Temporary Migration, Employment and Income Inequality

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Introduction

Over the last two decades, and prior to the onset of the Covid-19 global pandemic, migration policy in Aotearoa New Zealand had shifted from a primarily long-term settlement oriented programme towards an increasing focus on managing large numbers of migrants on different kinds of temporary visas (Bedford et al., 2017; Collins, 2020; McLeod and Maré, 2013). This shift reflects broader international trends, and has significant similarities to Australia (Robertson, 2014) and Canada (Lenard and Straehle, 2012), wherein governments are increasingly focusing on managing migration as part of labour market strategies, and filtering access to long-term residence according to complex assessments of skill and economic capital. The effects of these shifts become apparent in a growing temporary migrant population in all three countries often characterised by precarious social and legal circumstances and changing labour market composition and experiences, including evidence of inequality and exploitation.

This report documents analysis of the incomes of employees on temporary work visas in three key industries in Aotearoa New Zealand: dairy farming, healthcare (nursing and care) and construction. The analysis undertaken here forms part of the *New Times of Migration* study, which has examined the way in which shifts towards temporary migration schemes have altered the social and political status, lived experience and economic contribution of migration. The *New Times for Migration* study seeks to test the claim that migration policy settings qualitatively shape the lives and aspirations of migrants holding temporary visas and then influence their place within society. Other research within the project has been based on qualitative interviews of people holding work visas and key stakeholders in the dairy farming sector in the Waikato region, the trades and construction sector in Christchurch and amongst nurses and care workers in Auckland. Findings to date have documented transnational migration patterns and intermediation (Collins, 2021), employer preferences and nationalism (Collins and Bayliss, 2020), migration aspirations and employer dependence (Collins, 2019), and intersectional inequality in migration and employment (Collins, 2020).

The effect of changing approaches to migration policy is very apparent in headline numbers associated with migration in Aotearoa New Zealand. In the twelve months to June 1998, there were 41,044 work visas issued, a figure that grew to 230,034 annually by June 2018; international students, many of whom are also able to work, have also increased such that over 100,000 student visas are approved annually. While a small proportion of work and student visa holders are eventually granted residence-class visas, and others depart Aotearoa New Zealand after completing periods of study, work or working holidays, the effect of this policy shift is evident in the establishment of a large temporary migrant population. In February 2020 (just prior to the closure of the border as part of the Covid-19 crisis), 303,453 people were living in Aotearoa New

Zealand on temporary work, student or family visas, approximately 6.1 per cent of the resident population; in February 2010, only 155,931 people were on temporary visas (3.6 per cent of the resident population).

There are now several industries in Aotearoa New Zealand where a significant proportion of the workforce are on temporary work or study visas. While growth in temporary migrant workers has been apparent across all industries over the last decade, it is especially notable in Accommodation and Food Services, Administrative and Support Services, Agriculture, Forestry and Fisheries and Construction (see Figure A). To date research suggests that the impact of temporary visa holders on New Zealanders' wages is minimal (Maré and McLeod, 2018). There is qualitative evidence, however, that temporary migrants experience poor work conditions and wages, particularly in occupations with racialised and gendered workforces (Collins, 2020). Moreover, media reports and research have documented evidence of workplace exploitation of temporary work visa holders in the form of non-payment of wages, job premiums, passport confiscation, debt bondage, non-compliance in relation to leave and holiday pay, health and safety, and other concerns (see Collins and Stringer, 2019; Stringer, 2016).

Figure A: Percentage of jobs held by temporary migrants (students, employer-assisted and open) by sector, May 2010 and May 2016
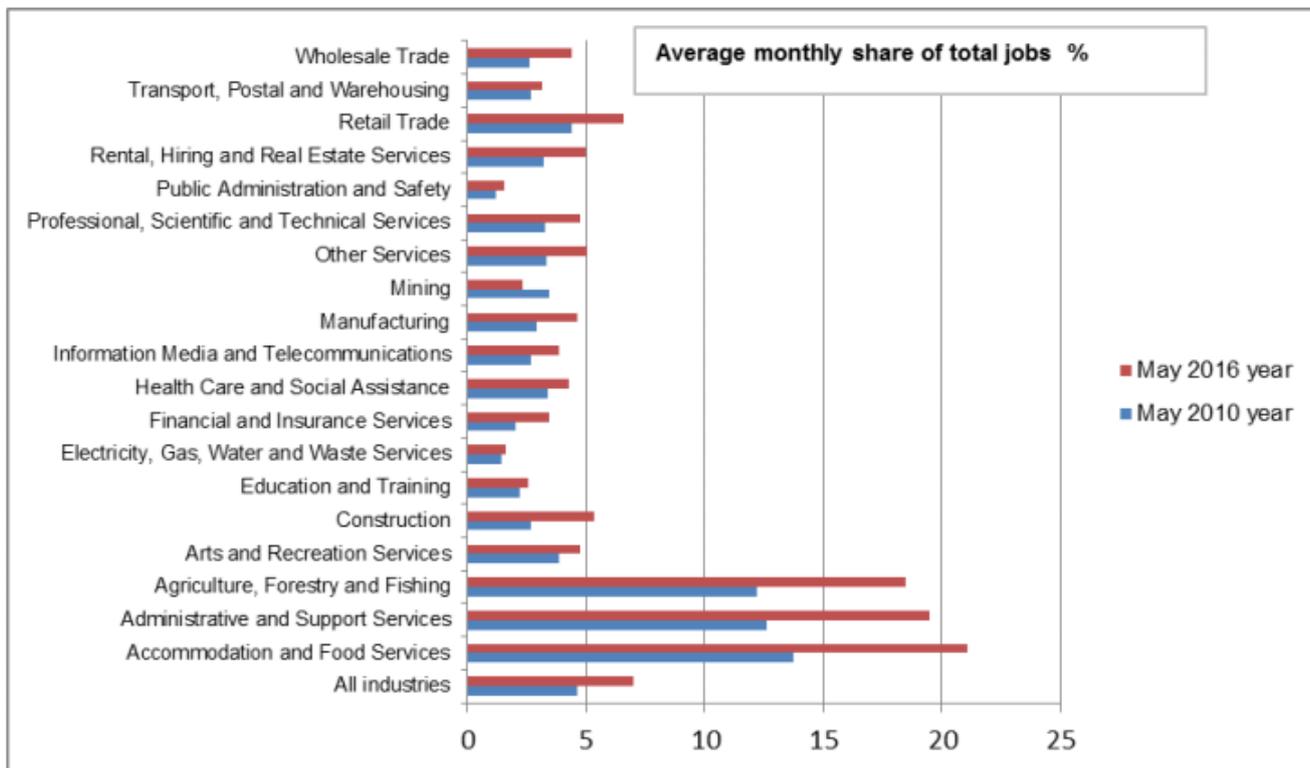
Source: Cabinet paper on 'A New Approach to Employer-Assisted Work Visas and Regional Workforce Planning' December 2018, available online: https://www.mbie.govt.nz/assets/6b0628fab7/cabinet-paper-new-approach-employer-assisted-work-visas-v2.pdf

