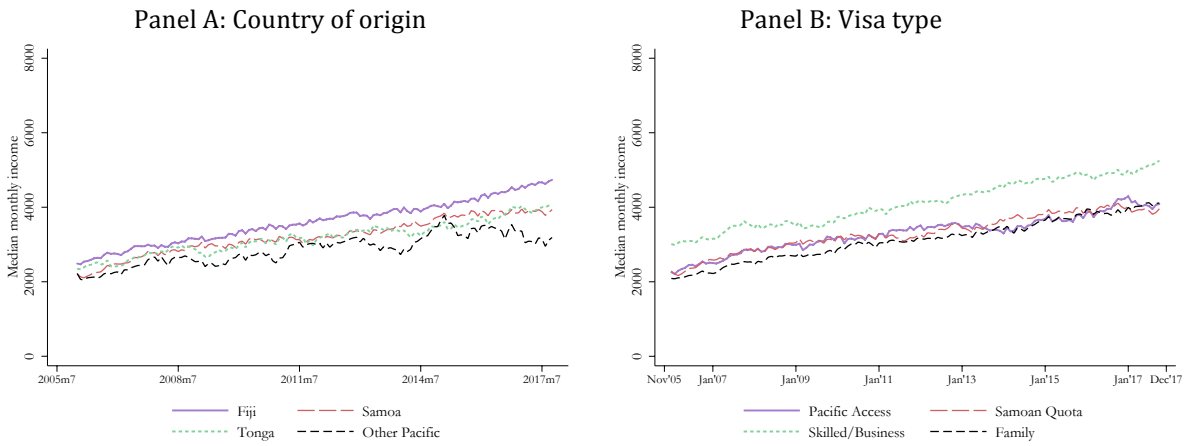
Figure 10: Distribution of monthly wage income of employed Pacific migrants by gender



Notes: This figure shows 25th percentile, median, and 75th percentile monthly wage income among employed Pacific migrants for the two genders. The sample is Pacific migrants surveyed in the first wave of LISNZ who were in New Zealand, aged under 65 in the month in question, and who received positive wage or salary income. Observations are weighted by LISNZ wave 1 weights. Lines have been smoothed with a rolling 5-month centred moving average for ease of viewing.

When we turn to differences in Pacific migrants' wage earnings by country of origin, shown in Panel A of Figure 11, we see modest and relatively stable differences in earnings by country of origin. Migrants from Fiji had the highest median incomes among Pacific migrants; employed migrants from Samoa and Tonga had similar, lower incomes. Average wages of migrants from Fiji were statistically significantly higher than wages from the other Pacific countries we consider. Notably, this mirrors the higher GDP per capita in Fiji relative to in Tonga and Samoa, as shown in Appendix Table 1. However, Appendix Table 3 shows that migrants from Fiji differed from migrants from Samoa or Tonga along many dimensions, as discussed in Section 4.1. In particular, migrants from Fiji were more likely to be highly educated, more likely to speak English as their best language, and more likely to have gained residence on a Skilled/Business visa.

Figure 11: Monthly wage income of employed Pacific migrants by country of origin and by visa type



Notes: This figure shows the median monthly income of employed Pacific migrants by country of origin (Panel A) or visa type (Panel B). The sample is Pacific migrants surveyed in the first wave of LISNZ who were in New Zealand, aged under 65 in the month in question, and who received positive wage or salary income. Observations are weighted by LISNZ wave 1 weights. Lines have been smoothed with a rolling 5-month centred moving average for ease of viewing.

Appendix Figure 2 shows monthly wage earnings by country at the 25th and 75th percentiles. The gap between Fijian wage earnings and the wage earnings of other Pacific migrants is greater further up the income distribution, but overall these plots tell the same story.

Panel B of Figure 11 breaks the wage earnings data for Pacific migrants down by visa type. As one would expect, those gaining residence through the Skilled/Business visa had the highest earnings by a statistically and economically significant margin. The remaining visa types all had similar earnings. The Pacific Access and Samoan Quota visas have employment offer requirements, but the required wage rate is relatively low. Appendix Figure 2 shows the same pattern held at the 25th and 75th percentiles, though the lead of Skilled/Business migrants over Other Pacific was greater at higher income deciles.

4.4 Benefit receipt and benefit income

4.4.1 Benefit receipt

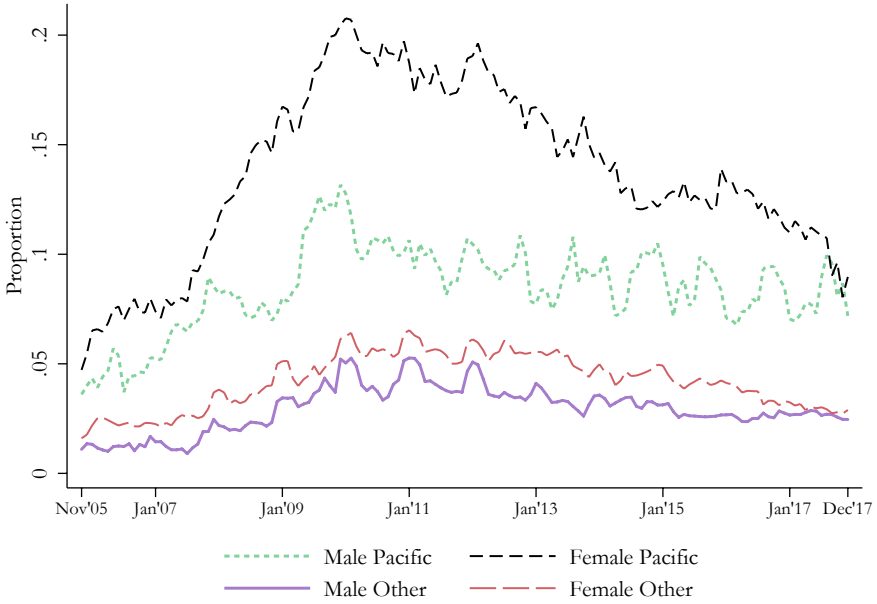
This section investigates the proportion of migrants who received a main working age benefit. It restricts the sample to those aged 15 to 65 who were in New Zealand at the time. It uses our first sample, LISNZ migrants who were surveyed in wave 1 and have non-missing data. We use data on receipt of a main working age benefit in Inland Revenue's tax data to classify migrants as earning a benefit or not.

Figure 12 compares benefit receipt rates for Pacific and non-Pacific migrants of each gender. Among both genders, Pacific migrants were more likely than non-Pacific migrants to receive a benefit each month. When considered side-by-side with Figure 5, which shows employment of the four groups, this figure reveals an interesting puzzle: Pacific and non-Pacific

migrants of the same gender were similarly likely to be employed, but Pacific migrants were more likely to receive benefit income.

Another noteworthy feature of Figure 12 is the dramatic rise of Pacific women's benefit receipt, with the percentage of Pacific women on a benefit rising from just over 5% in 2005 to almost 20% by the end of 2010. This rate then declined to close to 5% by the end of 2017. Pacific men experienced a smaller, but still pronounced, rise and fall in benefit receipt. Although non-Pacific migrant men and women also experienced increases in benefit receipt over the same period, both their rates of benefit receipt in 2005 and the peak rates of around 5% they reached in 2010 were significantly lower than those of Pacific migrants.

Figure 12: Benefit receipt rates of Pacific and non-Pacific migrants by gender



Notes: This figure shows the proportion of Pacific and non-Pacific migrants by gender who received benefit income each month. The sample is migrants surveyed in the first wave of LISNZ who were in New Zealand and aged under 65 in the month in question. Observations are weighted by LISNZ wave 1 weights.

Some of the increase in female Pacific migrants' benefit receipt effect was almost certainly driven by the economic downturn during the Global Financial Crisis and ensuing Great Recession. However, other factors may have been at play. Notably, the large increase in benefit receipt by Pacific women was not matched by a similar-sized decrease in employment (see Figure 5). This implies it was not solely a process of Pacific women losing their jobs when the economy weakened and thus moving onto benefits.

To better understand the puzzle of Pacific migrants' simultaneously high benefit receipt and high employment, and the drivers of Pacific women's increase in benefit receipt, we next look at the relationship between employment and benefit receipt and at the types of benefits received by migrants.

Figure 13 shows the proportion of Pacific and non-Pacific migrants of each gender who received wage income, benefit income, both, or neither each year from 2005 to 2017.

The figure shows that, among males, Pacific and non-Pacific migrants were similarly likely to be employed and not receive a benefit. However, Pacific migrants were more likely to both be employed and receive a benefit, or to not be employed and receive a benefit. Pacific males were the group least likely to have neither wage nor benefit income.

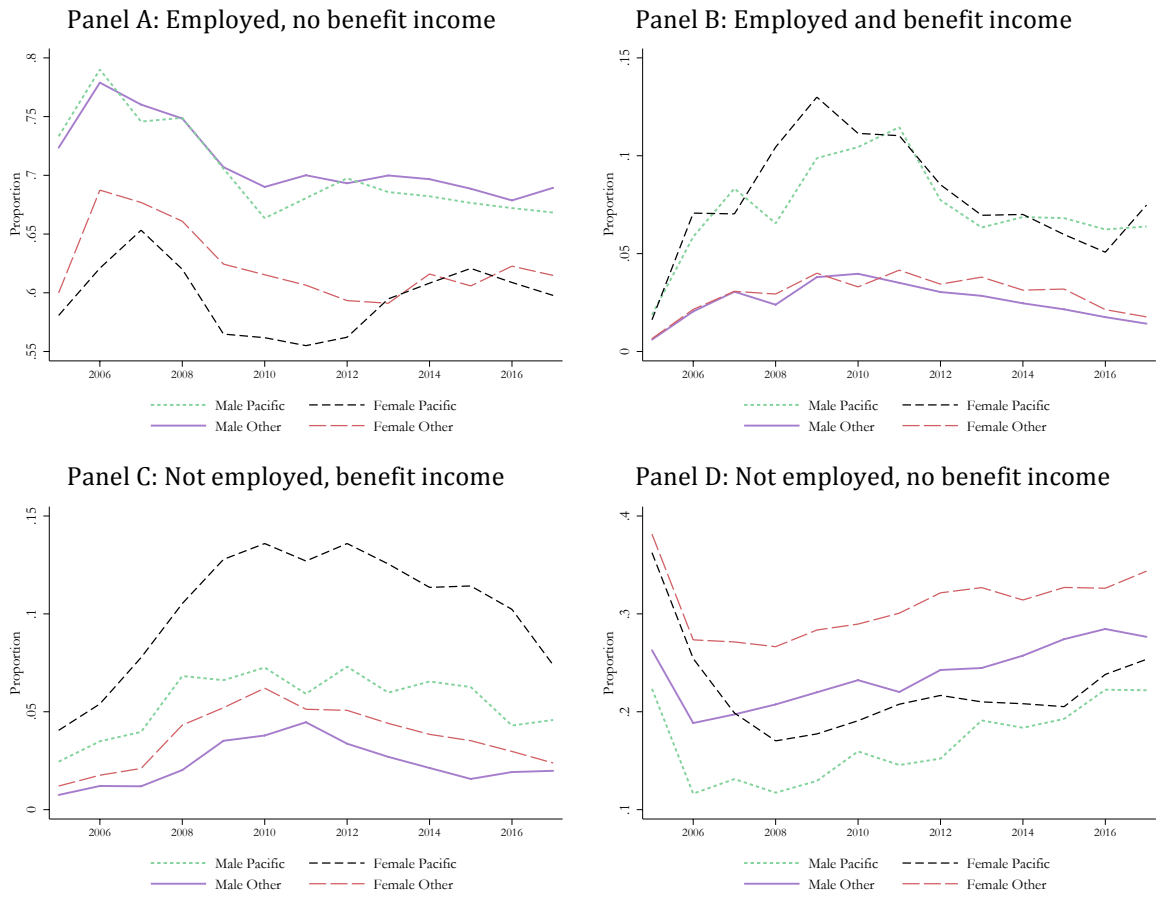
Figure 9 above showed that male Pacific migrants who were employed had considerably lower median incomes than male non-Pacific migrants who were employed.

Together, these figures suggest male Pacific migrants were more likely than male non-Pacific migrants to be employed in part-time or low-paying jobs that made them eligible for benefit support. This is consistent with Figure 14, which shows the most common benefit type received by male Pacific migrants was Jobseeker Support (see definition on page 29). Pacific males may have also been in more insecure employment, and thus moved more frequently between wage income and benefit income.

Some non-Pacific migrants who were neither employed nor receiving a benefit may have been self-employed. As Figure 6 showed, self-employment was markedly more common among non-Pacific migrants than among Pacific migrants. This difference may have contributed to the higher proportion of non-Pacific migrants who received neither wage income nor benefit income.

A final possible contributing factor is the different family structures of Pacific and non-Pacific families. As Table 3 shows, at wave 1 Pacific migrants were more likely than non-Pacific migrants to be married with dependent children, and less likely to be married without dependent children. Having dependent children likely limited the ability of Pacific males to get by with neither wage nor benefit income (because their living expenses were higher and their partners less likely to be working) and increased their eligibility for benefit support.

Figure 13: The relationship between benefit receipt and employment for Pacific and non-Pacific migrants

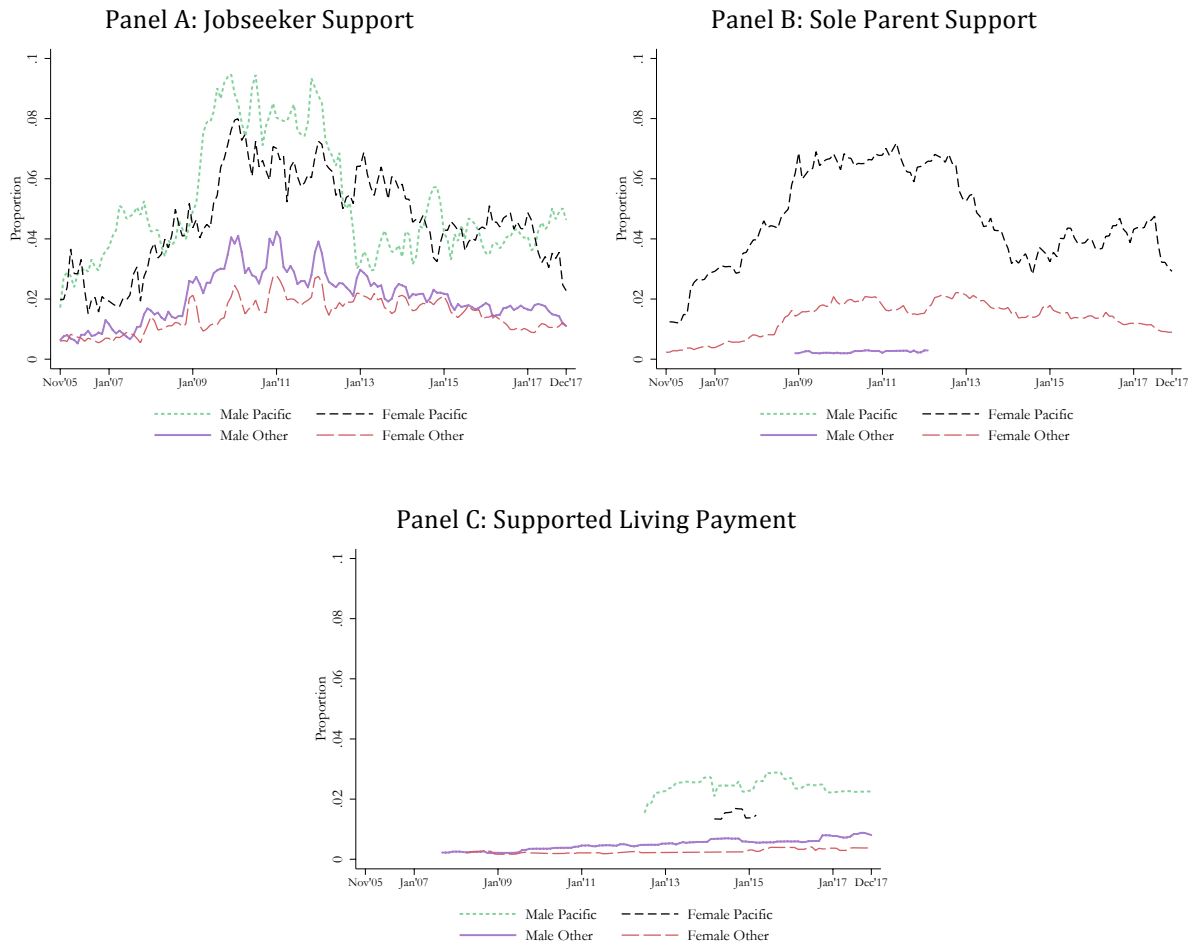


Notes: This figure shows for Pacific and non-Pacific migrants by gender the proportion each year who received wage income, benefit income, both, or neither. Data are aggregated to the year level. An individual is considered to be employed if she received wage income any time in the year, and to have received a benefit if she had benefit income any time during the year. In all panels, the sample is Pacific migrants surveyed in the first wave of LISNZ who were in New Zealand and aged under 65 at some point during the year in question. Observations are weighted by LISNZ wave 1 weights.

Panel D of Figure 13 shows that from 2008 for Pacific women and 2006 for other groups the proportion of migrants of working age receiving neither wage nor benefit income gradually increased over time. Each year it was highest for non-Pacific females, then non-Pacific males, Pacific females, and was lowest for Pacific males. This suggests that, relative to non-Pacific migrants, in the long term this cohort of Pacific migrants was quite successful at accessing the benefit system when they were not employed or were under-employed.

Panels B and C of Figure 13 show that both the proportion of female Pacific migrants who received benefit and wage income and the proportion who received benefit income only peaked during the Global Financial Crisis at around 13%. In the case of receiving benefit income only, this peak was nearly twice the rate for the next highest group, male Pacific migrants.

Figure 14: Benefit types received by Pacific and non-Pacific migrants



Notes: This figure shows the proportion of Pacific and non-Pacific migrants by gender who received each of three types of benefit each month. In all panels, the sample is migrants surveyed in the first wave of LISNZ who were in New Zealand and aged under 65. Observations are weighted by LISNZ wave 1 weights. Observations with too few responses to satisfy confidentiality requirements are omitted. Some benefit types fall into none of these three categories; they are not presented because few people in our sample received them, and most of the observations would have to be suppressed.

To better understand the high benefit receipt of female Pacific migrants and its changes over time, we next examine the types of benefits that were received by Pacific and non-Pacific migrants of each gender, presented in Figure 14. The figure shows the proportion of each type of migrant receiving each of three types of benefit.

- **Jobseeker Support** is a work-focused benefit. Its aim is to support those not currently in work but looking for work, in part-time work but looking for more hours, or with a disability or health condition that affects their ability to work full time or at present. Jobseeker Support combines a number of pre-July 2013 benefit types: Unemployment Benefit; Sickness Benefit; Domestic Purposes Benefit - Women Alone; Domestic Purposes Benefit - Sole Parent if youngest child is aged 14 and over; and Widow's Benefit - without children, or if youngest child is aged 14 and over.

- **Sole Parent Support** is for sole parents caring for children under the age of 14 who can look or prepare for part-time work. It combines the pre-July 2013 benefit categories: Domestic Purposes Benefit - Sole parent if youngest child is aged under 14; and Widow's Benefit - if youngest child is aged under 14.
- **Supported Living Payment** is for those whose ability to work is severely restricted or who are unable on a long-term basis to work due to a health condition or disability. It also supports those looking after people who require significant care. It combines the previous Invalid's Benefit with the Domestic Purposes Benefit - Care of Sick or Infirm.

Panel A of Figure 14 shows that Jobseeker Support (and the earlier benefit categories that were combined into Jobseeker Support in the 2013 benefit reforms) was received by higher proportions of Pacific migrants of both genders than of non-Pacific migrants. Male and female Pacific migrants received Jobseeker Benefits at similar rates to each other, as did male and female non-Pacific migrants.

That stands in stark contrast to receipt of Sole Parent Support, which was primarily received by female migrants, particularly those from Pacific countries. The Sole Parent Support receipt rate of non-Pacific migrant women never rose much above 2%, whereas it stayed over 6% for most of 2009 to 2011 for female Pacific migrants. Migrant men had low rates of Sole Parent Support receipt; given the smaller Pacific sample size, the rate for Pacific males was so low these data cannot be shown for confidentiality reasons.

Rates of receipt of Supported Living Payment were low among migrants, and many observations in the figure had to be suppressed for confidentiality. The visible pattern shows Pacific migrants had higher rates of Supported Living Payment receipt than did non-Pacific migrants, and males had higher rates than females.

Taken together, the panels of Figure 14 suggest the high benefit rates of Pacific women came from a combination of Jobseeker Support and Sole Parent Support, whereas Jobseeker Support was the dominant benefit type for Pacific males. Sole Parent Support is available only to single parents who are not in a relationship. Although Appendix Table 2 shows that a tiny proportion of female Pacific migrants emigrated to New Zealand as single parents (1%), their receipt of Sole Parent Support suggests many subsequently became single parents, with all the associated financial challenges.