While there is now significant knowledge on the situation of temporary migrants in Aotearoa New Zealand, and the influence of policy, there remains only limited analysis of income levels and inequality amongst temporary migrant workers. This study seeks to fill that gap through an analysis of labour market and immigration data from the Integrated Data Infrastructure (IDI) in order to explore inequality within temporary migrant populations in relation to nationality, age, gender and other social variables. There is currently some data available in MBIE authored reports on essential skills workers in the trades sector in Christchurch (Searle et al., 2015a) and the hospitality industry across New Zealand (Searle et al., 2015b) but these reports are dated and there have been significant changes in migration policy since they were published. This report addresses the period prior to border closure and significant reductions in immigration processing that followed the onset of the Covid-19 global pandemic. The findings offer important insights to government and other stakeholders seeking to review and revise immigration policy settings for a post-pandemic world, especially in regards to reducing wage inequality and exploitation experienced by temporary migrant workers.

This report begins by describing the data sources, methodology and limitations of this research. Subsequently we address in turn the population makeup and income levels of selected occupations in each industry under examination, dairy farming, health (nursing & care) and construction, before addressing income changes over time. The analysis demonstrates clear evidence of nationality and gender patterns in the makeup of these occupations, and in relation to income considerable variation between the income levels of people of different nationalities and between males and females. The discussion section addresses two key issues: firstly, that intersectional nationality-gender occupational niches have emerged in each of these occupations and industries; secondly, that while there has been favourable increases in wages for all migrant workers there remain substantial income inequalities that evidence a variable pay hierarchy wherein workers from different nationalities and genders, unevenly working in these industries, receive quite different incomes for ostensibly similar work. The conclusion identifies potential areas for future research.

Data sources

All data for this research has been sourced from the Integrated Data Infrastructure (IDI) which contains de-identified microdata about people and households and is managed by Statistics New Zealand. All data were extracted from IDI Database (IDI_Clean_20190420).
The two sources of data were:
1. **Immigration data:** This contains data for all individuals who have had a visa application decided by Immigration New Zealand from 1 July 1997. Data is updated approximately every 3 months. This administrative data is collected by Immigration NZ which is a part of

the Ministry of Business, Innovation and Employment (MBIE) (Statistics New Zealand, 2015). Required data was extracted from two datasets:

- Decisions: Dataset contains information on all decisions made on visa applications ([IDI_Clean_20190420].[dol_clean].[decisions]),
- Occupations: Dataset contains information on the occupations of job offers for migrants approved as principal applicants through the Skilled Migrant Category ([IDI_Clean_20190420].[dol_clean].[occupations]).

2. **IR tax data:** This contains all tax and income data from 1 April 1999. Required data was extracted from the derived IRD dataset 'Income_Cal_Yr_Summary' which sits under the Data schema ([IDI_Clean_20190420].[data].[income_cal_yr_summary]). The ird_ems dataset in the IDI contains the employee level data from the Employer Monthly Schedule (EMS) (Statistics New Zealand, 2015). The monthly EMS records are arranged into the granularity of one record per payee/payer relationship, per income source, per year. The income_cal_yr_summary transforms the data into a different granularity – for every income type (e.g. Wages & Salaries, Benefit payments from MSD, ACC payments, Pension payments, etc.) there is only one record per individual per year (giving summarised income per month in that year). Hence, each record contains all income sources that a person may receive (Statistics New Zealand, 2014).

Methodology

Data extracted from the IDI was modified using graduated random rounding (GRR) or supressed where needed in order to protect individuals' and organisations' information. GRR rounds the total number of individuals (e.g. employees, cows, sheep) within a cell by adding protection that depends on the size of the number. In this way, the noise added forms a proportion that increases with the size of the number. GRR prevents the derivation of the exact value of a contributor, even if the number of contributors is small. (Statistics New Zealand, 2016).
It is important to note that some of the count totals (for the same population group) across different tables will not be the same because of the GRR technique applied. The table below gives the ANZSIC code, name and skill level of the occupations within the three industries for which data related to visa approval and income was extracted from the IDI and analysed.

Table A: ANZSIC code, occupation and skill level

DAIRY	121313	Dairy Cattle Farmer	Level 1
	841512	Dairy Cattle Farm Worker	Level 5
CONSTRUCTION	334112	Air-conditioning and Mechanical Services Plumber	Level 3
	334113	Drainer (Aus) / Drainlayer (NZ)	Level 3
	334114	Gasfitter	Level 3
	334111	Plumber (General)	Level 3
	334115	Roof Plumber	Level 3
	331212	Carpenter	Level 3
	331211	Carpenter and Joiner	Level 3
	331213	Joiner	Level 3
	333211	Fibrous Plasterer	Level 3
	332211	Painting Trades Worker	Level 3
	333212	Solid Plasterer	Level 3
	821711	Construction Rigger	Level 4
	821712	Scaffolder	Level 4
	821713	Steel Fixer	Level 4
	821714	Structural Steel Erector	Level 4
	821111	Builder's Labourer	Level 5
	821211	Concreter	Level 5
	821112	Drainage, Sewerage and Storm-water Labourer	Level 5
	821113	Earthmoving Labourer	Level 5
	821114	Plumber's Assistant	Level 5
HEALTH	254412	Registered Nurse (Aged Care)	Level 5
	254413	Registered Nurse (Child and Family Health)	Level 5
	254414	Registered Nurse (Community Health)	Level 5
	254415	Registered Nurse (Critical Care and Emergency)	Level 5
	254416	Registered Nurse (Developmental Disability)	Level 5
	254417	Registered Nurse (Disability and Rehabilitation)	Level 5
	254421	Registered Nurse (Medical Practice)	Level 5
	254418	Registered Nurse (Medical)	Level 5
	254422	Registered Nurse (Mental Health)	Level 5
	254423	Registered Nurse (Perioperative)	Level 5
	254424	Registered Nurse (Surgical)	Level 5
	254499	Registered Nurses nec	Level 5
	423111	Aged or Disabled Carer	Level 4
	423313	Personal Care Assistant	Level 4
	423312	Nursing Support Worker	Level 4

The following steps were carried out to extract the dataset required for analysis:

Step 1: Extracting the number of approved work visa applications for each of the occupations listed in Table A over the eight year period, July 2010 to June 2018, from the Visa database (joining the two datasets: [dol_clean].[decisions] and [dol_clean].[occupations]).

All data where,

1. Visa decision type is: 'Approved';
2. Application Type is: 'Work Visa';
3. Decision Date (Financial year, July to June) is: '2010/11, 2011/12, 2012/13, 2013/14, 2014/15, 2015/16, 2016/17, 2017/18'; and
4. Occupation code is: as per listed in Table A for each industry (three separate data extractions, one for each industry).

was extracted for the following variables:

- snz_uid
- snz_dol_uid
- Application ID
- Decision Date
- Applicant Type
- Application Criteria
- Category Code
- Application Stream
- Application Sub-stream
- Birth month
- Birth year
- Financial year
- Nationality
- Sex
- Occupation Code
- Occupation Text
- Skill Level Code

The three extracted datasets saved as 'Migrant Dairy Workers', 'Migrant Construction Workers' and 'Migrant Health Workers', give the total number of work visa applications processed and approved for the occupations listed in Table A over the eight year period, July 2010 to June 2018.

Step 2: Extracting the monthly gross income earned from 'Wages and Salaries. The three datasets 'Migrant Dairy Workers', 'Migrant Construction Workers' and 'Migrant Health Workers' were joined to the IRD dataset [data].[income_cal_yr_summary] based on the snz_uid. This gave three sets of

data extracts of monthly summarised wages and salaries for each unique snz-uid extracted from the Visa database over the eight year period.

Not all individuals extracted from the Visa database were found in the IRD database. Table B below shows the number of rows extracted from the Visa and IRD databases for the listed occupations and the number of individuals (snz_uid) from the Visa database found in the IRD database.

Table B: Proportion of individuals with approved work visa found in IRD database (Wages & Salaries)

	DAIRY	CONSTRUCTION	NURSING & CARE WORKERS
Rows extracted from Visa & Occupation database (see Step 1)	22,300	22,300	20,200
No. of Individuals (unique snz_uid numbers over the 8-year period)	7,900	12,900	11,700
Rows extracted from the IRD database (and de-duplicated) (see Step 3)	36,900	45,200	60,200
Individuals found in IRD	7,600	12,400	11,400
% found in IRD database	97.3	95.8	97.3

*Note: All counts have been changed using GRR. Percentages are based on unrounded counts.

Step 3: The following operations carried out on the three extracted IRD databases:

1. The extracted IRD dataset split (based on the month and year recorded in the IRD database) into eight financial years, July-June (2010/11, 2012/13, ….., 2016/17, 2017/18).

2. In each of the years, individuals with less than 4 months income data deleted. Refer to Appendix Table 1 for the number of months of summarised Wages & Salary data available for migrant workers in each of the three industries.

3. Referred to as '2010-11 IRD Data', '2011-12 IRD Data' and so on.

Step 4: The next step was to find and remove the individuals in each of the eight IRD datasets (2010-11 IRD Data, 2011-12 IRD Data, and so on) who had been granted a Residency Visa in the same year or any year before.

Step 4: For the remaining individuals in each of the years, the next step was to ascertain whether they had a valid approved work visa in that year or the three preceding years.

Step 5: For the individuals found with a valid work visa in the above step, the associated occupation and skill level were extracted from the Visa datasets ('Migrant Dairy Workers', 'Migrant Construction Workers' and 'Migrant Health Workers').

Example: The following operations carried out (with reference to 'Migrant Dairy Workers'). See Table C1 below for associated data – all counts have been rounded using GRR.