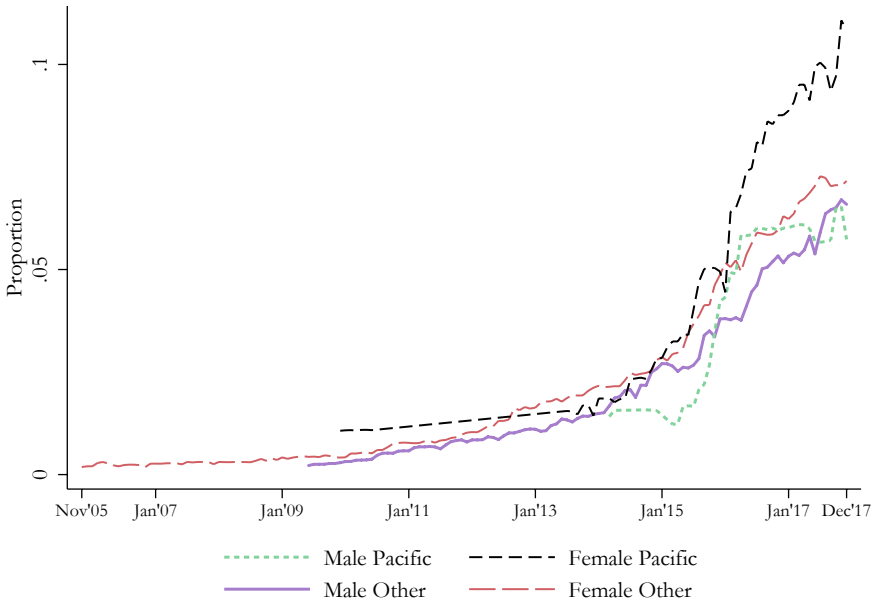
Overall, it seems that female Pacific migrants had low rates of receiving neither wage income nor benefit income. Their high rate of receiving both during the Global Financial Crisis suggests many employed Pacific women found themselves in low-paying jobs that left them eligible for additional support, and the high proportion with children but no partners meant many were eligible for Sole Parent Support.

The analysis so far in this section has focussed on the working age population. However, an important source of support for migrants aged 65 and over is superannuation. Figure 15

expands the population of interest to LISNZ migrants of all ages, and presents the proportion who received superannuation each month. Superannuation is not available to migrants until they reach age 65, so the large increase from 2015 for Pacific and non-Pacific migrants of both genders was primarily driven by migrants aging into eligibility. The figure does not suggest any particular group failed to access superannuation to which they were eligible, though more detailed analysis would be required to conclude this for certain.

In fact, female Pacific migrants had the highest superannuation receipt most months from 2015 onwards. Their access to these benefits may have been aided by the fact they or a family member were more likely to have previously received some kind of benefit, and so when they reached age 65 they were more likely to already have had experience navigating the benefit system.[20]

Figure 15: Pacific and non-Pacific migrants' receipt of superannuation, all ages



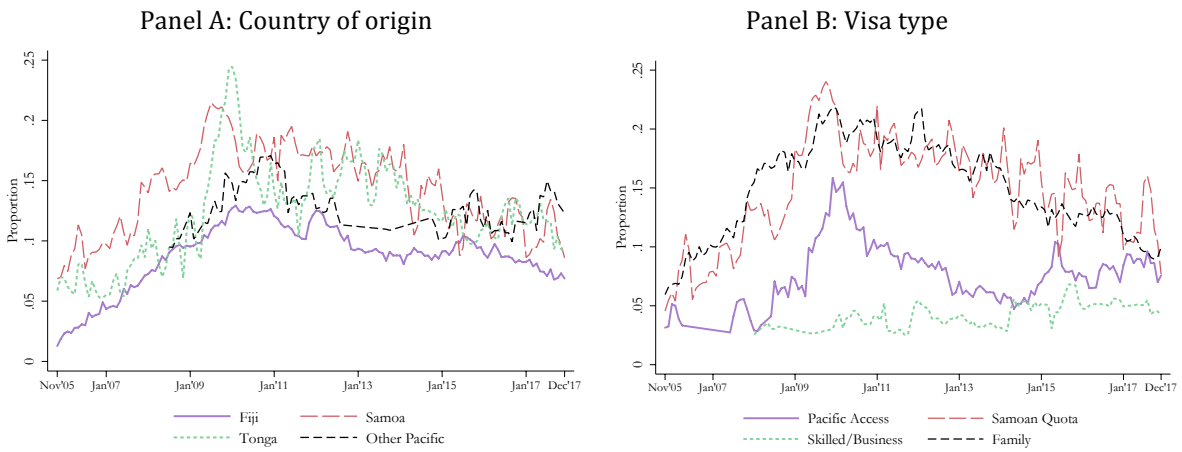
Notes: This figure shows the proportion of Pacific and non-Pacific migrants of all ages who received superannuation each month. In all panels, the sample is migrants surveyed in the first wave of LISNZ who were in New Zealand in the month in question. Migrants of all ages are included. Observations are weighted by LISNZ wave 1 weights.

The remainder of this section considers how rates of main working age benefit receipt varied for different subpopulations of Pacific migrants. Panel A of Figure 16 shows how benefit receipt varied by country of origin. It shows Fijians had the lowest rate of receipt for essentially the entire period, though Samoans were the only group with statistically significantly higher benefit receipt than Fijians. This is consistent with what we observe in Figure 7 and Figure 11, which show that Fijians had higher rates of employment and higher rates of earning conditional

[20] Though note this crude analysis does not account for the different probabilities Pacific and non-Pacific migrants of each gender were aged over 65.

on working. Samoans had the highest rate of benefit receipt among the four groups, but most of the between-group differences were not statistically significant. The same factors that drove migrants from Fiji to have strong employment outcomes, discussed previously, likely contributed to their relatively low rates of benefit receipt. Note that, for reasons of confidentiality, the benefit receipt of migrants from Pacific countries other than Fiji, Samoa, and Tonga is suppressed before late 2008.

Figure 16: Benefit receipt rates of Pacific migrants by country of origin and by visa type



Notes: This figure shows the proportion of Pacific migrants who received benefit income each month by country of origin (Panel A) or visa type (Panel B). In both panels, the sample is Pacific migrants surveyed in the first wave of LISNZ who were in New Zealand and aged under 65 in the month in question. Observations are weighted by LISNZ wave 1 weights.

Panel B of Figure 16 shows the benefit receipt of Pacific migrants by visa type. We see similar patterns for those on Samoan Quota visas and those on Family visas. However, Pacific Access Category migrants showed significantly lower rates of benefit receipt throughout the period, while those on Skilled/Business visas showed rates that were lower again and statistically significantly different to Pacific Access Category rates. Before about 2008, the number of Skilled/Business migrants who were on a benefit was so low that it is suppressed for confidentiality reasons.

It is clear from the admission criteria why Skilled/Business migrants are expected to be more economically successful in New Zealand than most other migrants, but given the similarity in requirements for Pacific Access Category and Samoan Quota visas it is an interesting question why Pacific Access Category migrants had so much lower rates of benefit receipt. Examination of Appendix Table 4, which shows the characteristics of Pacific migrants who came on different visas, suggests a few possible explanations. Nearly half Pacific Access Category migrants were from Fiji, and they shared some of advantageous characteristics of Fijian migrants. In particular, they had much higher average proficiency in English than did Samoan Quota migrants. For

instance, 36.8% of Pacific Access Category migrants as opposed to 11.9% of Samoan Quota migrants had English as their best language.

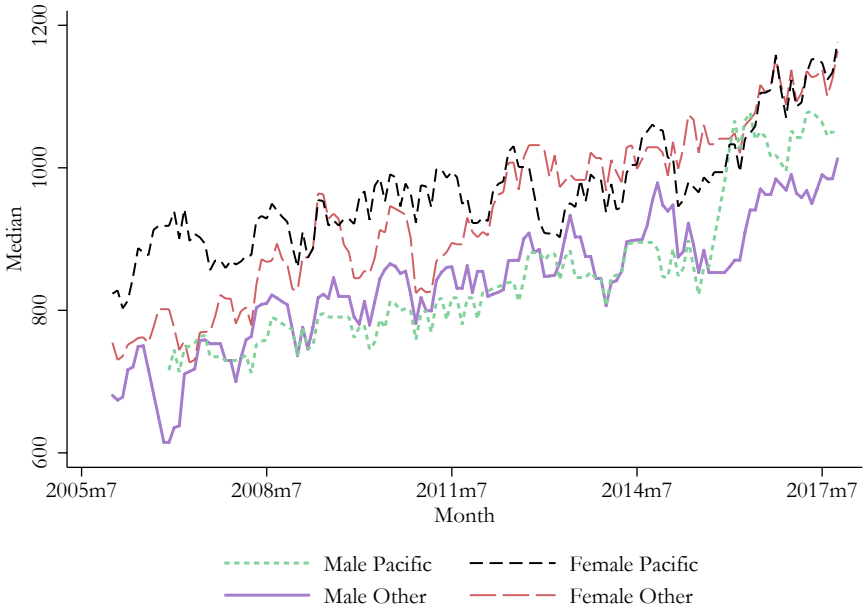
The right-hand panel of Appendix Figure 1 shows benefit receipt rates for various other breakdowns of the Pacific migrant population. In general, the Pacific subpopulations with higher rates of benefit receipt are those with lower rates of employment.

4.4.2 Value of benefit income

This section shows how the dollar value of benefit income among those migrants with positive benefit income varied by subpopulation. It uses our first sample, LISNZ migrants who were surveyed in wave 1 and have non-missing data. Benefit data are from Inland Revenue.

Figure 17 compares the value of benefit received for Pacific and non-Pacific migrants by gender. It shows that, among migrants who received some benefit income, female migrants regardless of region of origin tended to receive greater monthly benefit income than male migrants. For both Pacific and non-Pacific migrants these gender differences were highly significant. This is likely a result of the types of benefits that these women received. As Figure 14 shows, female migrants were commonly on either Jobseeker Support or Sole Parent Support, whereas most male migrants on benefits were on Jobseeker Support.

Figure 17: Benefit income of Pacific and non-Pacific migrants on benefits by gender

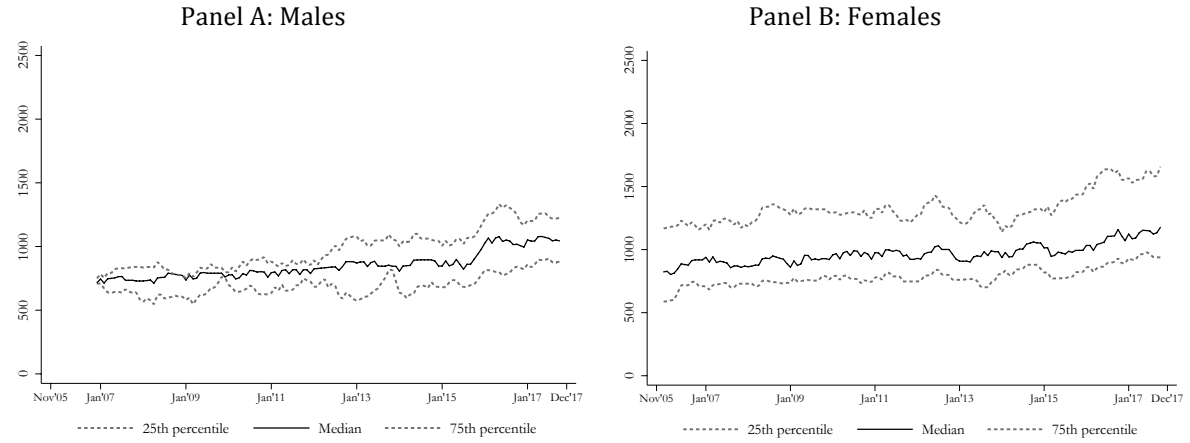


Notes: This figure shows for Pacific and non-Pacific migrants by gender the median monthly benefit income among those who received some benefit. The sample is migrants surveyed in the first wave of LISNZ who were in New Zealand, aged under 65 in the month in question, and who received any benefit income in the month. Observations are weighted by LISNZ wave 1 weights. Lines have been smoothed with a rolling 5-month centred moving average for ease of viewing.

In the first few years after residence approval, female Pacific migrants on benefits tended to receive higher benefit income than did female non-Pacific migrants on benefits, but this difference disappeared with time in New Zealand.[21] Male Pacific migrants on benefits received similar amounts to male non-Pacific migrants on benefits.

Figure 18 shows the gender differences in benefit income for Pacific migrants at the 25th percentile, median, and 75th percentile. It shows that the distribution of benefit income for Pacific males was much tighter than for females. This likely again reflects the fact that female beneficiaries were likely to receive either Jobseeker Support or Sole Parent Support, whereas male beneficiaries primarily received Jobseeker Support.

Figure 18: Distribution of benefit income of Pacific migrants on benefits by gender

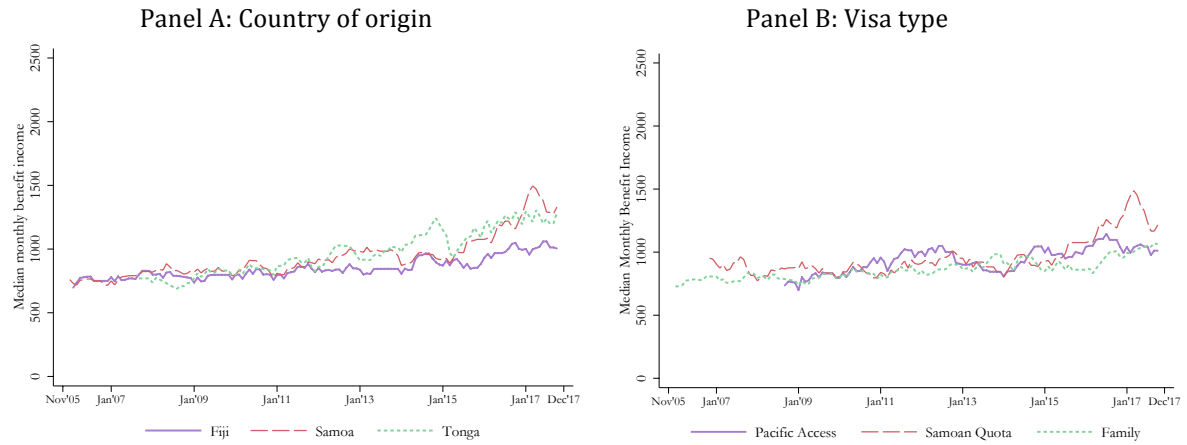


Notes: This figure shows for male (Panel A) and female (Panel B) Pacific migrants the 25th percentile, median, and 75th percentile monthly benefit income among those who received some benefit. The sample is Pacific migrants surveyed in the first wave of LISNZ who were in New Zealand, aged under 65 in the month in question, and who received any benefit income in the month. Observations are weighted by LISNZ wave 1 weights. Lines have been smoothed with a rolling 5-month centred moving average for ease of viewing.

Figure 19 shows little evidence of differences in the value of benefit income received by Pacific migrants by visa type or country of origin; none of the differences between subpopulations are statistically significant. Again, these results are conditional on receiving a benefit, and a previous section shows that there were differences in the proportions of these groups on a benefit.[22]

[21] Potential drivers of the difference could include female Pacific migrants having more children than female non-Pacific migrants, or being less likely to earn enough income that they receive only partial benefits.
[22] Because the small number receiving a benefit meant most of these data had to be suppressed, we omitted the "Other Pacific" category as well as the Skilled/Business visa categories from this figure.

Figure 19: Benefit income of Pacific migrants on benefits by country of origin and by visa type



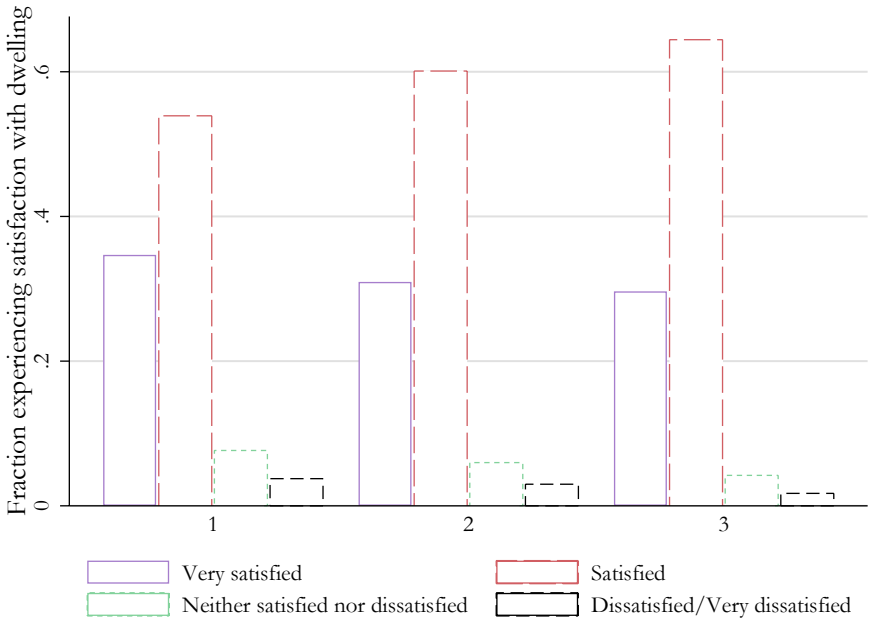
Notes: This figure shows the median monthly benefit income of Pacific migrants who received some benefit by country of origin (Panel A) or visa type (Panel B). The sample is migrants surveyed in the first wave of LISNZ who were in New Zealand, aged under 65 in the month in question, and who received any benefit income in the month. Observations are weighted by LISNZ wave 1 weights. Lines have been smoothed with a rolling 5-month centred moving average for ease of viewing.

4.5 Housing outcomes

This section begins by examining migrants' self-reported satisfaction with the quality of their dwellings over the period covered by LISNZ, the first three years after residence approval. Self-reported satisfaction is a subjective measure, but it could be affected by a range of important objective factors, many of which are rarely measured, such as dwelling condition, dampness, level of insulation, and noisiness. This analysis uses our second sample, LISNZ migrants surveyed in waves 1 to 3 with non-missing data, and responses come from LISNZ.

Figure 20 shows how Pacific migrants' self-reported satisfaction with their dwellings changed over the three waves of LISNZ. Overall, satisfaction was high; in all three waves, the vast majority of Pacific migrants reported being "very satisfied" or "satisfied", though there was a slight shift over time from "very satisfied" to "satisfied". This change may represent a decrease in housing quality or conditions over the three waves, but an alternative explanation is that migrants became accustomed to the improved housing conditions they experienced in New Zealand relative to in their country of origin, and their expectations increased.

Figure 20: Pacific migrants' satisfaction with their dwelling by survey wave

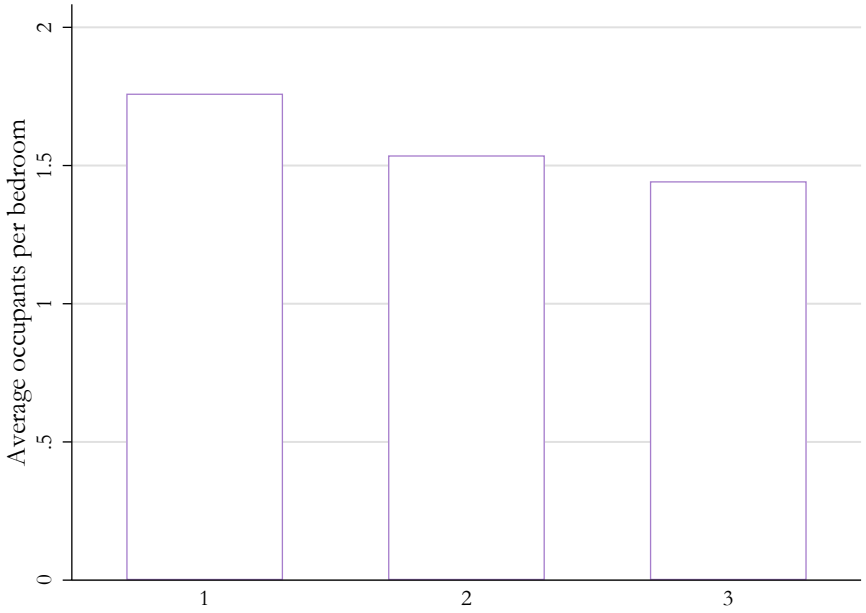


Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ who reported each level of satisfaction with the quality of their dwelling. The population is Pacific migrants who were surveyed in all three waves of LISNZ. Outcomes are weighted by wave 3 survey weights. The very small number of "don't know" responses are dropped.

Most wave three interviews occurred during 2008 and 2009, and so many could have occurred at a time when migrants' labour markets outcomes were suffering due to the Global Financial Crisis. The inability to get by without benefit support was a particular issue for both male and female Pacific migrants in this period, as previous sections showed, and reduced household incomes may have worsened the accommodation these migrants could afford. Although our data do not allow us to observe whether the objective housing quality of Pacific migrants fell over the three waves of LISNZ, we are able to measure whether the worsening economic conditions forced the migrants into more crowded dwellings.

Figure 21 shows the average number of occupants per bedroom in the dwellings of Pacific migrants in the three waves of LISNZ. It reveals a steady decrease in crowding over time, with mean occupants per bedroom falling from 1.75 in the first wave to below 1.5 in the third wave. This shows the move in Pacific migrant satisfaction with their housing from very satisfied to satisfied over the LISNZ waves is unlikely to have been caused by an increase in crowding.

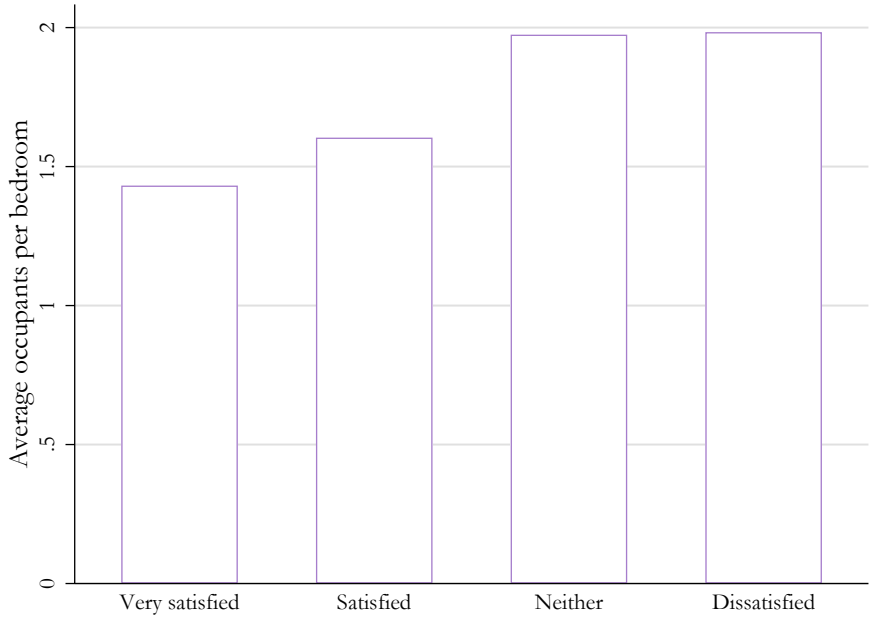
Figure 21: Crowding in Pacific migrants' dwellings by survey wave



Notes: This figure shows the average number of occupants per bedroom in Pacific migrants' dwellings in each wave of LISNZ. The population is Pacific migrants who were surveyed in all three waves of LISNZ. Outcomes are weighted by wave 3 survey weights.

As further evidence for this point, in Figure 22 we show the relationship between satisfaction with dwelling and average crowding for Pacific migrants, pooling all three LISNZ waves. As we might expect, those who reported being very satisfied with their dwelling had the lowest average number of occupants per bedroom, fewer than 1.5, those who reported being merely satisfied had slightly more occupants per bedroom on average, and those who reported being neither satisfied nor dissatisfied or being dissatisfied both had nearly two occupants per bedroom on average. Taken together, Figures 20 to 22 strongly suggest that the falling proportion over time of Pacific migrants who were very satisfied with their dwellings was driven by factors other than tight financial situations pushing migrants into more crowded homes.

Figure 22: The relationship between dwelling crowding and dwelling satisfaction for Pacific migrants



Notes: This figure shows for each reported level of satisfaction with a Pacific migrant's dwelling, the average number of occupants per bedroom in the dwelling. It pools data from all three waves of LISNZ. The population is Pacific migrants who were surveyed in all three waves. Outcomes are weighted by wave 3 survey weights.

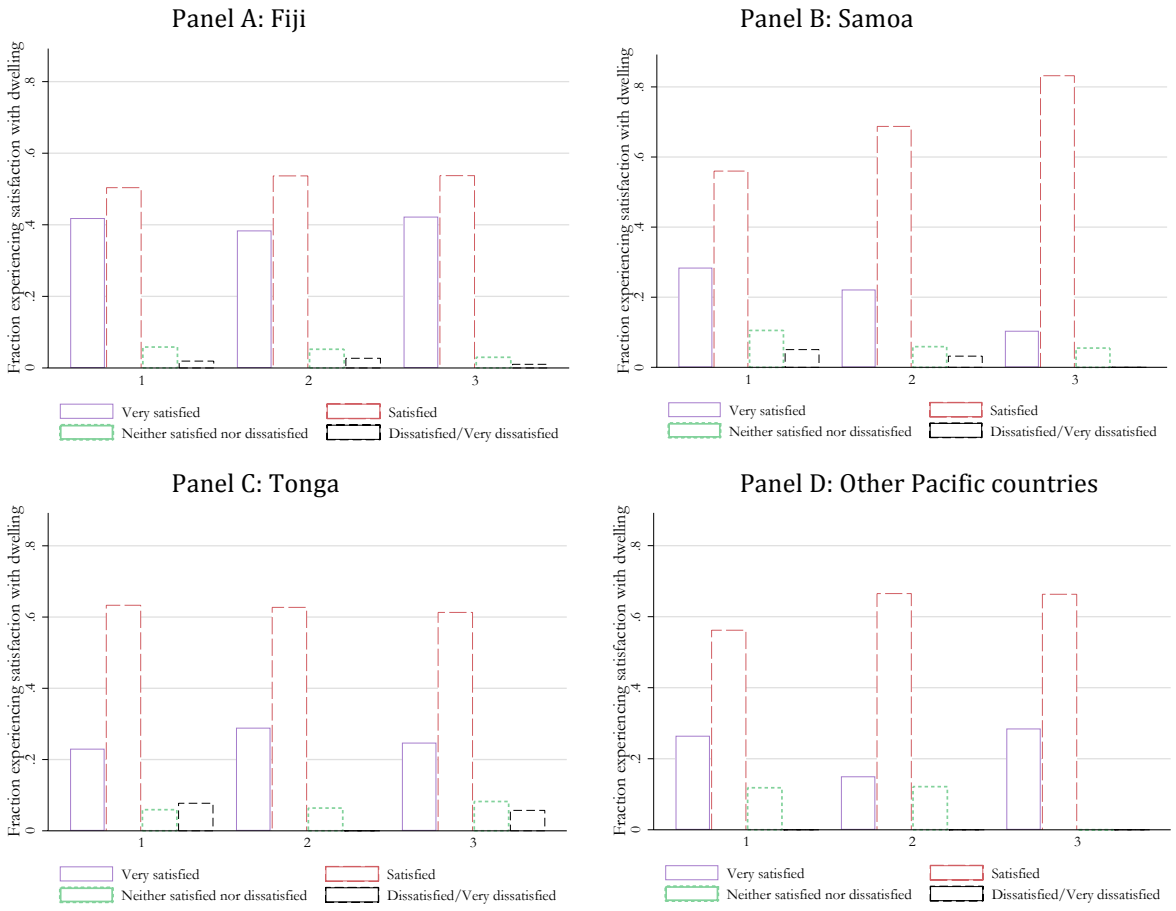
Figure 23 shows how satisfaction with their dwellings varied between Pacific migrants from different countries of origin over the three LISNZ waves. Among Pacific migrants, those from Fiji tended to be the most satisfied with their dwellings in their first three years after residence approval: each survey wave, around 40% reported being "very satisfied" and 50% or more reported being "satisfied", with the remainder "neither satisfied nor dissatisfied", "dissatisfied", or "very dissatisfied". The average difference between migrants from Fiji and migrants from each other Pacific country was statistically significant.[23] The high satisfaction with their dwellings reported by migrants from Fiji mirrors their strong economic outcomes, discussed in previous sections.

Around 30% of Samoan migrants in wave 1 reported being "very satisfied" and over 55% "satisfied", but by the third wave satisfaction had decreased, with closer to 10% very satisfied and over 80% merely satisfied. Examination of the panels of Figure 23 reveals that Samoan migrants were the only Pacific migrants whose reported satisfaction with their dwellings shifted away from "very satisfied" and to merely "satisfied" over the three LISNZ waves; they drove this pattern in the overall data, shown in Figure 20.

[23] To test the statistical significance of differences in satisfaction with housing, we attributed values of 1 to 4 to the categories of satisfaction and ran individual-level regressions of satisfaction on dummies for country of origin.

Migrants from Tonga initially had lower satisfaction than Samoans, but they did not show the same decrease over time, and the percentage "very satisfied" remained over 20% in each survey wave.

Figure 23: Pacific migrants' satisfaction with their dwelling by country of origin and survey wave



Notes: This figure shows for each country of origin the fraction of Pacific migrants in each wave of LISNZ who reported each level of satisfaction with the quality of their dwelling. The population is Pacific migrants who were surveyed in all three waves of LISNZ. Outcomes are weighted by wave 3 survey weights. The very small number of "don't know" responses are dropped. In some cases the number of respondents is too small to satisfy confidentiality requirements; these are presented as zeros.

Figure 24 presents the satisfaction with their dwellings of Pacific migrants with different visa types. It shows Pacific migrants who gained residence on Business/Skilled visas were more likely than other Pacific migrants to be very satisfied with their dwellings; the proportion "very satisfied" was around 40% in each of the three LISNZ waves and showed no trend over time. As shown previously, these migrants also had strong economic outcomes, so the quality of their housing was likely to be high in objective terms.

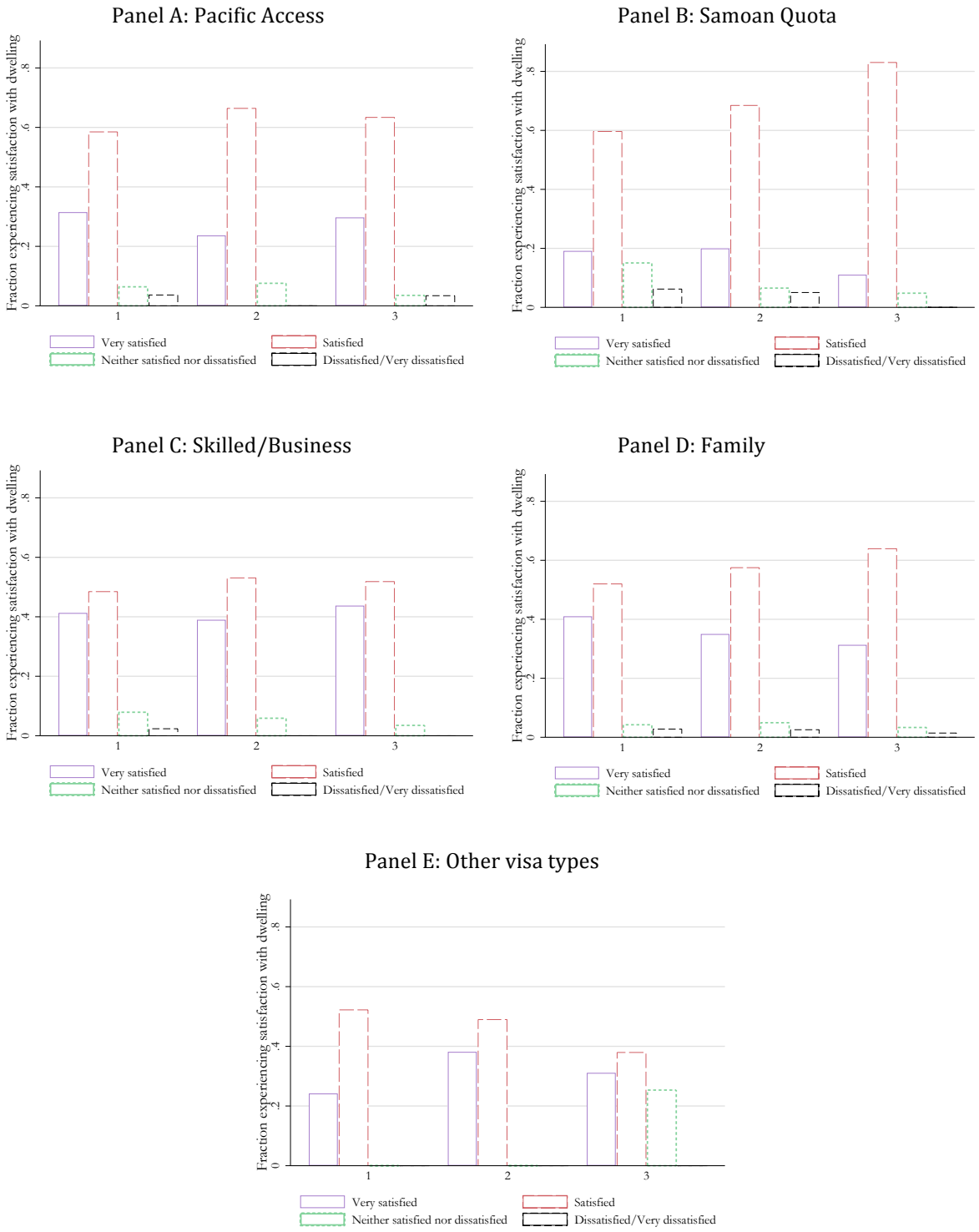
Pacific migrants on Family visas had the next highest proportion who were very satisfied with their housing; it fell from around 40% in wave 1 to 30% in wave 3, while the proportion merely "satisfied" increased accordingly. Migrants who came on Family visas had weaker economic outcomes on average than migrants on Skilled/Business visas, so it is interesting that the two groups had similar initial satisfaction with their housing. A possible explanation is that those who came on Family visas had lower expectations, though these adjusted upwards over time in New Zealand.

Migrants who came on Pacific Access visas had fairly steady satisfaction with their dwellings over their first few years in New Zealand, with around 25 to 30% "very satisfied" and 60 to 65% "satisfied".

Those who came on Samoan Quota visas had the highest rate of neutral feelings or dissatisfaction with their dwellings; in Wave 1 around 15% were "neither satisfied nor dissatisfied" and over 5% were dissatisfied. These proportions fell over the three waves and the proportion "satisfied" increased. By wave three Samoan Quota migrants were more likely than any other type of Pacific migrants to report being "satisfied" with their dwellings, at over 80%, but were least likely to report being "very satisfied", at around 10%.

The three LISNZ waves all capture housing satisfaction in the first three years after residence approval. Data from the 2013 Census allow us insight into the housing conditions faced by the same migrants in the longer term. For this analysis, we use our third sample, LISNZ wave 1 migrants with non-missing data who are linked to the 2013 Census.

Figure 24: Pacific migrants' satisfaction with their dwelling by visa type and survey wave



Notes: This figure shows for each visa type the fraction of Pacific migrants in each wave of LISNZ who reported each level of satisfaction with the quality of their dwelling. The population is Pacific migrants who were surveyed in all three waves of LISNZ. Outcomes are weighted by wave 3 survey weights. The very small number of "don't know" responses are dropped. In some cases the number of respondents is too small to satisfy confidentiality requirements; these are presented as zeros.

Figure 25 shows housing outcomes for Pacific migrants from the 2013 Census, about 7 to 8 years after the migrants received residence approval. Panels on the left show these outcomes by Pacific country of origin, while panels on the right show these outcomes by visa type. In turn, we look at the average number of occupants in the residence, the average occupants per bedroom, and the fraction of migrants who owned their own residence.

For each subpopulation, the proportion of people living in a private dwelling (as opposed to an institution such as a prison or a school) was close to 100%.

Panels A and B show the average number of occupants in a migrant's residence. This varied considerably among Pacific migrants by country of origin and visa type. Fijians, at the bottom of the scale, lived in residences with an average of four people, while the Tongan average was more than 50% higher at over 6.5. Average occupants in Samoans' dwellings was between these two extremes, at somewhat below six.

Panel B of the figure shows Skilled/Business migrants had the lowest average occupants per dwelling in 2013 (just over 4), and Samoan Quota migrants the highest (over 6). Pacific Access migrants also lived in dwellings with a high number of occupants, at around 5.5, whereas Family migrants' dwellings averaged fewer than five occupants. While some dwellings with a high number of occupants may have been families with many children, many Pacific migrants in New Zealand live with multiple families in a dwelling.[24]

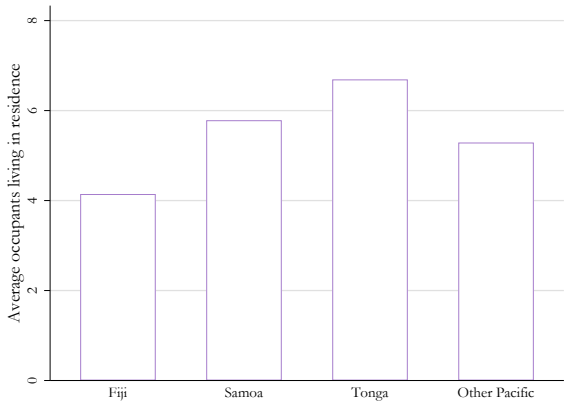
Panels C and D show that similar patterns held for the average number of occupants per bedroom. Tongans had the highest level of crowding at 2 people per bedroom. This is the same as the average crowding half a decade earlier of Pacific migrants who reported low levels of satisfaction with their housing in the three waves of LISNZ. These rates of crowding were closely associated with the economic outcomes of the groups, consistent with sharing housing being a mechanism through which Pacific migrants in New Zealand decrease their housing costs when they are under financial strain, as opposed to primarily being a cultural choice.

The final two panels show Pacific migrants' rates of home ownership. Home ownership in 2013 was strikingly high among Fijians, at around 45%, relative to among migrants from other Pacific countries, which were in the region of 10%. This is likely to be related to the findings in the previous section showing that Fijians had stronger labour market outcomes. Unsurprisingly, those on Skilled/Business visas had the highest home ownership rates, at over 50%. Home ownership by Pacific Access migrants was almost twice as high as by Samoan Quota migrants, 30% as opposed to 16%.

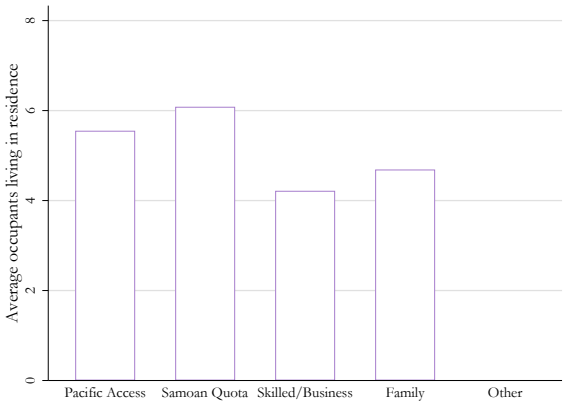
[24] See, for example, Statistics New Zealand (2012).

Figure 25: Housing outcomes of Pacific migrants in 2013 by country of origin and by visa type

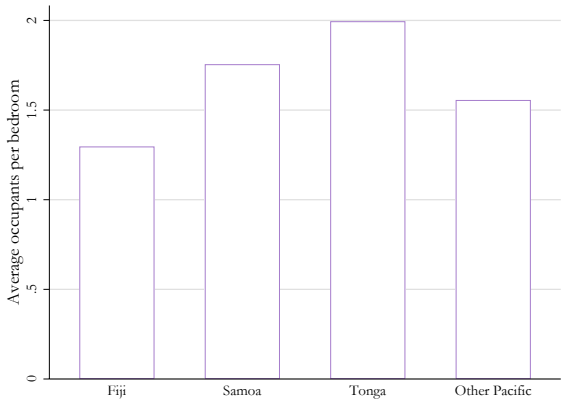
Panel A: Number of occupants by country



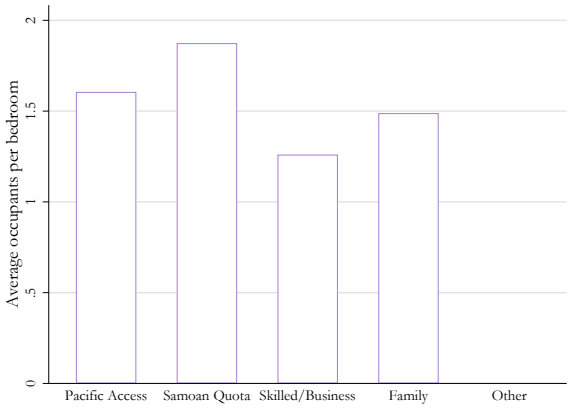
Panel B: Number of occupants by visa type



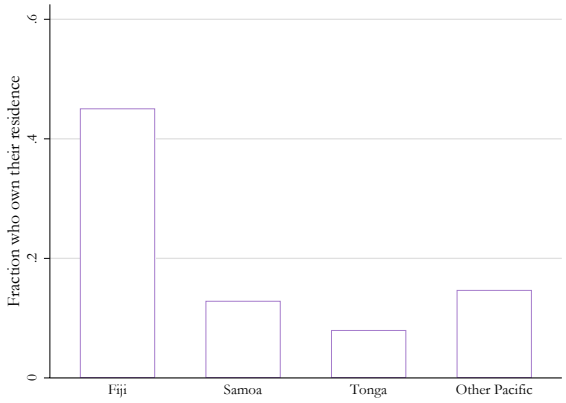
Panel C: Occupants per bedroom by country



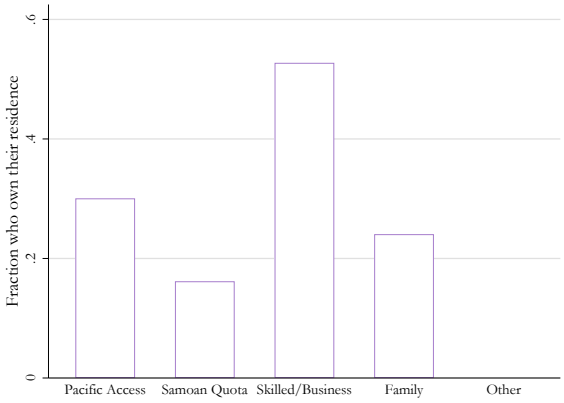
Panel D: Occupants per bedroom by visa type



Panel E: Home ownership by country



Panel F: Home ownership by visa type



Notes: This figure shows the average characteristics of Pacific migrants' dwellings in 2013 by country of origin (left hand panels) or visa type (right hand panels). The sample is Pacific migrants surveyed in wave 1 who can be linked to the 2013 Census. Outcomes are weighted by wave 1 survey weight. In Panels A to D, the very small number of people not living in a private dwelling are dropped. Outcomes for migrants on other visa types are not presented because the number of respondents is too small to satisfy confidentiality requirements.

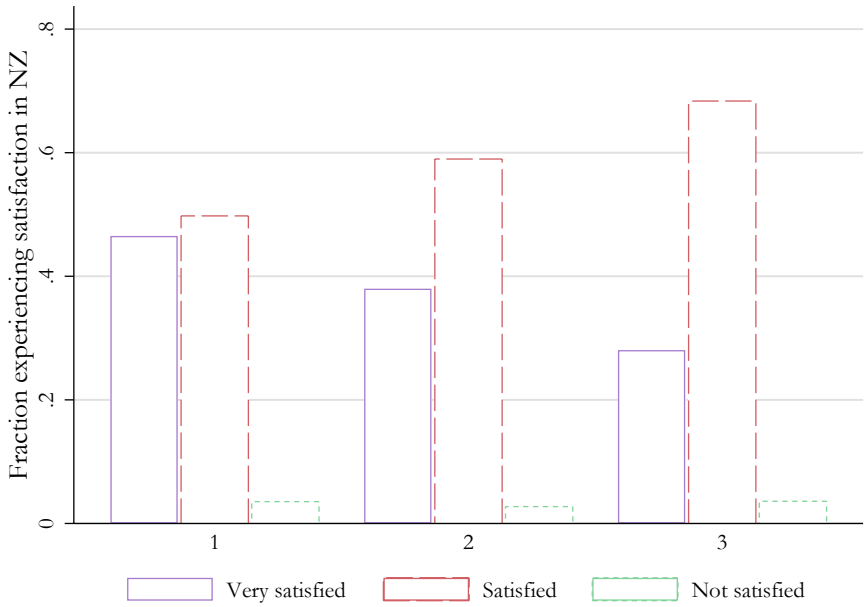
4.6 Satisfaction and feelings of settlement by wave

This section shows how satisfied with New Zealand and well settled in New Zealand Pacific migrants stated that they felt in each of the three waves of LISNZ. It uses our second sample, LISNZ migrants surveyed in waves 1 to 3 who have non-missing data.