- ✓ 5300 individuals in the '2017-18 IRD Data' file.
- ✓ 880 individuals with a Residency Visa granted in 2017-18, or any of the previous years, found and removed (4,400 remaining).
- ✓ Extract the work visa applications approved in 2017/18, 2016/17, 2015/16 and 2014/15 from the 'Migrant Dairy Workers' dataset. For individuals who had more than one application in each of these years, de-duplicate and retain only the first application.
- ✓ Join '2017-18 IRD Data' with the de-duplicated 2017/18, 2016/17, 2015/16 and 2014/15 Migrant Dairy Workers data sub-sets. Work Visa application found for 4,300 (of the 4,400) individuals (99 per cent).
- ✓ Of the remaining 100 individuals who had IRD monthly gross income data recorded for 2017/18 but for whom no approved work visa was found, the following scenarios were applicable:
  - o An approved work visa was recorded but the Occupation category was missing.
  - o An approved work visa was recorded but the Occupation category was other than 'Dairy Cattle Farmer' and 'Dairy Cattle Farm Worker'.
  - o The approved visa recorded was not 'Work (22)'.
- ✓ Repeat above steps for the remaining 7 years.

Table C1: Final data subset for analysis – Dairy workers

DAIRY WORKERS	Year 't'							
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Individuals in IRD extracted dataset	1,900	2,300	2,800	3,400	4,400	4,900	5,000	5,300
Residency Visa approved in year 't' or before	-	150	240	390	540	700	810	880
Number on Essential Skills Visa	1,900	2,100	2,500	3,100	3,800	4,200	4,200	4,400
Found with approved work visa in year 't'	1,200	1,300	1,400	1,900	2,300	370	2,200	3,200
Found with approved work visa in year '(t-1)', '(t-2)' or '(t-3)'	380	510	700	850	1,000	2,900	1,600	1,100
Total found with approved work visa	**1,600**	**1,800**	**2,100**	**2,700**	**3,300**	**3,300**	**3,800**	**4,300**
%	*81.1*	*84.7*	*85.6*	*87.2*	*86.5*	*78.9*	*91.2*	*97.3*

*Note: All counts have been changed using GRR. Percentages are based on unrounded counts.

Repeat Step 5 for the other two datasets - Migrant Construction Workers' and 'Migrant Health Workers' (see Tables C2 and C3).

Table C2: Final data subset for analysis – Construction workers

CONSTRUCTION WORKERS	Year 't'							
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Individuals in IRD extracted dataset	800	1,200	1,900	3,300	4,500	5,700	7,000	8,800
Residency Visa approved in year 't' or before	80	180	280	520	820	1,400	1,900	2,000
Number on Essential Skills Visa	720	1,100	1,700	2,800	3,700	4,200	5,000	6,800
Found with approved work visa in year 't'	350	420	860	1,600	1,900	2,400	2,500	3,900
Found with approved work visa in year '(t-1)', '(t-2)' or '(t-3)'	75	140	290	660	1,200	1,300	2,100	2,800
Total found with approved work visa	**430**	**570**	**1,100**	**2,300**	**3,200**	**3,800**	**4,600**	**6,700**
%	59.4	56.0	68.2	81.1	85.7	89.2	91.4	99.0

*Note: All counts have been changed using GRR. Percentages are based on unrounded counts.

Table C3: Final data subset for analysis – Nursing & care workers

NUSING & CARE WORKERS	Year 't'							
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Individuals in IRD extracted dataset	2,800	3,900	4,800	5,500	6,700	8,200	9,200	9,500
Residency Visa approved in year 't' or before	370	1,200	2,000	2,900	3,700	4,500	5,100	5,800
Number on Essential Skills Visa	2,500	2,700	2,800	2,600	2,900	3,800	4,000	3,800
Found with approved work visa in year 't'	1,600	1,500	1,400	1,400	1,200	1,500	1,700	2,400
Found with approved work visa in year '(t-1)', '(t-2)' or '(t-3)'	250	420	560	560	540	460	1,000	1,200
Total found with approved work visa	**1,900**	**1,900**	**1,900**	**1,900**	**1,800**	**2,000**	**2,700**	**3,700**
%	77.2	71.0	68.0	74.3	60.7	53.5	68.2	97.8

*Note: All counts have been changed using GRR. Percentages are based on unrounded counts.

Step 6: Remove the records where a valid work visa was not found.

Step 7: Look up the associated birth year, birth month, sex and nationality from the extracted Visa datasets ('Migrant Dairy Workers', 'Migrant Construction Workers' and 'Migrant Health Workers') for each of the individuals in the final data subsets.

Limitations

It is important to note some of the limitations of the data used. The quality of the linked immigration and IR tax datasets used for this study is dependent on two factors – the link rate and the false positive rate (estimate of the proportion of links made where two records are linked together, but do not belong to the same person). The aim is to achieve a high link rate while maintaining a false positive rate below 2 per cent. For each refresh, links are re-run in order to account for new or updated data and the link rate and false positive rate are expected to remain fairly constant across refreshes, unless there is a change in the linking methodology or a significant change in the source data[1].

As seen in Tables C1 to C3 the number of records matched between the Visa and IRD databases varies over the years, especially for construction and nursing & care workers. All analyses presented in this report are therefore restricted to linked data from the years 2013/14 to 2017/18.

No information is available in the IDI for the actual number of hours worked by a person. The requirements of essential skills work visas stipulate that holders must be full time, which is a minimum of 30 hours work per week. The actual hours worked in these three industries is likely to vary considerably, between the highly regulated health care sector where collective agreements are common, to dairy farming where work hours are very long and workers often work for seven or more days continuously, to construction work, which can be highly variable depending on work availability, weather and season, as well as inter-firm differences in employment practices. As a result of these differences, we do not seek to compare between these industries and for the purpose of this study assume that all work visa holders in the three industries of interest work an average of 40 hours per week.

It should also be noted that it is not feasible to directly compare the income data from the Census to that extracted from the IR dataset in the IDI. The income data from the Census are self-reported and are only available in income bands.

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[1] The tax data, along with the with births data from the Department of Internal Affairs, and movements and visa data from the Ministry of Business, Innovation and Employment, form the 'spine' of the IDI to which all other datasets are linked.

1 DAIRY WORKERS

The dairy farming industry has seen a substantial growth in employment of people on work visas over the last two decades and has been prominent in debates about the conditions and effects of temporary migration. In the twelve months to June 2003, 516 work visas were issued for dairy farming (Tipples et al., 2010), increasing to 1,719 in the twelve months to June 2013 (MBIE 2020) and growing substantially in the years following (see Table 1.1). Several reasons explain the increasing number of people on work visas employed on dairy farms: growth in the scale of the industry, growing complexity of farming techniques and negative association of dairy farming with long hours, unfavourable conditions and poor career prospects (Tipples et al., 2010).

1.1   Demographic profile

Over the five-year period of 2013-2018, a total of 17,400 work visas were approved for the dairy farming sector (see Table 1.1). This figure includes 9,800 approvals for the 'Dairy cattle farmer' (or Dairy farmer) occupation, which is an ANZSCO Level 1 'higher skilled' occupation that involves planning, controlling and performing farming operations. A total of 7,500 visas were approved for 'Dairy cattle farm worker' positions, an ANZSCO Level 5 'lower skilled' occupation that includes routine tasks such as herding and milking cows. While in real terms there are a range of roles on New Zealand dairy farms including assistants, herd managers, assistant managers, farm managers and business/operations manager (see DairyNZ, 2019), essential skills work visas can only be issued to one of these two specified roles in ANZSCO. Table 1.1 shows that there was a significant change in approvals for these two roles between 2015/16 and 2017/18, with approvals for the farmer role decreasing from 2,200 to 1,300 annually and those for farm workers increasing from 1,100 to 2,900. In addition to new migrant arrivals, a substantial part of this change relates to reclassification of farmers to workers as Immigration New Zealand shifted its practices in relation to assessing occupations. It is notable that over this same period the number of people employed across the dairy cattle farming industry has not increased in the same way as the employment of temporary migrants. In 2013 (year ending March) there were 25,700 people employed across the industry, growing to 27,700 in 2014 but then declining in subsequent years to 25,300 in 2018. In contrast to this overall industry employment decline of 1.6 per cent over this period, there has been an increase of 65.3 per cent in the number of temporary work visa holders.

Table 1.1: Number of essential skills workers with approved work visa in the dairy industry (selected occupations), 2013/14 to 2017/18

	Skill Level	Number of Workers with Approved Work Visa					Total*	Total workers (5-year period)
		2013/14	2014/15	2015/16	2016/17	2017/18		
DAIRY CATTLE FARM WORKER	**5**	700	990	1,100	1,800	2,900	**7,500**	3,600
DAIRY CATTLE FARMER	**1**	2,000	2,300	2,200	2,000	1,300	**9,800**	4,200
ALL ESSENTIAL SKILLS DAIRY WORKERS ON APPROVED WORK VISA		2,600	3,300	3,400	3,800	4,300	**17,400**	6,300

* A person can have an approved visa in multiple years and therefore this gives the total number of work visas approved and not the total number of people.
Note: All counts have been changed using GRR because of which some totals across rows/column may not add up.

An individual person can have an essential skills work visa approved multiple times in the same year (for example, if they change employers) or can be issued a work visa spanning more than one year – work visas for farmers are usually issued for two or more years while farm worker visas are ordinarily issued for one year. Over the 2013/14-2017/18 period a total of 6,300 individual persons holding essential skills work visas for dairy farming occupations were identified through Immigration New Zealand data in the IDI. The number of dairy farm essential workers had increased from 2,600 in 2013/14 to 4,300 in 2017/18.

Figure 1.1 Sex profile of all essential skills workers in the dairy industry, 2013/14 to 2017/18
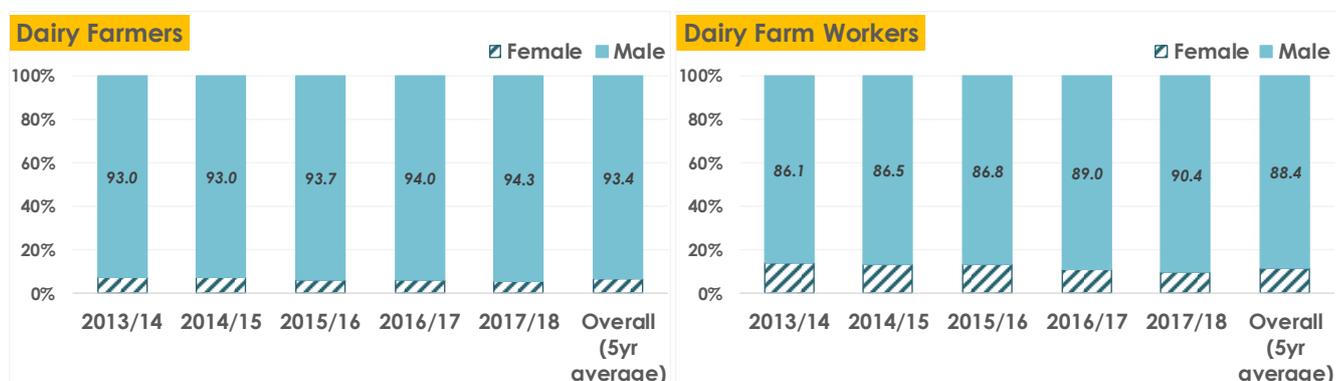
Figure 1.1 shows the sex profile for all essential skills workers in dairy farming. There are substantially higher numbers of male essential skills workers amongst both dairy farmer and farm worker occupations. The proportion of male workers has also increased over the five year period, reaching 94.3 per cent and 90.4 per cent respectively in 2017/18. Farming, particularly the animal 'husbandry' involved in dairy farming, has a long association with being a male dominated occupation in Aotearoa New Zealand (Liepins, 2000). Nonetheless the proportion of male essential skills workers is substantially higher than that recorded for the overall working population in farming; around two-thirds of workers in Agriculture, Forestry and Fishing industries are male

(Stats – HLFS), a figure replicated in dairy farming specifically (Wilson and Tipples, 2008). This suggests that there are additional factors influencing the male domination amongst work visa holders – different gendered expectations around work in the key source countries migrants come from (Desai and Banerji, 2008; Gutiérrez-Rodríguez, 2010) and the filtering processes that occur through the transnational recruitment and migration steps of workers (Collins, 2021).