Figure 26 shows that very few Pacific migrants (<5%) did not feel satisfied with New Zealand, and this was stable over time. In the first wave of LISNZ, roughly equal proportions of Pacific migrants felt "very satisfied" and "satisfied". However, over successive waves the fraction who reported being "very satisfied" decreased significantly, with respondents switching to "satisfied". By wave 3, nearly 70% reported being merely "satisfied", and fewer than 30% reported being "very satisfied".

The deteriorating economic conditions over this period could have been a contributing factor to this decline in satisfaction, but satisfaction may also have been affected by some facet of the process of integration that migrants experience in a new country. Identifying the specific drivers behind this decline is beyond the scope of this report. However, it is worth noting that this decline in satisfaction with New Zealand mirrors the shift in satisfaction with their dwellings that migrants from Samoa reported over the same period.

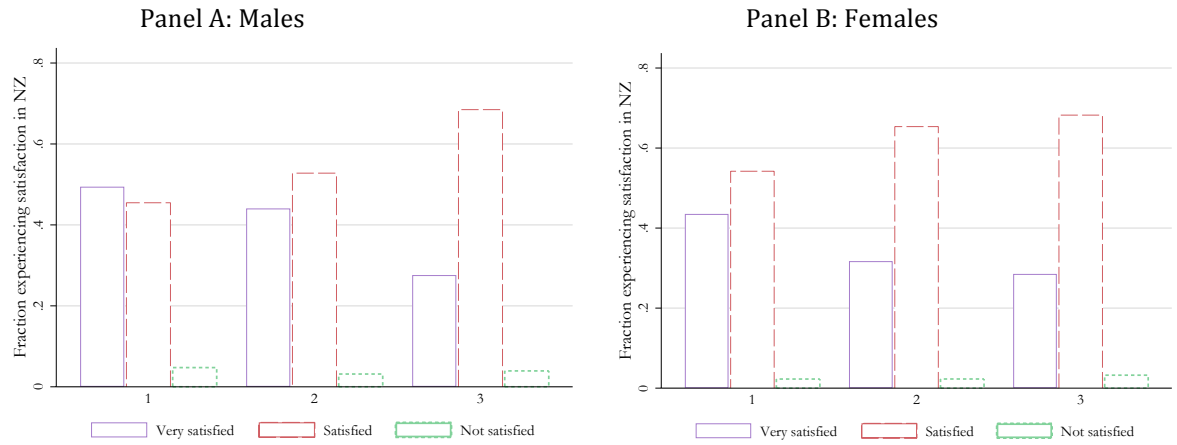
Figure 26: Pacific migrants' satisfaction with New Zealand by survey wave



Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ who reported each level of satisfaction with New Zealand. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. The "not satisfied" category aggregates the responses "neither satisfied nor unsatisfied", "unsatisfied", and "very unsatisfied". The very few "don't know" responses were dropped.

Figure 27 shows that among Pacific migrants male satisfaction with New Zealand was initially higher than female satisfaction, though the difference was not statistically significant. The difference may reflect that male migrants were more likely to have been the Primary applicant and thus to have had a job before entering New Zealand, which could have helped them feel more integrated into New Zealand society sooner. Males were significantly more satisfied than females in wave 2 of LISNZ, but by wave 3 the genders were similarly satisfied with New Zealand.

Figure 27: Pacific migrants' satisfaction with New Zealand by gender and survey wave

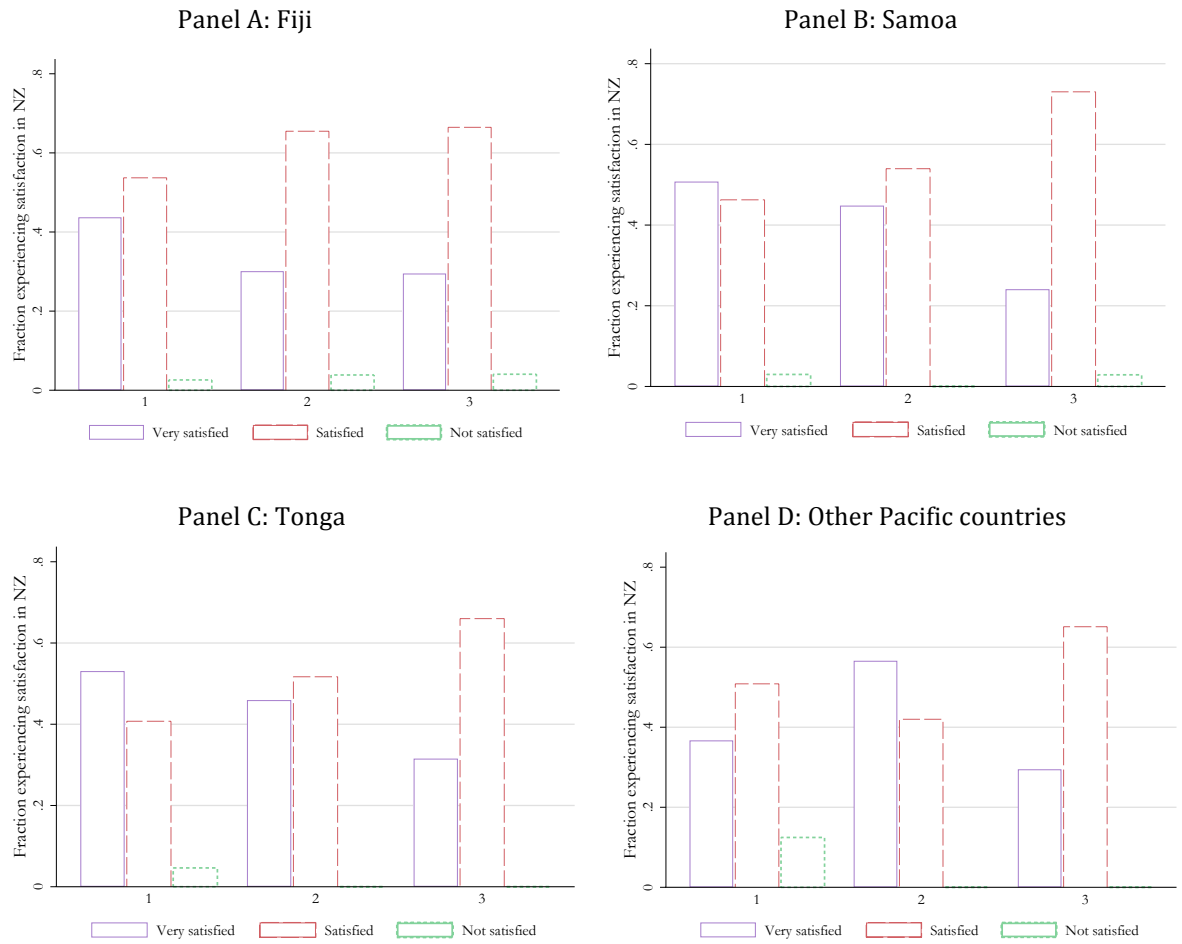


Notes: This figure shows the fraction of male (left hand panel) and female (right hand panel) Pacific migrants in each wave of LISNZ who reported each level of satisfaction with New Zealand. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. The "not satisfied" category aggregates the responses "neither satisfied nor unsatisfied", "unsatisfied", and "very unsatisfied". The very few "don't know" responses were dropped.

Figure 28 shows that migrants from Tonga and Samoa were more satisfied with New Zealand than were migrants from Fiji in the first two waves of LISNZ, but by the third wave these differences had disappeared. Migrants from all three countries of origin showed some tendency over time to report being "very satisfied" less and being merely "satisfied" more.

The fall in satisfaction was especially steep for migrants from Samoa. If their satisfaction with New Zealand continued to fall after the third LISNZ survey, this could help explain the relatively high rate at which migrants from Samoa left New Zealand, shown in Figure 3. However, migrants from Tonga left New Zealand at nearly as high a rate as migrants from Samoa, and satisfaction of Tongan migrants with New Zealand in wave 3 was higher than that of Samoan migrants and similar to that of Fijian migrants.

Figure 28: Pacific migrants' satisfaction with New Zealand by country of origin and survey wave



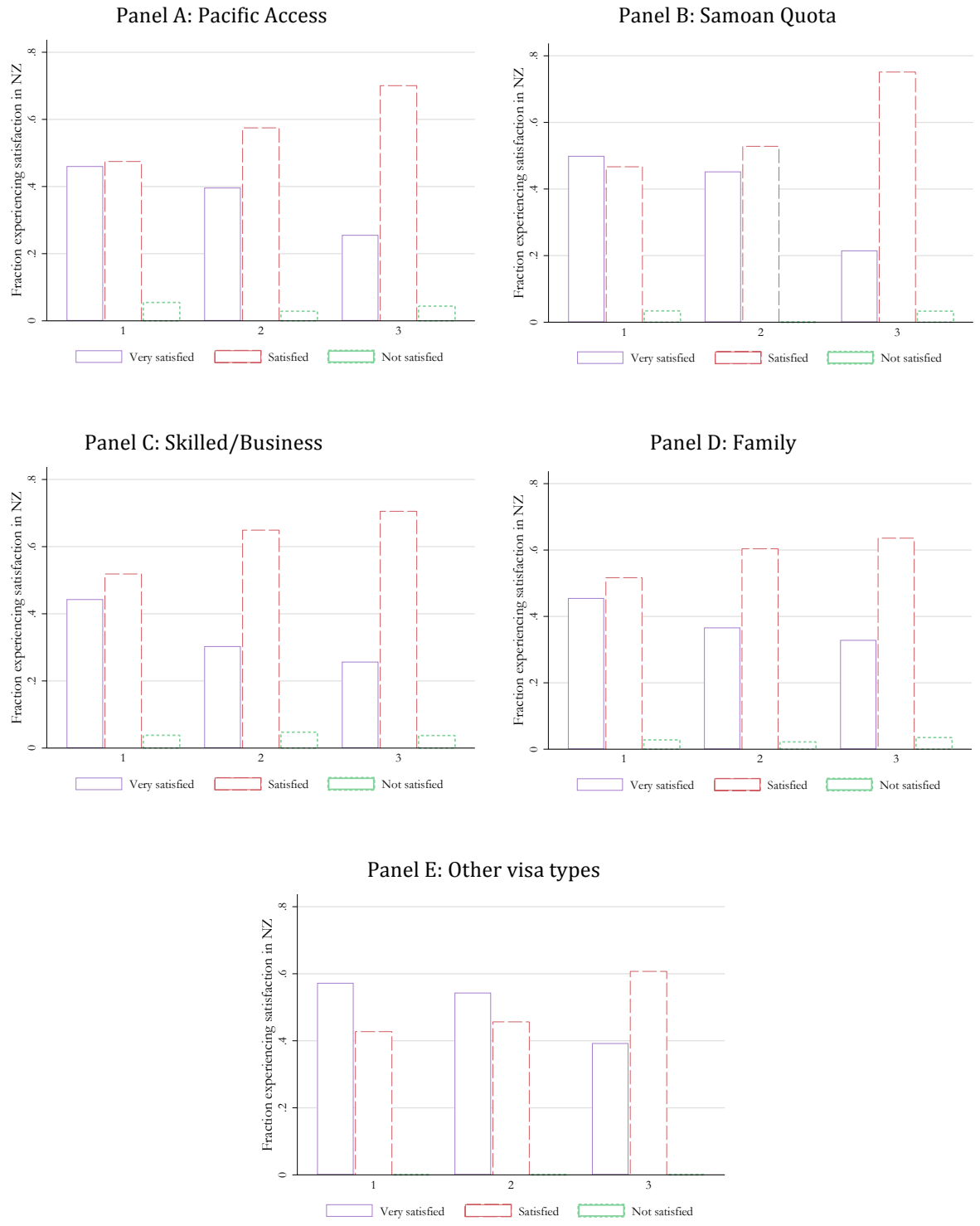
Notes: This figure shows the fraction of Pacific migrants from each country of origin in each wave of LISNZ who reported each level of satisfaction with New Zealand. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. The "not satisfied" category aggregates the responses "neither satisfied nor unsatisfied", "unsatisfied", and "very unsatisfied". The very few "don't know" responses were dropped. Where the number of responses is not large enough to satisfy confidentiality requirements the fraction is presented as zero.

Figure 29 presents Pacific migrants' satisfaction with New Zealand by visa type. We see broadly similar patterns for those on Pacific Access, Samoan Quota and Skilled/Business visas. Family visa migrants initially had similar satisfaction to these groups, but their satisfaction decreased less over survey waves. The Other visas group reported much higher rates of satisfaction, but the statistics for this group should be treated with caution because the number of observations is very small.

We next use the same sample to consider how settled Pacific migrants felt in New Zealand, as reported in LISNZ. This analysis uses our second sample, LISNZ respondents in waves 1 to 3 with non-missing data. Figure 30 shows feelings of settlement in New Zealand for all Pacific migrants. The overwhelming majority of migrants felt either "very settled" or "settled", with a small shift from "very settled" to "settled" in wave 3. The proportion who reported feeling

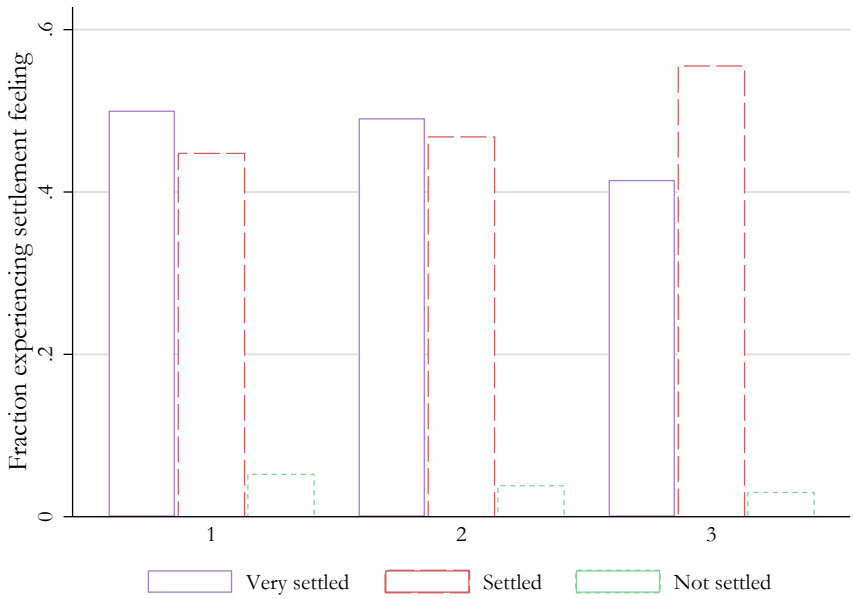
"neither settled nor unsettled" or "unsettled" (aggregated in the figure as "not settled") was around 5% in wave 1 and lower subsequently.

Figure 29: Pacific migrants' satisfaction with New Zealand by visa type and survey wave



Notes: This figure shows the fraction of Pacific migrants with each visa type in each wave of LISNZ who reported each level of satisfaction with New Zealand. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. The "not satisfied" category aggregates the responses "neither satisfied nor unsatisfied", "unsatisfied", and "very unsatisfied". The very few "don't know" responses were dropped. Where the number of responses is not large enough to satisfy confidentiality requirements the fraction is presented as zero.

Figure 30: Pacific migrants' feelings of settlement by survey wave



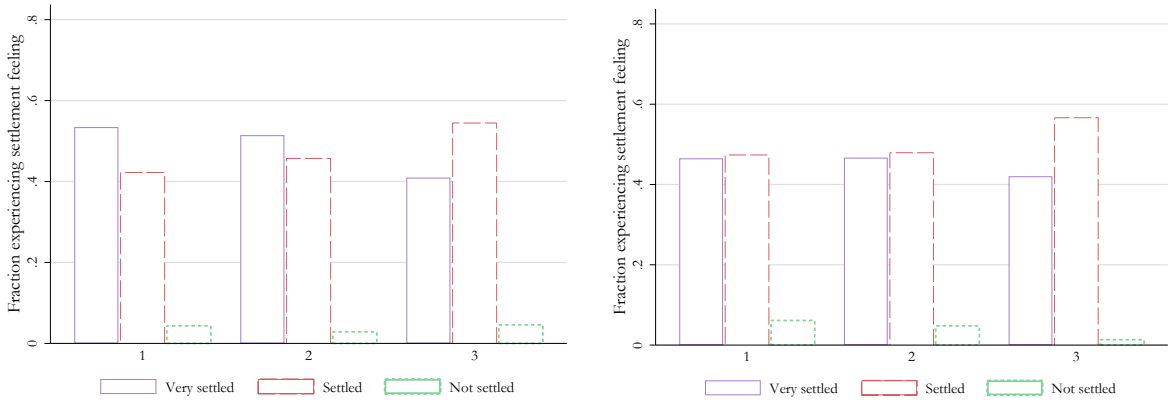
Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ who reported each level of settlement in New Zealand. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. The "not settled" category aggregates the responses "neither settled nor unsettled" and "unsettled". The very few "don't know" responses were dropped.

Figure 31 disaggregates these results by gender. It shows male Pacific migrants were initially somewhat more settled than female Pacific migrants, but by wave 3 the genders were similarly settled.

Figure 31: Pacific migrants' feelings of settlement by gender and survey wave

Panel A: Males

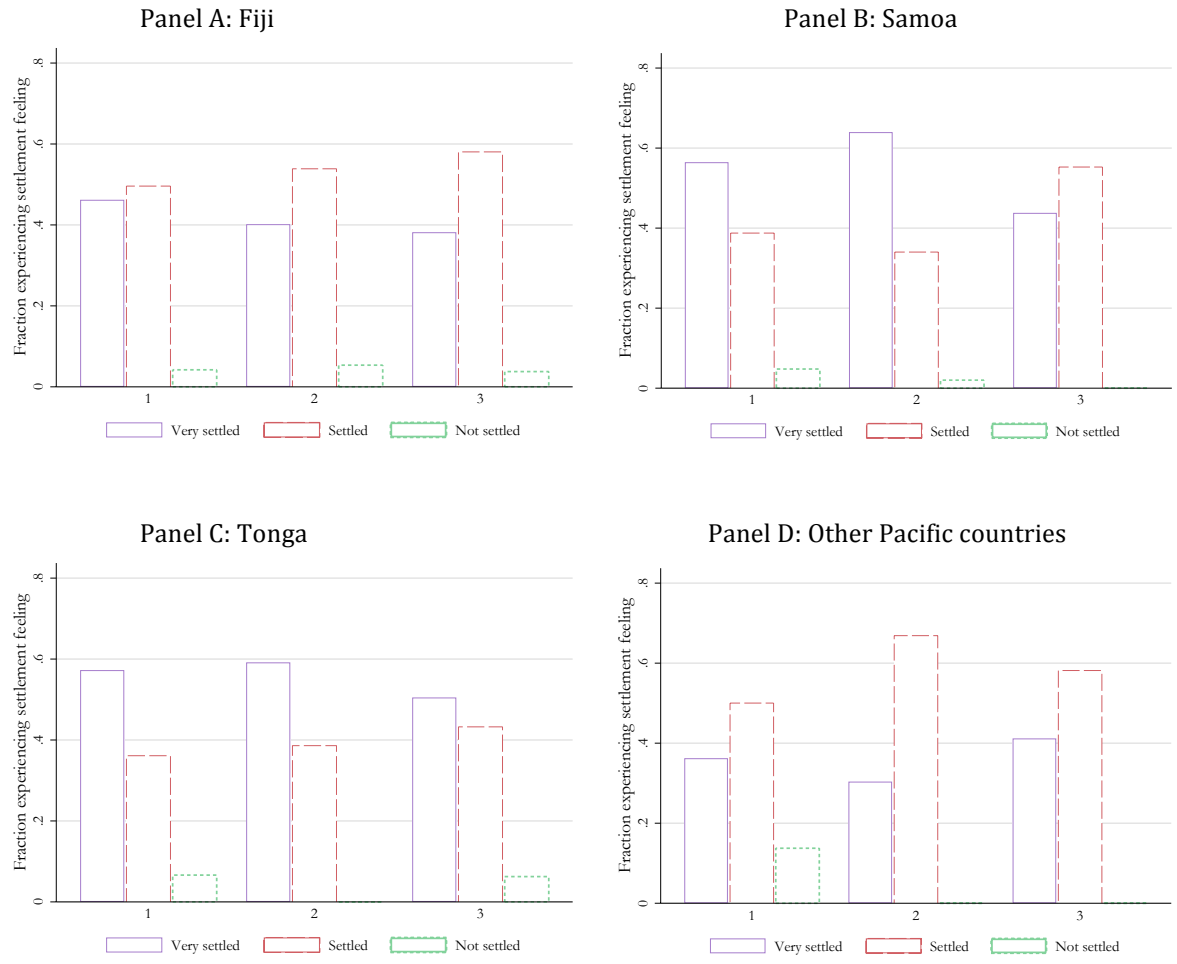
Panel B: Females



Notes: This figure shows the fraction of male (left hand panel) and female (right hand panel) Pacific migrants in each wave of LISNZ who reported each level of settlement in New Zealand. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. The "not settled" category aggregates the responses "neither settled nor unsettled" and "unsettled". The very few "don't know" responses were dropped.