Figure 1.2 Age profile of all essential skills workers in the dairy industry, 2013/14 to 2017/18
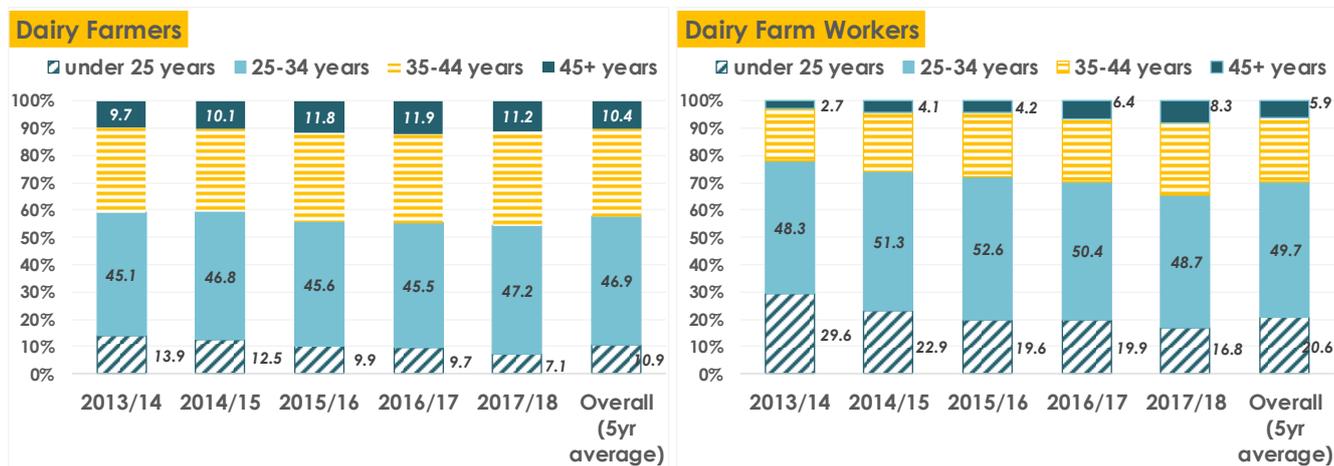
Figure 1.2 shows the age profile for all essential skills workers in dairy farming. The patterns are relatively unsurprising. Reflecting the broader temporary migrant work population in Aotearoa New Zealand, there are very few people over the age of 45 years old, although there has been a higher proportion amongst the more highly skilled dairy farmer position. Similarly, there is a higher proportion of 35-44 year olds in dairy farming roles, and a greater proportion of people employed as dairy farm workers are under 25 years of age. Age appears to be associated with the seniority of the position that work visa holders occupy.

Table 1.2: Distribution (%) of all essential skills workers in the Dairy industry by nationality, 2013/14 to 2017/18

	Dairy Farmers					
	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
Dairy Farmers with approved work visa	*2,000*	*2,300*	*2,200*	*2,000*	*1,300*	
Philippines	47.3	50.8	53.8	49.3	44.8	50.0
India	7.9	8.6	8.6	10.0	13.4	8.2
Pacific Islands	6.8	6.1	5.6	5.5	5.2	6.4
Great Britain & Ireland	6.4	5.9	5.1	6.1	6.1	5.7
Chile	4.7	4.3	4.2	4.2	3.5	4.5
Sri Lanka	3.4	3.6	4.0	4.9	5.5	3.7
South Africa	4.0	2.7	2.5	3.2	4.3	3.8
Other (59 countries)	19.5	17.8	16.3	16.9	17.3	17.7
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0

	Dairy Farm Workers					
	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
Dairy Farm Workers with approved work visa	*700*	*990*	*1,100*	*1,800*	*2,900*	
Philippines	42.0	50.3	56.0	49.8	52.0	50.6
India	6.0	4.9	4.2	12.5	13.1	9.3
Chile	6.9	6.1	5.9	4.9	5.1	5.9
Pacific Islands	6.6	4.5	3.8	3.8	3.6	4.5
Great Britain & Ireland	5.1	3.8	3.0	2.5	2.3	3.2
Sri Lanka	1.4	2.6	4.0	3.2	3.2	2.8
Other (59 countries)	32.0	27.8	23.2	23.2	20.6	23.7
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0

Table 1.2 presents data on the nationality of all essential skills workers in dairy farming. People from the Philippines, in both occupations, represent around half of all work visa holders. In both occupations, between 2013/14 and 2017/18, the proportion of people from India has also increased, from 7.9 per cent to 13.4 per cent amongst dairy farmers and 6.0 per cent and 13.1 per cent amongst dairy farm workers. Workers from Great Britain and Ireland (especially amongst dairy farmers), the Pacific Islands, Chile, Sri Lanka and South Africa all represent fewer than 7 per cent of work visa holders in each occupation.

1.2   Income

The average nominal incomes of people holding essential skills work visas and employed in the dairy farming sector have increased over the period, 2013/14 to 2017/18 (see Appendix Table 4). Amongst dairy farmers the average income for all essential skills work visa holders increased from $4,206 per month to $5,017, and for dairy farm workers the average monthly income increased from $3,487 to $4,327. These increases represent growth of 19.3 per cent and 24.1 per cent respectively.