Figure 32 shows Pacific migrants' feelings of settlement in New Zealand by country of origin. Migrants from Samoa reported feeling highly settled in the first two waves, with around 55% reporting they were "very settled" in the first wave, and 65% reporting "very settled" in the second wave. However, in the third wave only about 45% of Samoan migrants reported feeling "very settled". This decline in Samoan migrants' feeling of settlement at about the onset of the Global Financial Crisis could have been caused by the decline in economic conditions, to which they were particularly vulnerable due to their low average skill level and English proficiency. However, Figure 7 does not suggest migrants from Samoa experienced a particularly large decrease in unemployment in 2009. Tongan migrants experienced a greater decrease in employment at this time, but show a smaller decline in feelings of settlement in New Zealand. Despite their economic success and English proficiency, migrants from Fiji reported feeling relatively less settled.

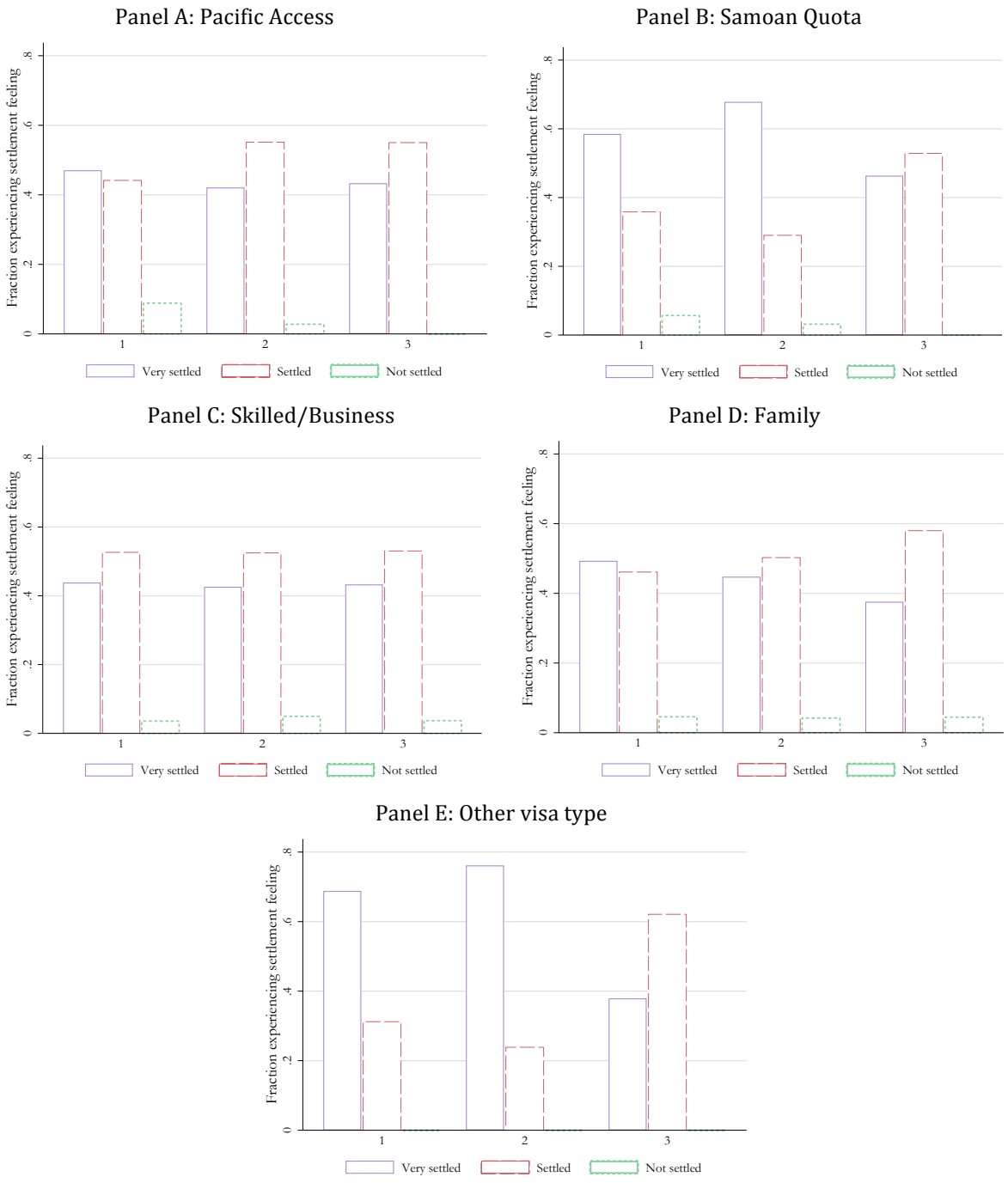
Figure 32: Pacific migrants' feelings of settlement by country of origin and survey wave



Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ from each country of origin who reported each level of settlement in New Zealand. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. The "not settled" category aggregates the responses "neither settled nor unsettled" and "unsettled". The very few "don't know" responses were dropped. Categories with too few responses to satisfy confidentiality requirements are shown as zeros.

Figure 33 shows migrants' feelings of settlement in New Zealand by visa type. A high proportion of Samoan Quota migrants felt very settled in New Zealand in the first two survey waves. Pacific Access, Skilled/Business, and Family migrants felt somewhat less settled, though each wave (except wave 3 for Family migrants) over 40% reported feeling "very settled".

Figure 33: Pacific migrants' feelings of settlement by visa type and survey wave



Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ with each visa type who reported each level of settlement in New Zealand. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. The "not settled" category aggregates the responses "neither settled nor unsettled" and "unsettled". The very few "don't know" responses were dropped. Categories with too few responses to satisfy confidentiality requirements are shown as zeros.

4.7 Self-reported health

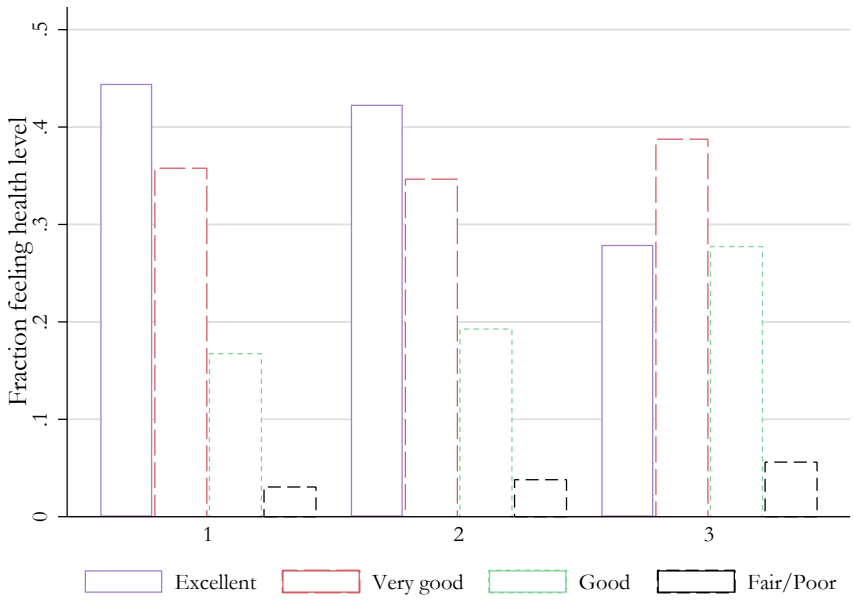
In this section we explore the self-reported feelings of health of Pacific migrants based on their LISNZ responses. The sample used is our second sample, LISNZ migrants surveyed in waves 1 to 3 who have non-missing data.

Figure 34 shows that in each wave of LISNZ few Pacific migrants reported feeling in poor health, though over time fewer migrants reported being in excellent health and more merely in good health. The selection of who migrated to New Zealand and when is likely to have been an important driving factor of this trend over time. Migrants who were recently approved for residence and moved to New Zealand were likely to be in excellent health in wave 1 because health is one of the eligibility criteria for residence approval. Also, moving internationally is physically and mentally demanding, and it is likely that those who were less healthy would choose to stay in their home country. Furthermore, for those whose visas required them to have job offers, individuals not healthy enough to work would struggle to meet the requirements. After these healthy migrants arrived in New Zealand, some may have become less healthy due to the normal life experiences of aging, accidents, or illnesses.

Alternatively, it could be that the living conditions or lifestyles of Pacific migrants in New Zealand were less healthy than their lifestyles back home. Under this explanation, it would be the New Zealand living experience that made Pacific migrants feel less healthy over LISNZ waves. Finally, the poor economic conditions of the Global Financial Crisis at the time of the third LISNZ wave may have forced some migrants to make lifestyle choices that worsened their health, such as working long hours in multiple jobs or eating less healthy foods. These data do not allow us to distinguish which of these possible explanations plays a greater role.

One consideration with these data is that they are self-reported health rather than any objective health measure. It is possible that migrants reported lower health over time because other aspects of their lives were less than satisfactory and made them feel less well, rather than because their health was objectively worse.

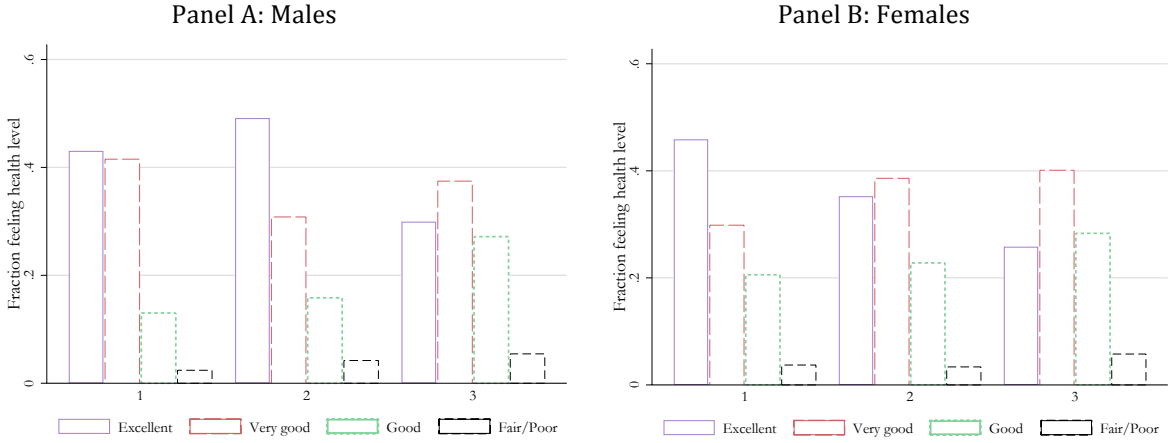
Figure 34: Self-reported health of Pacific migrants by survey wave



Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ who reported each level of health. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights.

Figure 35 shows this decrease in reported health from wave 1 to wave 3 of LISNZ was evident for both males and females.

Figure 35: Self-reported health of Pacific migrants by gender and survey wave



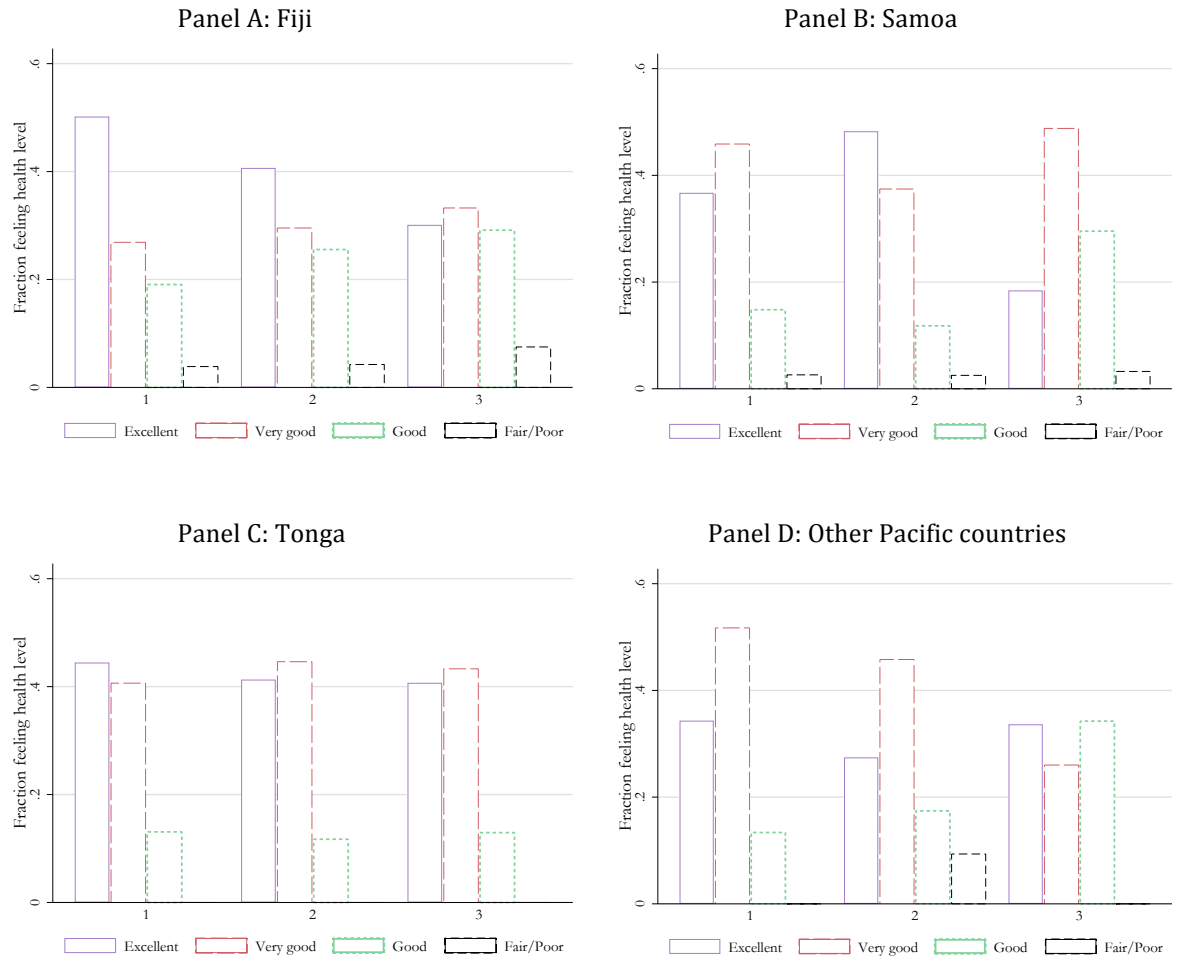
Notes: This figure shows the fraction of male (left hand panel) and female (right hand panel) Pacific migrants in each wave of LISNZ who reported each level of health. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights.

Figure 36 shows reported feelings of health for Pacific migrants by country of origin. Fijians were initially most likely to report being in excellent health, but this proportion declined from 50% in wave 1 to 30% in wave 3, while the proportion reporting lower health increased.

Migrants from Samoa also showed declines in health from wave 1 to wave 3, but migrants from Tonga did not.[25] In wave 3, fewer than 20% of migrants from Samoa reported feeling in excellent health compared with 30% of migrants from Fiji and 40% of migrants from Tonga. This relatively low proportion of Fijians in excellent health is somewhat surprising given the strong economic outcomes of Fijian migrants. The high proportion of Fijian migrants aged 50 and over at residence approval (14% as opposed to 4% for Samoan migrants and 3% for Fijian migrants, shown in Appendix Table 3) could explain this.

Samoan migrants' low reported feelings of health in wave 3 were matched by low satisfaction with New Zealand, shown above. However, we are not able to conclude from this analysis whether one caused the other.

Figure 36: Self-reported health of Pacific migrants by country of origin and survey wave

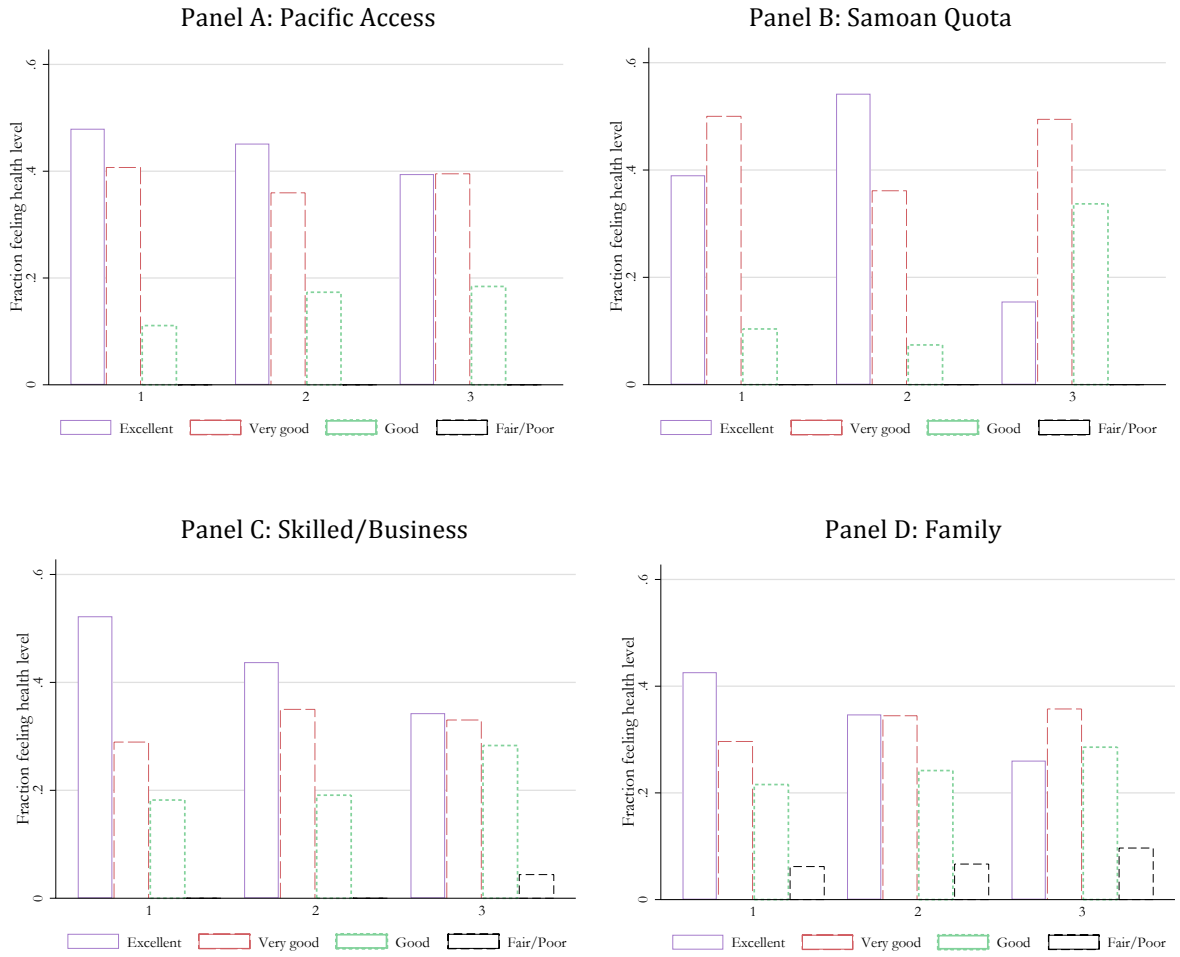


Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ from each country of origin who reported each level of health. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. Categories with too few responses to satisfy confidentiality requirements are shown as zeros.

[25] The number of Pacific migrants from other countries was small, making it hard to draw conclusions about these individuals.

Figure 37 shows Pacific migrants with all visa types had some decline in reported health status between survey waves 1 and 3, though the extent of the decrease varied. In wave 3, Pacific Access migrants reported feeling healthier than Pacific migrants with alternative visa types, and Samoan Quota migrants reported relatively low health.

Figure 37: Self-reported health of Pacific migrants by visa type and survey wave



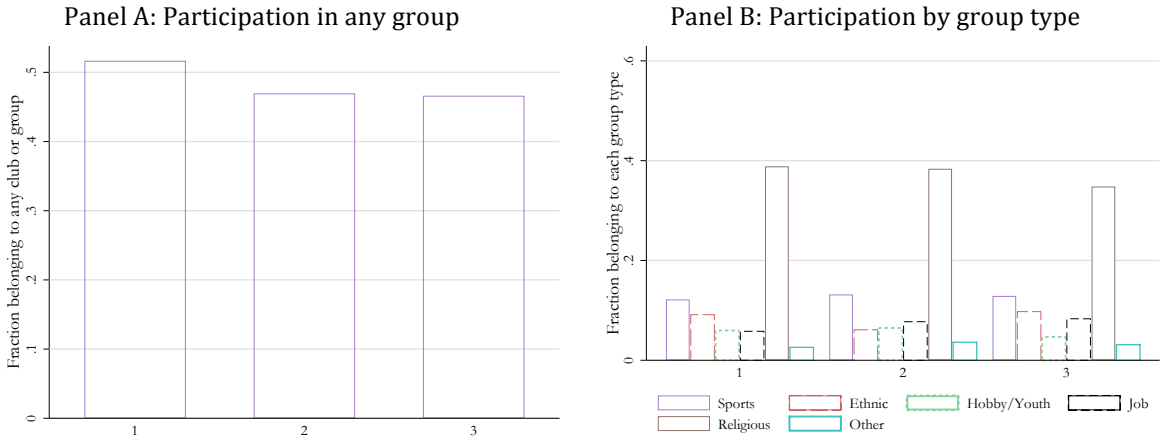
Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ with each visa type who reported each level of health. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. Categories with too few responses to satisfy confidentiality requirements are shown as zeros. Results for Other visa types are not presented because a high proportion of categories do not satisfy confidentiality requirements.

4.8 Group participation

This section investigates the proportion of Pacific migrants who participated in various types of groups and clubs in New Zealand at the times of the three LISNZ surveys. Group participation is one method by which migrants meet people with similar interests in their new home. High participation could indicate that migrants feel well settled, or conversely that they lack sufficient interaction with locals through other means. Analysis in this section uses our second sample, LISNZ migrants surveyed in waves 1 to 3 who have non-missing data, and responses come from LISNZ.

Panel A of Figure 38 shows that close to 50% of Pacific migrants took part in at least one type of group or club in each LISNZ wave, though this percentage decreased marginally over time. As shown by Panel B of the figure, churches and religious-based groups were by far the most common type of group in which Pacific migrants participated, at 35 to 40%.

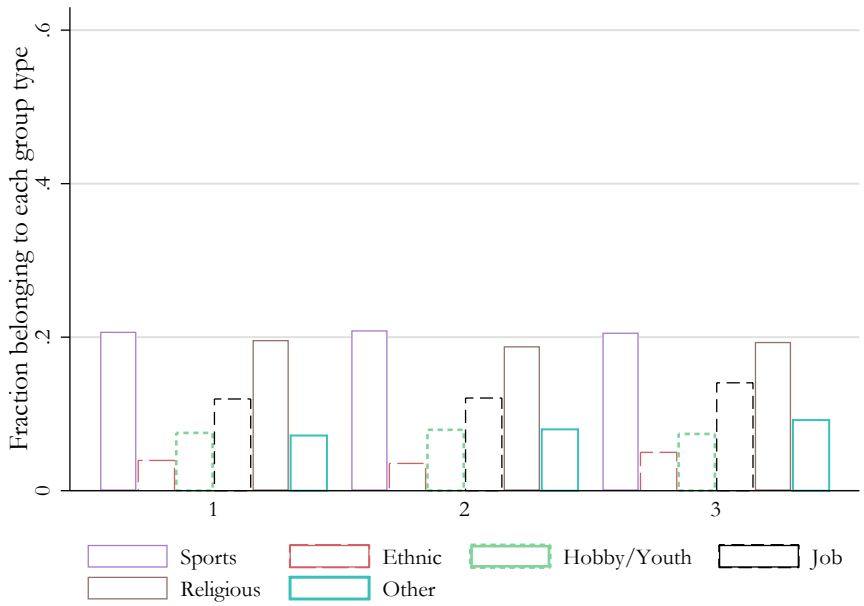
Figure 38: Pacific migrants' participation in clubs and groups by survey wave



Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ who participated in any group (left hand panel) or participated in each type of group (right hand panel). The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights.

For comparison, Figure 39 shows the proportion of non-Pacific migrants who participated in each type of group. The most notable difference is that non-Pacific migrants were much less likely to participate in religious groups: fewer than 20% reported doing so each survey wave, compared with over 35% of Pacific migrants. The most popular type of club among non-Pacific migrants was the sports club, in which over 20% participated each wave, compared with fewer than 15% of Pacific migrants. Job-related groups were also more popular among non-Pacific than among Pacific migrants.

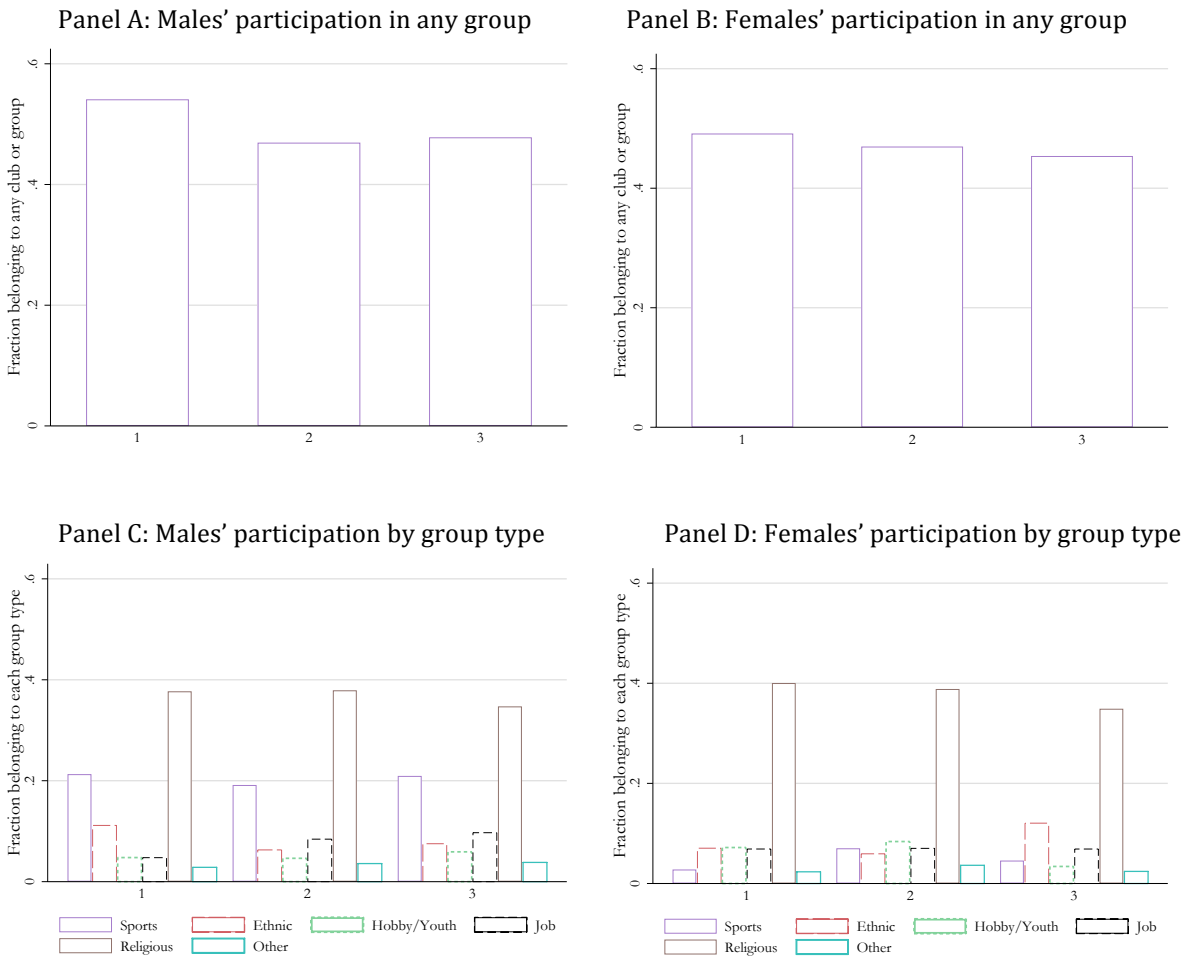
Figure 39: Non-Pacific migrants' participation in clubs and groups by survey wave



Notes: This figure shows the fraction of non-Pacific migrants in each wave of LISNZ who participated in each type of group. The sample is non-Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights.

Figure 40 shows overall participation in clubs was similar for male Pacific migrants and female Pacific migrants. A major difference was in the types of groups in which the two genders participated: men were three or more times as likely as women to be involved in sport-based clubs.

Figure 40: Pacific migrants' participation in clubs and groups by gender and survey wave

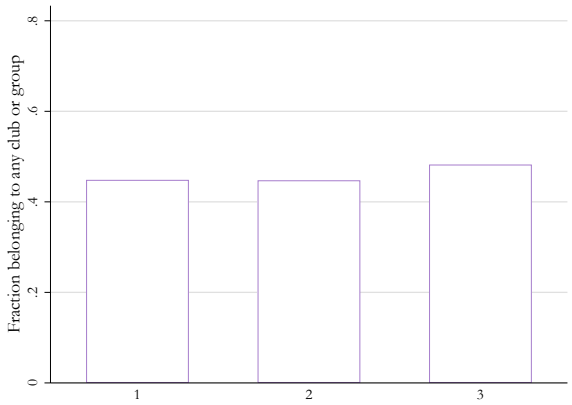


Notes: This figure shows the fraction of male (left hand panel) and female (right hand panel) Pacific migrants in each wave of LISNZ who participated in any group (top panel) or participated in each type of group (bottom panel). The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights.

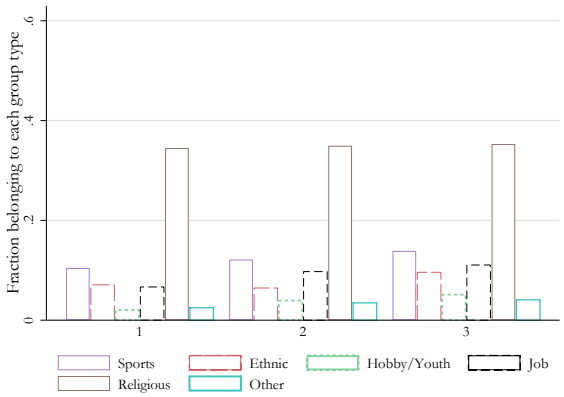
Figure 41 shows Pacific migrants' participation in groups by country of origin. Overall participation was highest among Tongans, never falling far below 60%. This high participation was again primarily driven by religious groups. Religious groups also dominated group participation among Fijians and Samoans. Group participation in general and participation in religious groups in particular fell over the three years after residence approval for Samoans (significantly) and Tongans (insignificantly), but did not fall for Fijians.

Figure 41: Pacific migrants' participation in clubs and groups by country of origin and survey wave

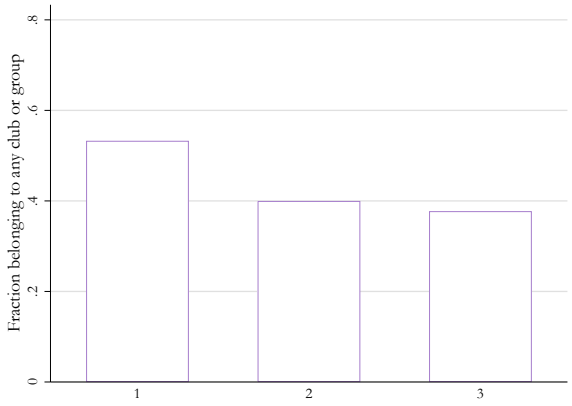
Panel A: Fiji, any group



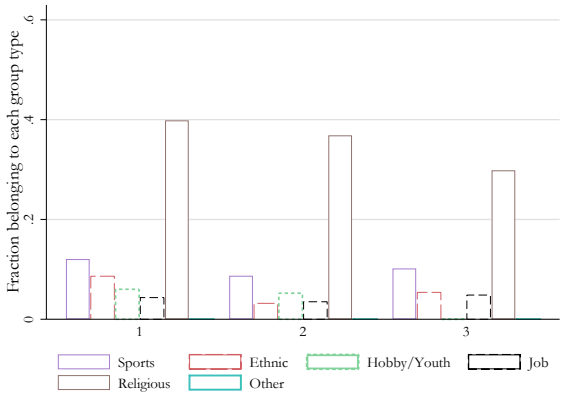
Panel B: Fiji, by group type



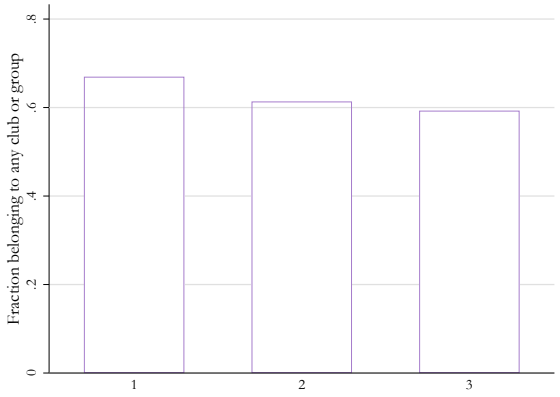
Panel C: Samoa, any group



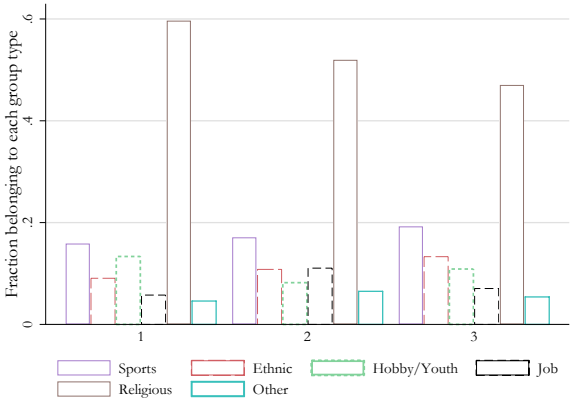
Panel D: Samoa, by group type



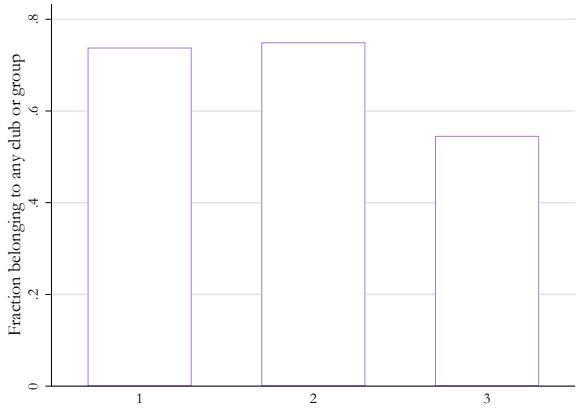
Panel E: Tonga, any group



Panel F: Tonga, by group type



Panel G: Other Pacific countries, any group

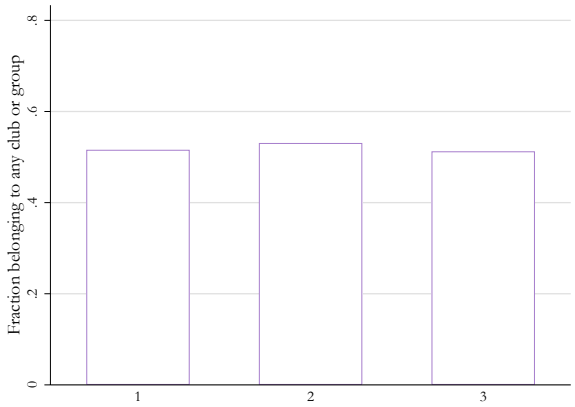


Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ who participated in any group (left hand panel) or participated in each type of group (right hand panel) for each country of origin. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. Categories with too few responses to satisfy confidentiality requirements are shown as zeros. Results on participation by group type for Other Pacific countries are not presented because a high proportion of categories do not satisfy confidentiality requirements.

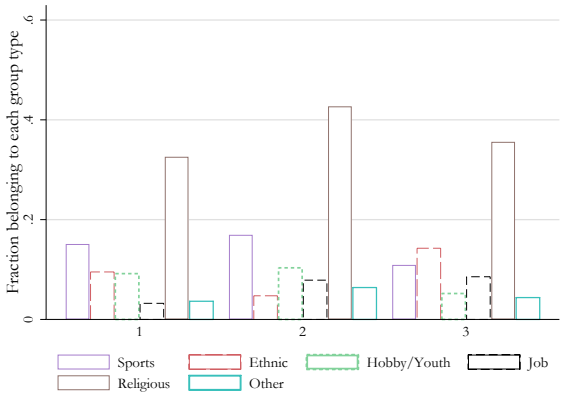
Figure 42 shows Pacific migrants' participation in groups by visa type. Religious group participation was high across all visa types. Participation in other types of groups was highest for Skilled/Business migrants, and reasonably high for Pacific Access migrants. In particular, Pacific Skilled/Business migrants were more likely than other Pacific migrants to take part in job-related groups.

Figure 42: Pacific migrants' participation in clubs and groups by visa type and survey wave

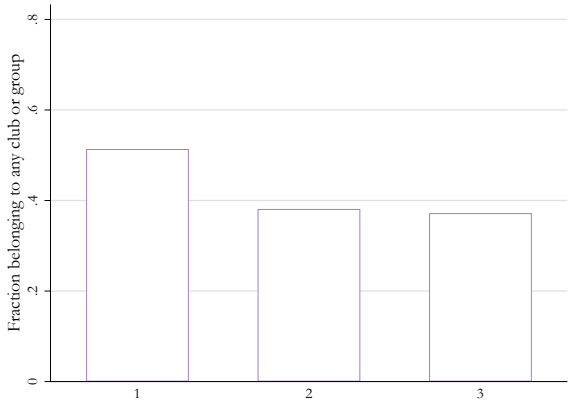
Panel A: Pacific Access, any group



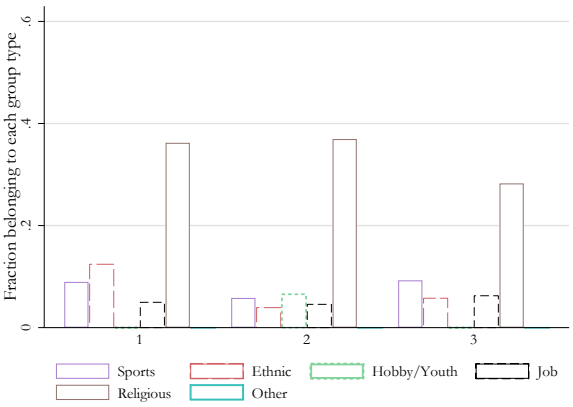
Panel B: Pacific Access, by group type



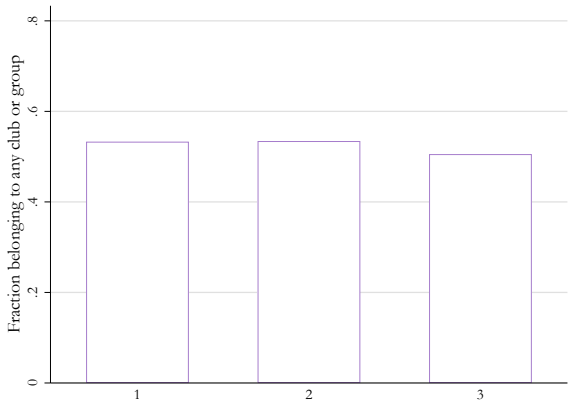
Panel C: Samoan Quota, any group



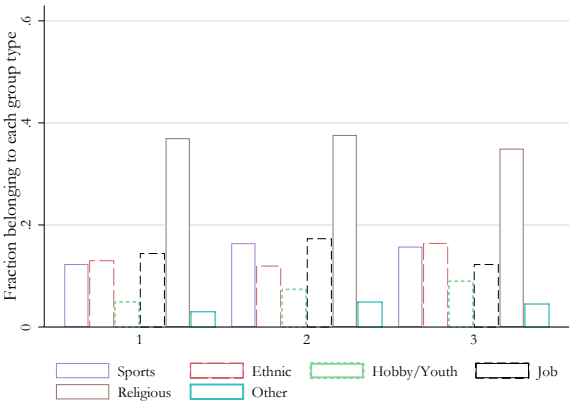
Panel D: Samoan Quota, by group type



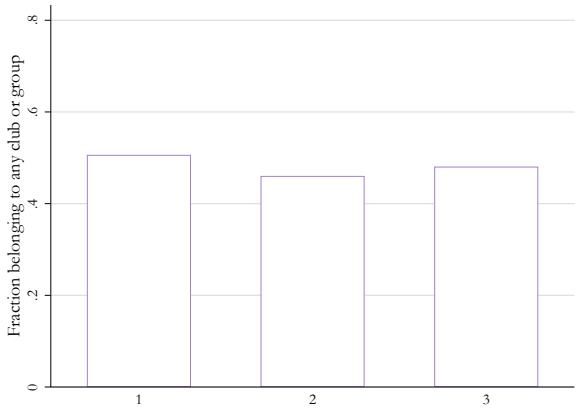
Panel E: Skilled/Business, any group



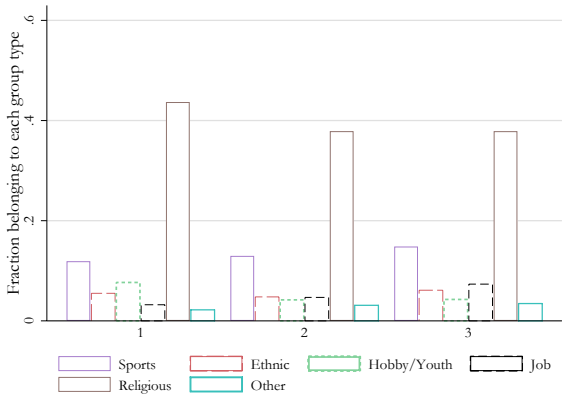
Panel F: Skilled/Business, by group type



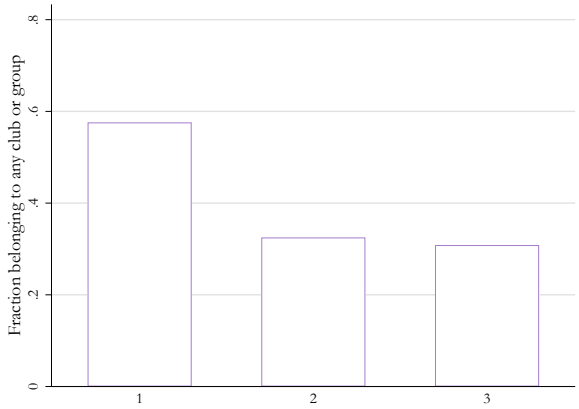
Panel G: Family, any group



Panel H: Family, by group type



Panel I: Other visa types, any group



Notes: This figure shows the fraction of Pacific migrants in each wave of LISNZ who participated in any group (left hand panel) or participated in each type of group (right hand panel) for each visa type. The sample is Pacific migrants who were surveyed in all three LISNZ waves. Outcomes are weighted by wave 3 survey weights. Categories with too few responses to satisfy confidentiality requirements are shown as zeros. Results on participation by group type for Other visa types are not presented because a high proportion of categories do not satisfy confidentiality requirements.

4.9 Regression analysis: Employment and benefit use 10 years after residence approval

The previous sections examine how outcomes for Pacific migrants surveyed in LISNZ differed depending on their country of origin or visa type. However, they do not simultaneously account for any other factors. For example, we saw that Fijians had strong labour market outcomes, but Fijians were also likely to be Skilled/Business migrants; we do not know whether Fijians' outcomes were strong relative to others with the same visa type.