Table 1.3 shows the monthly income cut-offs for all migrant dairy farm workers where one-fifth (20 per cent) of the migrant workers fall between each cut off point. For example, if there are 100 migrant workers in a given year Quintile 2 cut-off will be the average monthly income of the 21st worker, Quintile 3 will be that of the 41st, Quintile 4 of the 61st and Quintile 5 cut off will be the average income of the 81st migrant worker. All workers earning less than the Quintile 2 cut-off will fall into Quintile 1, those earning between Quintile 2 and Quintile 3 cut-offs will fall into Quintile 2 and so on. Workers earning more than Quintile 5 cut-off fall into quintile 5.

Table 1.3: Monthly income quintile cut-offs for all essential skills workers in the Dairy industry, 2013/14 to 2017/18

Year (Jul - Jun)	DAIRY FARM WORKERS: Quintile cut-off values for average monthly income			
	2	3	4	5
2013/14	$3,075	$3,342	$3,551	$3,796
2014/15	$3,203	$3,471	$3,679	$3,967
2015/16	$3,431	$3,718	$3,930	$4,214
2016/17	$3,569	$3,894	$4,132	$4,492
2017/18	$3,780	$4,111	$4,401	$4,807
% increase over 5 years (2013/14 to 2017/18):	+22.9	+23.0	+24.0	+26.6

Year (Jul - Jun)	DAIRY FARMERS: Quintile cut-off values for average monthly income			
	2	3	4	5
2013/14	$3,575	$3,906	$4,225	$4,701
2014/15	$3,693	$4,007	$4,340	$4,791
2015/16	$3,844	$4,173	$4,499	$5,012
2016/17	$3,972	$4,273	$4,636	$5,169
2017/18	$4,280	$4,684	$5,070	$5,666
% increase over 5 years (2013/14 to 2017/18):	+19.7	+19.9	+20.0	+20.5

1.2.1 Differences by sex

The analysis of income data by quintiles makes it possible for us to examine income levels of different sub-populations of work visa holders in each industry in 2017/18. Figure 1.3 shows information on the proportion of male and female essential skills workers in each of the five income quintiles for each occupation in dairy farming. While female work visa holders represent only 5.7 per cent of farmers and 9.6 per cent of workers the data illustrates a very clear pattern of higher incomes amongst male workers. Over 20 per cent of male farmers and workers earn in quintile 5 in comparison to 7.7 per cent and 9.7 per cent of women. Conversely, women are

much more likely to earn in the lowest quintile 1, 46.2 per cent and 42.4 per cent respectively. This pattern of income inequality is also evidenced in figures for the general workforce, where in 2018 women earned 17.4 per cent less than men working as dairy farm workers and 11.2 per cent less as dairy farmers (see Appendix 15).

Figure 1.3 Proportion of male and female workers in the Dairy Industry falling in each of the five income quintiles in 2017/18
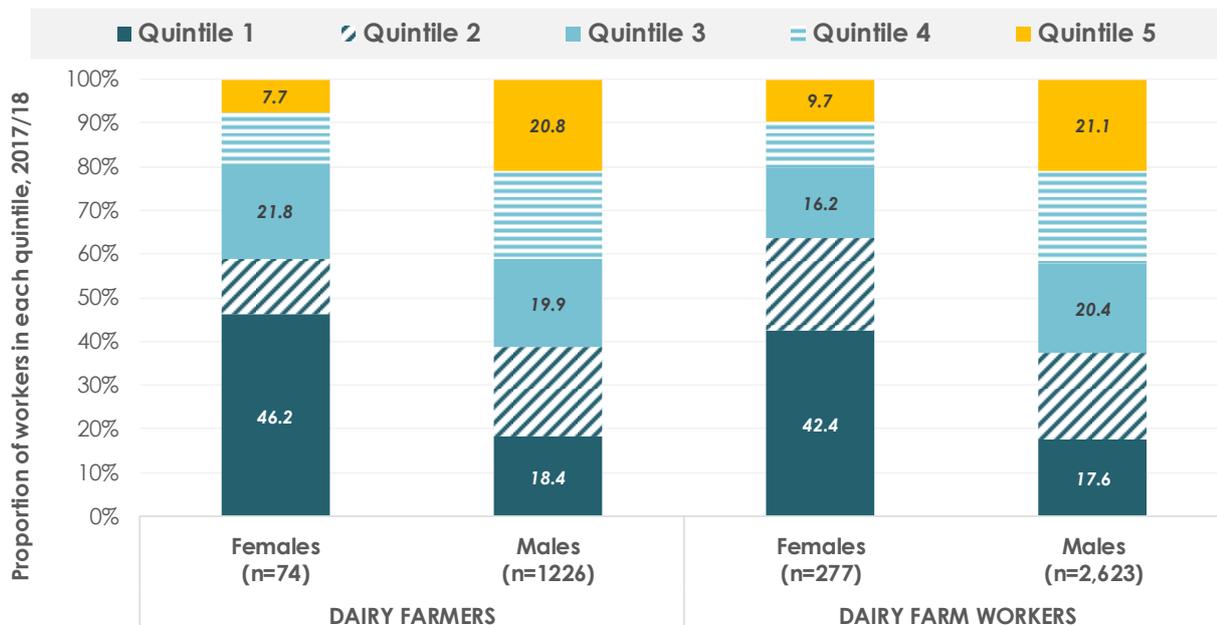
1.2.2 Differences by nationality

Differences in income levels were also observed in relation to the nationality of work visa holders. In terms of average incomes, in 2017/18 dairy farmers from Great Britain earned an average monthly income of $5,498, Chile $5,392 and South Africa $5,318. By contrast, workers from the Philippines ($4,942), India ($4,936), Pacific Island nations ($4,965) and Sri Lanka ($4,715) all earned less than $5,000 on average per month. Average incomes were much more similar amongst dairy farm workers in 2017/18, ranging from $4,324 (India) to $4,402 (Pacific Islands) for the top six nations (see Appendix Table 6).