This section investigates this question for several different long-term outcomes. It looks at economic outcomes for the 2016 calendar year, 10 or more years after residence approval. We consider the probability of being in New Zealand ("retain"), and for those in New Zealand the probability of being employed, the level of wage earnings, wage earnings (log) for those with positive wages, the probability of receiving a benefit, the level of benefit income, and benefit income (log) for those who received positive benefits. In each regression, we include an indicator variable for being a principal migrant, indicator variables relating to each country of

origin, indicator variables for visa category, and controls for age category. This analysis uses our first sample, LISNZ migrants surveyed in wave 1 who have non-missing data. The economic outcomes come from Inland Revenue data.

Table 3 presents our regression results for Pacific males; the low number of observations means these regressions have limited statistical power and few coefficients are statistically significant. We find that principal applicants were less likely than secondary applicants from the same country with the same visa type to still be in New Zealand after 10 years. If they were, their labour market outcomes tended to be stronger: their wages were higher and benefit receipt was lower, and these differences were borderline statistically significant. There were essentially no statistically significant differences among male Pacific migrants from different countries, though the point estimates suggest that Fijian migrants tended to have stronger labour market outcomes than migrants from other Pacific countries on the same visa types, namely higher wages and lower benefit receipt. Similarly, there were essentially no significant differences among male migrants in different visa categories.

Table 4 presents our regression results for Pacific females. We find no statistically significant difference between principal and secondary migrants in terms of likelihood of staying in New Zealand, though again principal migrants were likely to earn more conditional on employment. Unlike for Pacific men, there is some evidence of differences among migrants from different countries with the same visa type, with Samoans being slightly less likely than Fijians to remain in the country and Tongans being the most likely to remain. Among those who remained in New Zealand, Samoan and Tongan women tended to earn less than Fijian women. As is the case for men, there is little evidence of differences across visa types, with the exception that those on Family visas tended to have lower earnings than other migrants.

Table 3: Regressions for Pacific males

Dependent variables: given in column headers	retain	employed	wage	lnwage	beneficiary	benefit	lnbenefit
Principal applicant	-0.099**	0.029	8.213*	0.245*	-0.110**	-1.407*	-0.420
	(0.050)	(0.060)	(4.206)	(0.145)	(0.055)	(0.755)	(0.461)
Country of origin: Omitted category Fiji							
Samoa	-0.106	0.017	-3.851	-0.066	0.060	0.746	0.622
	(0.072)	(0.086)	(6.477)	(0.203)	(0.060)	(0.728)	(0.724)
Tonga	-0.064	0.028	-2.419	-0.104	0.049	0.251	0.342
	(0.069)	(0.071)	(6.153)	(0.165)	(0.057)	(0.457)	(0.512)
Other Pacific	0.096**	0.010	-7.804	-0.158	0.053	0.233	0.800
	(0.045)	(0.124)	(7.209)	(0.144)	(0.057)	(0.482)	(0.628)
Visa type: Omitted category Pacific Access							
Samoan Quota	-0.048	-0.024	-7.585	-0.235	0.065	0.880	0.735
	(0.114)	(0.107)	(8.090)	(0.240)	(0.078)	(0.814)	(0.837)
Skilled/ Business	-0.009	-0.100	-1.116	0.186	-0.026	0.148	1.697**
	(0.062)	(0.074)	(5.643)	(0.145)	(0.034)	(0.327)	(0.719)
Family	0.058	-0.090	-8.685	-0.148	0.065	0.906**	1.363*
	(0.057)	(0.063)	(5.302)	(0.163)	(0.045)	(0.382)	(0.688)
Other	0.091	-0.337**	-24.441***	-0.334	-0.089**	-0.590	
	(0.109)	(0.170)	(9.182)	(0.292)	(0.045)	(0.435)	
Age: Omitted category <30							
30-49	-0.067	-0.118*	0.273	0.208	0.027	0.562	-0.779
	(0.065)	(0.070)	(6.020)	(0.204)	(0.065)	(0.520)	(0.609)
50-64	0.007	-0.262***	-13.521**	-0.045	0.179**	2.674**	0.279
	(0.074)	(0.087)	(6.566)	(0.252)	(0.085)	(1.130)	(0.539)
R-Squared	0.066	0.052	0.067	0.098	0.099	0.132	0.357
Observations	567	495	495	363	495	495	39

Notes: This table presents regression results for Pacific males of economic outcomes in 2016 on individual characteristics. All observation counts have been randomly rounded to base 3. The omitted field for country of origin is Fiji, the omitted visa type is Pacific Access, and the omitted age group is <30. Dollar values are in 2016 $000s. The sample for labour market outcomes is restricted to LISNZ wave 1 migrants who were in NZ for at least 7 days in each of at least 4 calendar months in 2016, and the dollar values are 12 times the average in each month they were in NZ at least 7 days.
Dependent variables are as follows. *retain:* In NZ for at least 7 days in 4 months in 2016. *employed*: Earned a positive wage in any 2016 month when in NZ >=7 days. *wage*: Annual wage earnings ($000s). *lnwage*: Annual wage earnings (ln $000s). *beneficiary*: Received a main working age benefit in any 2016 month when in NZ >=7 days. *benefit*: Annual main benefit earnings ($000s). *lnbenefit*: Annual benefit earnings (ln $000s).
Standard errors are robust. * p<0.10, ** p<0.05, *** p<0.01

Table 4: Regressions for Pacific females

Dependent variables: given in column headers							
	retain	employed	wage	lnwage	beneficiary	benefit	lnbenefit
Principal applicant	-0.028	0.058	7.343**	0.325*	-0.039	0.532	0.844***
	(0.036)	(0.059)	(2.986)	(0.180)	(0.048)	(0.569)	(0.200)
Country of origin: Omitted category Fiji							
Samoa	-0.121**	-0.084	-11.13**	-0.469*	-0.036	-0.804	-0.163
	(0.061)	(0.099)	(4.582)	(0.282)	(0.075)	(0.891)	(0.267)
Tonga	-0.173***	-0.153*	-13.26***	-0.470**	0.047	0.779	0.093
	(0.066)	(0.088)	(4.568)	(0.219)	(0.057)	(0.838)	(0.338)
Other Pacific	0.014	-0.052	-11.82**	-0.451**	0.033	0.633	0.268
	(0.058)	(0.118)	(4.698)	(0.182)	(0.081)	(1.299)	(0.516)
Visa type: Omitted category Pacific Access							
Samoan Quota	-0.011	-0.005	-0.581	-0.397	0.118	1.396	-0.209
	(0.087)	(0.136)	(6.402)	(0.423)	(0.110)	(1.232)	(0.478)
Skilled/Business	-0.117*	-0.012	2.596	-0.044	-0.054	-0.429	0.020
	(0.063)	(0.087)	(5.022)	(0.180)	(0.057)	(0.798)	(0.345)
Family	0.062	-0.057	-7.053*	-0.446***	0.100*	0.707	-0.242
	(0.045)	(0.078)	(4.118)	(0.160)	(0.059)	(0.753)	(0.382)
Other	0.004	0.130	7.062	0.209	0.122	1.858	-0.219
	(0.111)	(0.159)	(7.787)	(0.308)	(0.144)	(1.918)	(0.509)
Age: Omitted category <30							
30-49	0.044	-0.085	-6.316	-0.093	-0.024	0.142	0.759**
	(0.086)	(0.097)	(5.927)	(0.341)	(0.072)	(0.623)	(0.370)
50-64	0.065	-0.290**	-15.62**	0.079	0.157*	1.653*	0.756*
	(0.090)	(0.114)	(6.564)	(0.342)	(0.093)	(0.942)	(0.379)
R-Squared	0.067	0.046	0.092	0.103	0.068	0.037	0.272
Observations	534	477	477	339	477	477	63

Notes: This table presents regression results for Pacific females of economic outcomes in 2016 on individual characteristics. All observation counts have been randomly rounded to base 3. The omitted field for country of origin is Fiji, the omitted visa type is Pacific Access, and the omitted age group is <30. Dollar values are in 2016 $000s. The sample for labour market outcomes is restricted to LISNZ wave 1 migrants who were in NZ for at least 7 days in each of at least 4 calendar months in 2016, and the dollar values are 12 times the average in each month they were in NZ at least 7 days.
Dependent variables are as follows. *retain*: In NZ for at least 7 days in 4 months in 2016. *employed*: Earned a positive wage in any 2016 month when in NZ >=7 days. *wage*: Annual wage earnings ($000s). *lnwage*: Annual wage earnings (ln $000s). *beneficiary*: Received a main working age benefit in any 2016 month when in NZ >=7 days. *benefit*: Annual main benefit earnings ($000s). *lnbenefit*: Annual benefit earnings (ln $000s).
Standard errors are robust.* p<0.10, ** p<0.05, *** p<0.01

In Appendix Table 5, we present the results of the same regressions for non-Pacific migrants, though omitting the controls for Pacific country of origin and the Pacific-specific visa categories. Again, we see that, among men who remained in the country, principal applicants

tended to earn more than secondary applicants and had a higher likelihood of being employed. Among women, principal migrants were equally likely to be employed, and had higher wages conditional on employment. The larger sample size in the non-Pacific regressions gives us the statistical power to observe some differences between visa types. Those on Family visas and Other visas were more likely to stay in New Zealand than those on Skilled/Business visas, possibly because they had stronger social ties to New Zealand. Those on Skilled/Business visas were more likely to be employed, earn higher wages, and were less likely to be on a benefit than those on Family visas.

5 Conclusions and further questions

This study examines the economic and social settlement outcomes of permanent migrants from the Pacific region using information from the Longitudinal Immigration Survey New Zealand (LISNZ) and data in Statistics New Zealand's Integrated Data Infrastructure (IDI). The migrants in this study gained residence approval between 1 November 2004 and 31 October 2005 and had arrived in New Zealand by twelve months after approval. The primary focus is on differences in outcomes between migrants from different Pacific countries who gained residence via different visa types.

We find that although Pacific migrants had a similar likelihood to non-Pacific migrants of the same gender of being employed, their wage earnings conditional on employment were much lower and they were much more likely to receive a benefit. Differences in benefit receipt were especially high during the Global Financial Crisis. Pacific migrants' limited English proficiency seems likely to have been a barrier to employment in New Zealand; those who reported low skill in English six months after residence approval still had weak labour market outcomes ten years later. Pacific migrants with weak English were also much less likely to have studied in New Zealand to improve their English by LISNZ wave 1 than were similar non-Pacific migrants.

These findings leave a number of unanswered questions that could be investigated using LISNZ and the IDI. How did the economic outcomes of Pacific migrants compare with those of non-Pacific migrants with the same education, English ability, age, and other characteristics? Did migrants who reported in LISNZ that they had studied in New Zealand to improve their English report higher English proficiency in later LISNZ waves? Did they improve their labour market outcomes more with time in New Zealand than similar migrants who did not report studying to improve their English? Was it mainly the older generation of Pacific migrants who reported low English skills, or young people equally? If Pacific migrants with weak English had similarly low rates of studying English in subsequent waves, why were these rates so low? LISNZ asked migrants if they wanted to study English but for some reason did not, and if this was the case then why not. Analysing responses to this question could help uncover barriers to learning English in New Zealand.

LISNZ also asked questions about reliance on others, such as partners or children, for help with English, the extent to which limited English was a barrier to various aspects of everyday life in New Zealand, and about difficulties migrants had faced in finding paid work. These questions could shed light on how much incentive migrants had to improve their English, if and how they got by with low understanding of the language, and whether they had found their lack of English an impediment to finding work.

In this study we infer that Pacific migrants were likely to struggle with underemployment and low wages. However, the hours worked and hourly earnings of migrants could be investigated directly using data from LISNZ. A combination of LISNZ job spell data and IDI employment data could also show the extent to which Pacific migrants tended to work in many short-term, unstable jobs.

We found that Pacific migrants reported a substantial decline in health over the three waves of LISNZ. Further analysis could investigate the extent to which this was a common phenomenon across migrants, and the age groups that were most affected. LISNZ asked about the medical conditions that migrants had; these data could shed light on whether the reported declines in health were age-related, lifestyle-related, or otherwise. LISNZ questions about accessing health services in New Zealand, barriers to doing so, and satisfaction with the service when they did use health services could inform us about the role the New Zealand health system played in Pacific migrants' decline in health.

We also found declines in several other measures of the happiness or well-being of Pacific migrants, such as declines in satisfaction with housing and with New Zealand overall. LISNZ and IDI data could help to tell us the extent to which these declines can be explained by individual-level changes such as in health, employment status, or relationship status. In addition, LISNZ asked migrants about the reasons for their dissatisfaction about various aspects of their lives. These data could help identify the root of the problem.

Finally, although Pacific migrants had a high rate of staying in New Zealand in the long term, 30% of Samoan Quota migrants interviewed in LISNZ left the country by 2018. Were these caused by failures to settle and be successful in New Zealand, or did these migrants never intend to stay? By studying the LISNZ questions on how long migrants intended to stay in New Zealand, reporting of negative experiences such as discrimination, and labour market outcomes, we could better determine whether Pacific migrants who left were returning home according to their original intentions, or whether bad experiences drove them out of the country.

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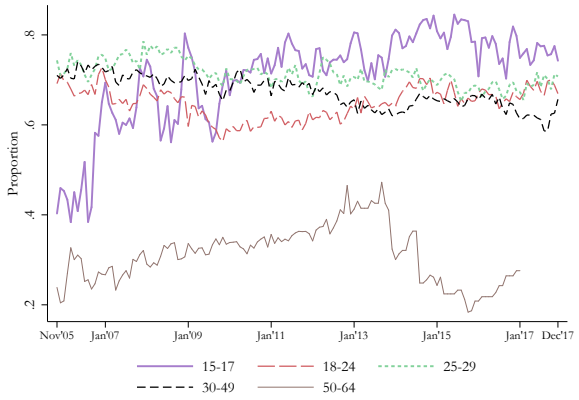
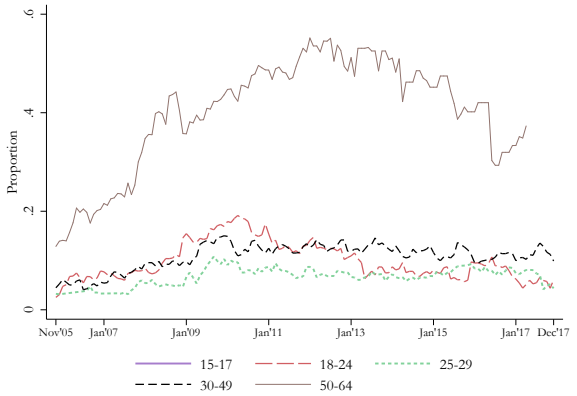
Appendix: Additional figures and tables

Appendix Figure 1: Employment and benefit receipt of Pacific migrants: additional breakdowns

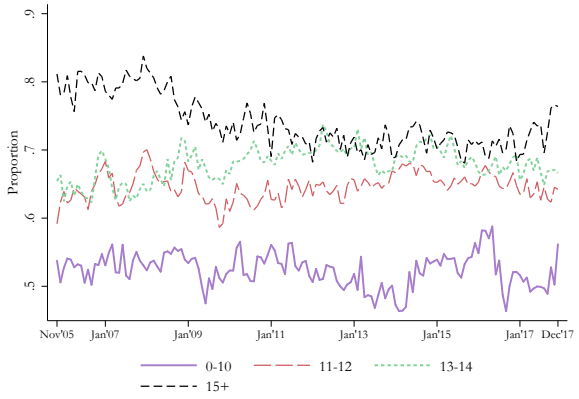
Panel A: Employment by age at RAD



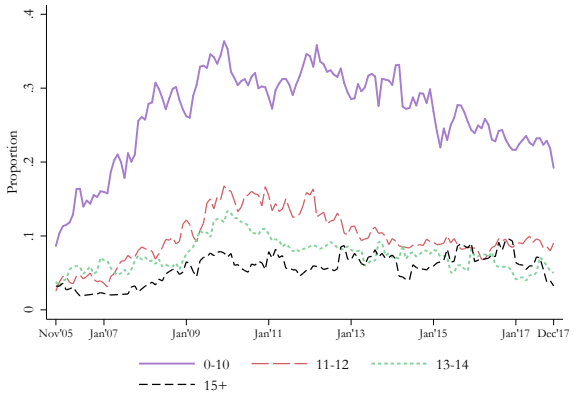
Panel B: Benefit receipt by age at RAD



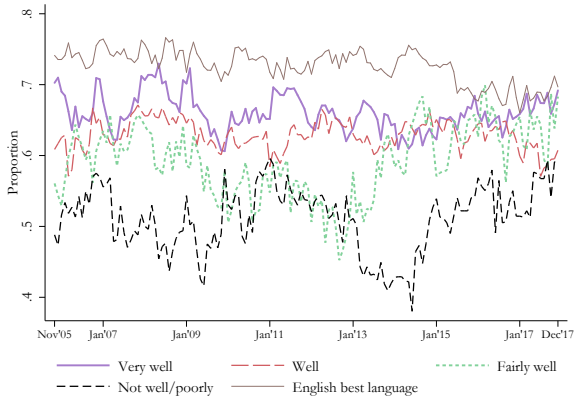
Panel C: Employment by education at RAD



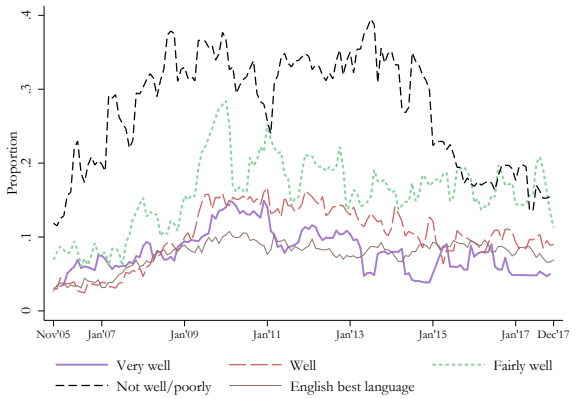
Panel D: Benefit receipt by education at RAD



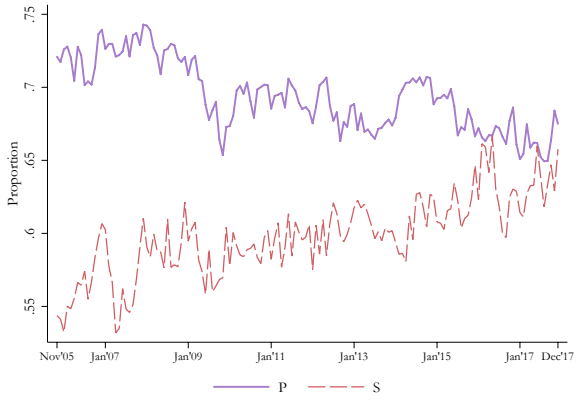
Panel E: Employment by English proficiency



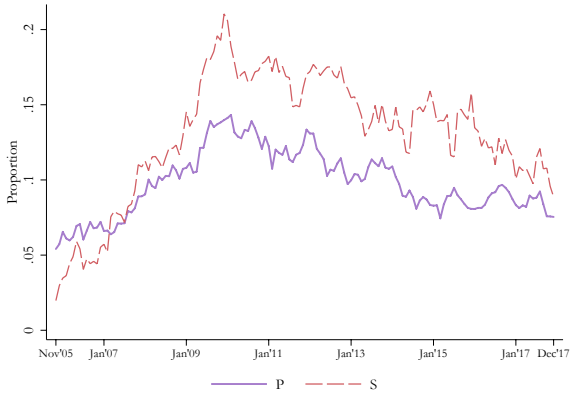
Panel F: Benefit receipt by English proficiency



Panel G: Employment by Principal migrant status

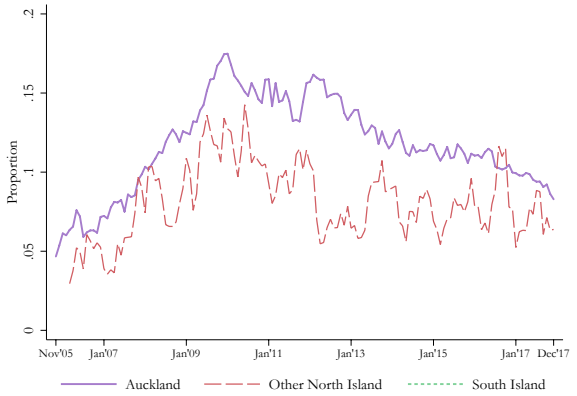


Panel H: Benefit receipt by Principal migrant status

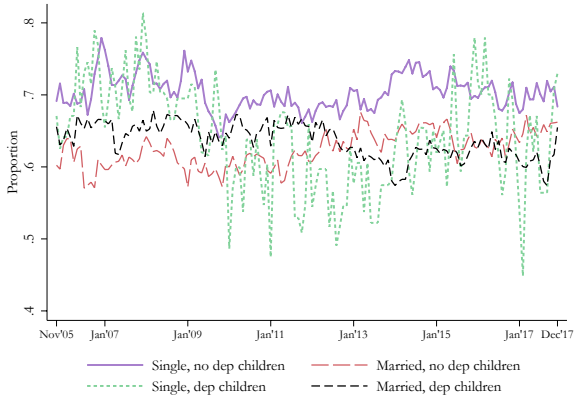


Panel I: Employment by region of residence

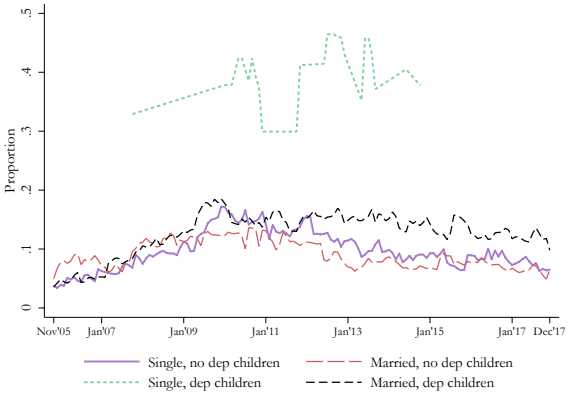
Panel J: Benefit receipt by region of residence



Panel K: Employment by family structure

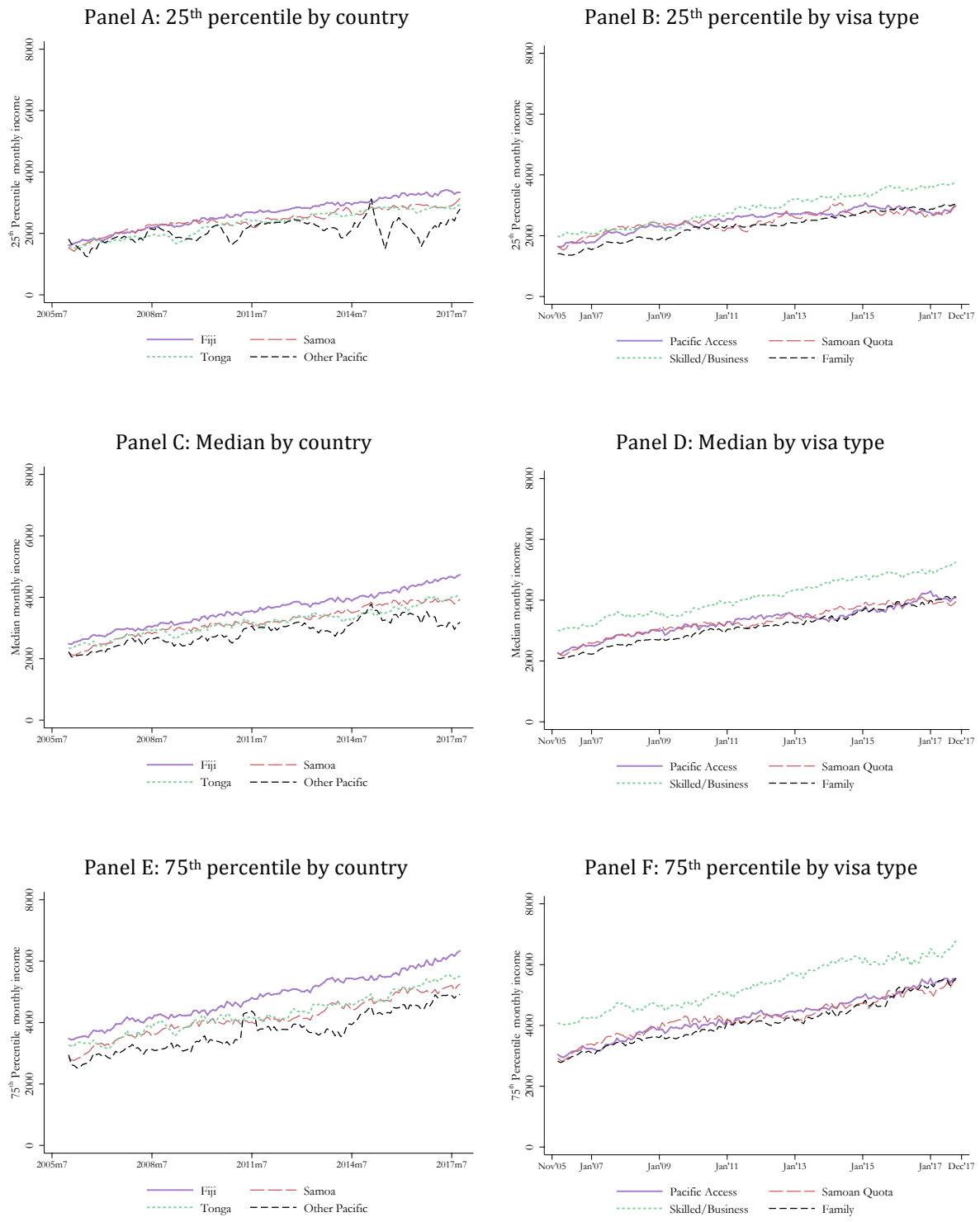


Panel L: Benefit receipt by family structure



Notes: This figure shows the proportion of Pacific migrants employed each month (left hand panels) or who received benefit income each month (right hand panels) for various subpopulations. The sample is Pacific migrants surveyed in the first wave of LISNZ who were in New Zealand and aged under 65 in the month in question. Observations are weighted by LISNZ wave 1 weights. A migrant is considered employed if he or she received any wage or salary income. Employment and benefit receipt proportions are calculated as fractions of the total population. RAD is residence approval date. Family structure is as at residence approval.

Appendix Figure 2: Distribution of Pacific migrants' wage earnings by country of origin and visa type



Notes: This figure shows the 25th percentile, median, and 75th percentile of monthly wage income among employed Pacific migrants by country of origin (left hand panels) or visa type (right hand panels). The sample is Pacific migrants surveyed in the first wave of LISNZ who were in New Zealand, aged under 65, and who received positive wage or salary income in the month in question. Observations are weighted by LISNZ wave 1 weights. Lines have been smoothed with a rolling 5-month centred moving average for ease of viewing.

Appendix Table 1: Income and population of selected Pacific countries

Country	GDP	GDP per capita	Population
Fiji	3,914,000,000	4,323	905,502
Tonga	417,200,000	3,862	108,020
Samoa	756,500,000	3,851	196,440
Tuvalu	40,500,000	3,618	11,192
Vanuatu	812,000,000	2,940	276,244
Papua New Guinea	19,820,000,000	2,402	8,251,162
Kiribati	198,900,000	1,708	116,398
Solomon Islands	930,000,000	1,521	611,343

Notes: World Bank Development Indicators data. Data are for 2017 or 2016 (whichever is the latest available). GDP measures are in 2010 US dollars.

Appendix Table 2: Summary statistics at wave 1 for Pacific migrants by gender

Variable name	Variable category	All Pacific migrants	Pacific migrants by gender: percentage with each characteristic	
			Male	Female
Age at Residence Approval Date	15-17	6.6	8.3	4.8
	18-24	22.5	18.3	26.7
	25-29	17.4	17.4	17.1
	30-49	42.3	45.9	38.1
	50-64	8.9	8.3	9.5
	65+	2.8	1.8	3.8
Years of education at Residence Approval Date	0-10	21.6	23.1	21.0
	11-12	29.6	31.5	27.6
	13-14	23.0	20.4	25.7
	15+	25.4	25.9	25.7
Principal/Secondary migrant	Principal	62.9	71.6	53.3
	Secondary	37.1	28.4	45.7
Visa type	Pacific Access	17.8	16.5	19.0
	Samoan Quota	19.7	22.9	16.2
	Skilled/Business	20.2	20.2	20.0
	Family	39.9	36.7	42.9
	Other	2.8	1.8	2.9
Country of origin	Fiji	48.8	47.7	49.5
	Samoa	31.9	35.8	28.6
	Tonga	14.1	12.8	14.3
	Other Pacific	5.2	3.7	6.7
Region settled	Auckland	76.4	75.7	77.5
	Other North Island	17.8	18.7	16.7
	South Island	5.8	5.6	5.9
English proficiency	English best language	38.0	37.6	37.1
	Very well	15.0	12.8	17.1
	Well	21.1	22.0	20.0
	Fairly well	13.6	14.7	12.4
	Not well/poorly	11.7	11.0	12.4
Studied English in NZ	Yes	5.6	7.3	4.8
	No	56.3	55.0	57.7
	English best language	38.0	37.6	37.5
How many people in NZ known	0	7.6	6.5	8.7
	1-4	24.6	27.8	21.4
	5-9	19.0	21.3	16.5
	10-19	22.7	18.5	26.2
	20+	26.5	26.9	26.2
Job arranged (offshore migrants)	Yes	18.8	22.6	12.5
	No	81.2	77.4	87.5
Felt discriminated (in wave 1)	Yes	12.7	11.9	13.3
	No	86.4	86.2	85.7

Money remitted (in wave 1)	Yes	37.6	41.3	33.3
	No	62.4	58.7	66.7
Income adequacy (in wave 1)	Not enough money	32.4	30.3	34.3
	Enough money	54.5	56.9	51.4
	More than enough	5.6	5.5	6.7
	Don't Know	7.5	7.3	7.6
Family structure	Single, no dep children	3.3	3.7	2.9
	Couple, no dep children	19.2	19.3	19.0
	Single, dep children	0.9	S	1.0
	Couple, dep children	41.8	44.0	39.0
	Other/Not defined	34.7	32.1	37.1
Family structure at Residence Approval Date	Single, no dep children	34.3	35.8	33.3
	Married, no dep children	25.4	23.9	25.7
	Single, dep children	1.9	S	2.9
	Married, dep children	39.0	39.4	38.1

Note: Percentages are calculated from counts that have been rounded for confidentiality reasons and thus may add up to more or less than 100%. S denotes values that are small or zero and have been suppressed for confidentiality reasons. The responses “don’t know” and “refused” are not shown unless they include a non-trivial number of responses.

Appendix Table 3: Summary statistics at wave 1 for Pacific migrants by country of origin

Variable name	Variable category	All Pacific migrants	Pacific migrants by country of origin: percentage with each characteristic			
			Fiji	Samoa	Tonga	Other
Gender	Male	51.2	50.0	57.4	46.7	36.4
	Female	49.3	50.0	44.1	50.0	63.6
Age at Residence Approval Date	15-17	6.6	4.8	8.8	6.7	S
	18-24	22.5	23.1	17.6	26.7	27.3
	25-29	17.4	16.3	17.6	16.7	27.3
	30-49	42.3	37.5	48.5	43.3	36.4
	50-64	8.9	13.5	4.4	3.3	S
	65+	2.8	3.8	2.9	S	S
Years of education at Residence Approval Date	0-10	21.6	23.1	22.1	16.7	27.3
	11-12	29.6	26.0	30.9	36.7	27.3
	13-14	23.0	22.1	25.0	23.3	18.2
	15+	25.4	28.8	23.5	20.0	27.3
Principal/Secondary migrant	Principal	62.9	56.7	70.6	66.7	72.7
	Secondary	37.1	43.3	30.9	33.3	36.4
Visa type	Pacific Access	17.8	17.3	S	46.7	45.5
	Samoan Quota	19.7	S	61.8	S	S
	Skilled/Business	20.2	37.5	S	6.7	18.2
	Family	39.9	44.2	33.8	43.3	27.3
	Other	2.8	S	4.4	S	9.1
Region settled	Auckland	76.4	78.4	73.1	82.8	63.6
	Other North Island	17.8	18.6	19.4	13.8	27.3
	South Island	5.8	2.9	9.0	6.9	9.1
English proficiency	English best language	38.0	57.7	16.2	20.0	27.3
	Very well	15.0	15.4	13.2	16.7	9.1
	Well	21.1	13.5	29.4	26.7	27.3
	Fairly well	13.6	6.7	22.1	20.0	18.2
	Not well/poorly	11.7	5.8	19.1	13.3	9.1
Studied English in NZ	Yes	5.6	1.9	8.8	10.0	9.1
	No	56.3	40.4	76.5	66.7	63.6
	English best language	38.0	57.7	16.2	20.0	27.3
How many people in NZ known	0	7.6	8.7	4.4	6.9	27.3
	1-4	24.6	27.2	25.0	17.2	18.2
	5-9	19.0	21.4	19.1	10.3	18.2
	10-19	22.7	21.4	25.0	24.1	18.2
	20+	26.5	22.3	26.5	44.8	18.2
Job arranged (offshore migrants)	Yes	18.8	7.3	28.6	17.6	S
	No	81.2	92.7	69.0	76.5	100.0
Felt discriminated (in wave 1)	Yes	12.7	13.5	10.3	13.3	18.2
	No	86.4	85.6	89.7	83.3	81.8
Money remitted (in wave 1)	Yes	37.6	22.1	52.9	53.3	45.5
	No	62.4	77.9	48.5	43.3	54.5

Income adequacy (in wave 1)	Not enough money	32.4	26.9	36.8	40.0	36.4
	Enough money	54.5	59.6	52.9	40.0	63.6
	More than enough	5.6	7.7	1.5	6.7	S
	Don't Know	7.5	5.8	8.8	10.0	S
Family structure	Single, no dep children	3.3	4.8	2.9	S	S
	Couple, no dep children	19.2	30.8	7.4	10.0	S
	Single, dep children	0.9	S	S	S	S
	Couple, dep children	41.8	33.7	52.9	43.3	45.5
	Other/Not defined	34.7	30.8	36.8	40.0	45.5
Family structure at Residence Approval Date	Single, no dep children	34.3	29.8	36.8	40.0	45.5
	Married, no dep children	25.4	28.8	22.1	20.0	27.3
	Single, dep children	1.9	S	S	3.3	S
	Married, dep children	39.0	40.4	41.2	33.3	27.3

Note: Percentages are calculated from counts that have been rounded for confidentiality reasons and thus may add up to more or less than 100%. S denotes values that are small or zero and have been suppressed for confidentiality reasons. The responses “don’t know” and “refused” are not shown unless they include a non-trivial number of responses.

Appendix Table 4: Summary statistics at wave 1 for Pacific migrants by visa category

Variable name	Variable category	All Pacific migrants	Pacific migrants by visa type: percentage with each characteristic				
			Pacific Access	Samoan Quota	Skilled/ Business	Family	Other
Gender	Male	51.2	47.4	59.5	51.2	47.1	33.3
	Female	49.3	52.6	40.5	48.8	52.9	50.0
Age at Residence Approval Date	15-17	6.6	7.9	4.8	4.7	8.2	S
	18-24	22.5	23.7	16.7	23.3	27.1	S
	25-29	17.4	18.4	19.0	20.9	12.9	S
	30-49	42.3	50.0	59.5	46.5	25.9	66.7
	50-64	8.9	S	S	4.7	20.0	S
	65+	2.8	S	S	S	7.1	S
Years of education at Residence Approval Date	0-10	21.6	13.2	16.7	9.3	34.1	33.3
	11-12	29.6	36.8	31.0	25.6	27.1	33.3
	13-14	23.0	23.7	26.2	23.3	21.2	33.3
	15+	25.4	26.3	26.2	41.9	17.6	S
Principal/Secondary migrant	Principal	62.9	55.3	59.5	51.2	72.9	66.7
	Secondary	37.1	44.7	40.5	46.5	27.1	33.3
Country of origin	Fiji	48.8	47.4	S	90.7	54.1	S
	Samoa	31.9	S	100.0	S	27.1	50.0
	Tonga	14.1	36.8	S	4.7	15.3	S
	Other Pacific	5.2	13.2	S	4.7	3.5	16.7
Region settled	Auckland	76.4	81.1	73.2	71.4	78.3	100.0
	Other North Island	17.8	13.5	17.1	23.8	18.1	S
	South Island	5.8	5.4	9.8	4.8	3.6	S
English proficiency	English best language	38.0	36.8	11.9	65.1	37.6	33.3
	Very well	15.0	15.8	14.3	16.3	14.1	S
	Well	21.1	23.7	33.3	16.3	17.6	S
	Fairly well	13.6	13.2	26.2	2.3	12.9	16.7
	Not well/poorly	11.7	7.9	14.3	S	16.5	33.3
Studied English in NZ	Yes	5.6	5.3	7.1	2.3	7.1	S
	No	56.3	57.9	81.0	30.2	55.3	50.0
	English best language	38.0	36.8	11.9	65.1	37.6	33.3
How many people in NZ known	0	7.6	8.1	4.8	7.0	9.5	S
	1-4	24.6	27.0	23.8	27.9	21.4	16.7
	5-9	19.0	16.2	19.0	23.3	19.0	S
	10-19	22.7	21.6	23.8	23.3	21.4	33.3
	20+	26.5	29.7	26.2	18.6	28.6	16.7
Job arranged (offshore migrants)	Yes	18.8	17.6	41.4	25.0	4.3	S
	No	81.2	76.5	58.6	75.0	95.7	S
Felt discriminated (in wave 1)	Yes	12.7	10.5	11.9	18.6	11.8	16.7
	No	86.4	89.5	88.1	81.4	88.2	66.7

Money remitted (in wave 1)	Yes	37.6	39.5	57.1	32.6	28.2	50.0
	No	62.4	57.9	42.9	67.4	71.8	50.0
Income adequacy (in wave 1)	Not enough money	32.4	31.6	38.1	16.3	37.6	33.3
	Enough money	54.5	57.9	54.8	69.8	47.1	50.0
	More than enough	5.6	5.3	2.4	9.3	5.9	S
	Don't Know	7.5	7.9	4.8	4.7	10.6	S
Family structure	Single, no dep children	3.3	S	2.4	7.0	3.5	S
	Couple, no dep children	19.2	7.9	4.8	23.3	30.6	S
	Single, dep children	0.9	S	S	S	1.2	S
	Couple, dep children	41.8	50.0	61.9	39.5	27.1	66.7
	Other/Not defined	34.7	39.5	28.6	30.2	37.6	33.3
Family structure at Residence Approval Date	Single, no dep children	34.3	36.8	28.6	37.2	35.3	33.3
	Married, no dep children	25.4	10.5	14.3	14.0	42.4	16.7
	Single, dep children	1.9	2.6	S	S	S	S
	Married, dep children	39.0	47.4	54.8	46.5	22.4	33.3

Note: Percentages are calculated from counts that have been rounded for confidentiality reasons and thus may add up to more or less than 100%. S denotes values that are small or zero and have been suppressed for confidentiality reasons. The responses “don’t know” and “refused” are not shown unless they include a non-trivial number of responses.

Appendix Table 5: Regressions for non-Pacific males

Dependent variables: given in column headers							
	retain	employed	wage	lnwage	beneficiary	benefit	lnbenefit
Principal applicant	-0.014	0.089**	22.226***	0.363***	-0.019	-0.207	-0.391
	(0.031)	(0.037)	(3.359)	(0.073)	(0.013)	(0.127)	(0.331)
Visa type: Omitted category Skilled/Business							
Family	0.151***	-0.044	-17.429***	-0.406***	0.042***	0.397***	-0.008
	(0.026)	(0.031)	(3.322)	(0.067)	(0.015)	(0.148)	(0.392)
Other	0.238***	-0.075	-27.971***	-0.722***	0.209**	1.565**	-0.397
	(0.056)	(0.096)	(6.203)	(0.230)	(0.090)	(0.792)	(0.637)
Age: Omitted category < 30							
30-49	0.036	-0.000	6.324	0.046	-0.049	-0.581	-0.729
	(0.069)	(0.083)	(5.752)	(0.097)	(0.051)	(0.727)	(0.667)
50-64	0.116	-0.091	-4.041	-0.103	-0.014	-0.171	0.422
	(0.071)	(0.086)	(5.958)	(0.106)	(0.053)	(0.741)	(0.635)
R-Squared	0.023	0.015	0.057	0.081	0.036	0.036	0.179
Observations	2,637	1,905	1,905	1,317	1,905	1,905	66

Notes: This table presents regression results for non-Pacific male migrants of economic outcomes in 2016 on individual characteristics. All observation counts have been randomly rounded to base 3. The omitted visa type is Skilled/Business, and the omitted age category is <30. Dollar values are in 2016 $000s. The sample for labour market outcomes is restricted to LISNZ wave 1 migrants who were in NZ for at least 7 days in each of at least 4 calendar months in 2016, and the dollar values are 12 times the average in each month they were in NZ at least 7 days.
The dependent variables are as follows. *retain:* In NZ for at least 7 days in 4 months in 2016. *employed*: Earned a positive wage in any 2016 month when in NZ >=7 days. *wage*: Annual wage earnings ($000s). *lnwage*: Annual wage earnings (ln $000s). *beneficiary*: Received a main working age benefit in any 2016 month when in NZ >=7 days. *benefit*: Annual main benefit earnings ($000s). *lnbenefit*: Annual benefit earnings (ln $000s).
Standard errors are robust. * p<0.10, ** p<0.05, *** p<0.01

Appendix Table 6: Regressions for non-Pacific females

Dependent variables: given in column headers							
	retain	employed	wage	lnwage	beneficiary	benefit	lnbenefit
Principal applicant	-0.012	0.005	12.193***	0.321***	-0.005	0.015	0.555
	(0.028)	(0.032)	(2.499)	(0.082)	(0.015)	(0.201)	(0.426)
Visa type: Omitted category Skilled/Business							
Family	0.078***	-0.076**	-16.816***	-0.431***	0.041**	0.474**	0.486
	(0.027)	(0.032)	(2.428)	(0.088)	(0.016)	(0.210)	(0.340)
Other	0.079	-0.226*	-10.652	0.206	0.108	1.734	1.180***
	(0.098)	(0.130)	(8.582)	(0.170)	(0.069)	(1.083)	(0.339)
Age: Omitted category < 30							
30-49	0.014	-0.025	0.848	-0.020	0.020	0.160	-0.177
	(0.067)	(0.084)	(4.513)	(0.162)	(0.019)	(0.256)	(0.584)
50-64	0.066	-0.122	-4.663	-0.003	0.055***	0.427*	-0.450
	(0.068)	(0.086)	(4.641)	(0.165)	(0.020)	(0.255)	(0.662)
R-Squared	0.008	0.015	0.046	0.033	0.014	0.014	0.126
Observations	2,691	2,040	2,040	1,308	2,040	2,040	105

Notes: This table presents regression results for non-Pacific female migrants of economic outcomes in 2016 on individual characteristics. All observation counts have been randomly rounded to base 3. The omitted visa type is Skilled/Business, and the omitted age category is <30. Dollar values are in 2016 $000s. The sample for labour market outcomes is restricted to LISNZ wave 1 migrants who were in NZ for at least 7 days in each of at least 4 calendar months in 2016, and the dollar values are 12 times the average in each month they were in NZ at least 7 days.
The dependent variables are as follows. *retain:* In NZ for at least 7 days in 4 months in 2016. *employed*: Earned a positive wage in any 2016 month when in NZ >=7 days. *wage*: Annual wage earnings ($000s). *lnwage*: Annual wage earnings (ln $000s). *beneficiary*: Received a main working age benefit in any 2016 month when in NZ >=7 days. *benefit*: Annual main benefit earnings ($000s). *lnbenefit*: Annual benefit earnings (ln $000s).
Standard errors are robust. * p<0.10, ** p<0.05, *** p<0.01

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