The income profile by quintiles for different nationalities is shown in Figure 1.4. Workers from the Philippines and India have a relatively wide income distribution, reflecting their proportion amongst all work visa holders. Nonetheless it is notable that a larger proportion of people from the Philippines (37.2 per cent) are earning in Quintile 4 and 5 compared to people from India (31.9 per cent), although incomes for Indian workers have been increasing over the five year period (see Appendix Table 5). Around 40 per cent of essential skills workers from Pacific Island nations also earn in the top 2 quintiles, although 28.2 per cent also earn in the lowest quintile,

much higher than any of the largest nationalities. In contrast, however, 53 per cent of workers from Great Britain and Ireland earned in the top two quintiles.

Figure 1.4 Proportion of migrant dairy workers, disaggregated by nationality, falling in each of the five income quintiles in 2017/18

Dairy Farmers
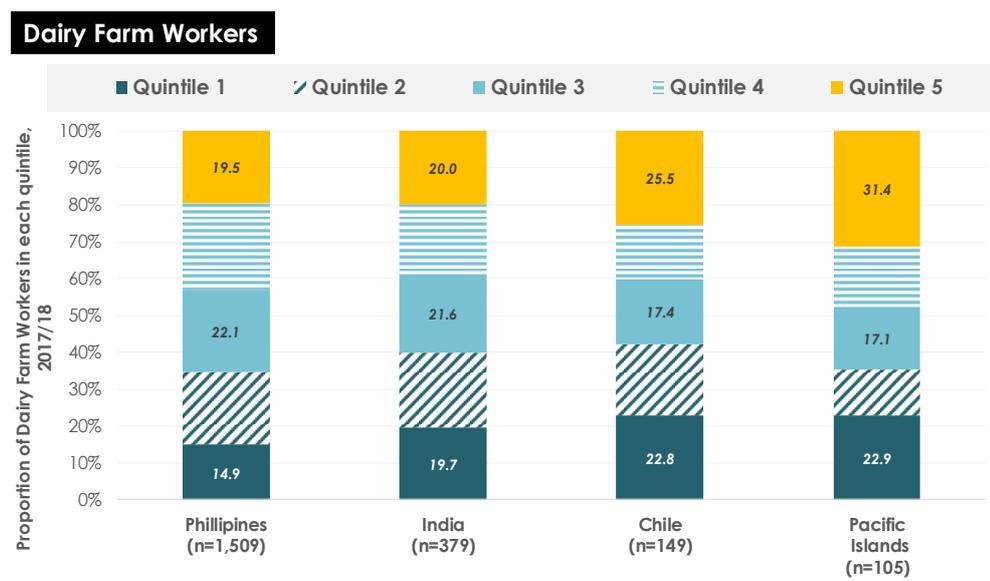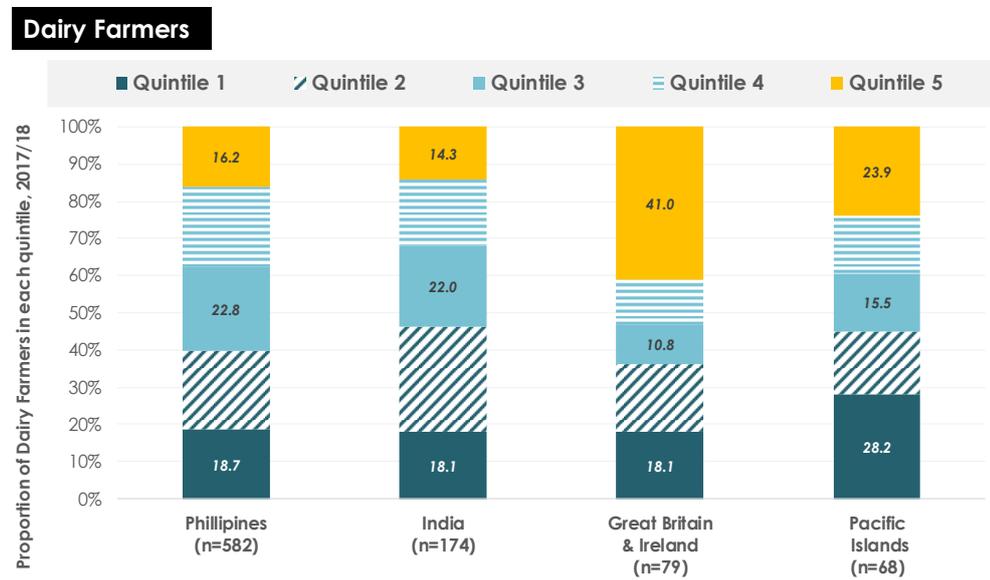
Dairy Farm Workers

In relation to dairy farm workers, similar differences are also observed. Workers from the Philippines and India, because of their high proportion in this occupation, have relatively wide income distribution, with people from the Philippines having slightly higher proportions in the top three quintiles and slightly fewer in quintiles 1 and 2. For this occupation it is workers from Pacific Island nations (3.6 per cent of all workers in this occupation) who earn higher incomes, 47.6 per cent earning in quintile 4 and 5, a proportion that has increased over the five years (see Appendix Table 5). Workers from Chile are also more likely to earn in the highest income quintile (25.5 per cent) but otherwise have a relatively similar distribution to people from the Philippines and India.

2 NURSING AND CARE WORKERS

Like many other countries in the Global North, Aotearoa New Zealand is currently undergoing a period of notable population ageing (Ministry of Health, 2016), leading to increased demand for aged care both in residential and community settings as well as a growth in diseases associated with older age such as dementia. In addition to population ageing, there are concerns about the impacts of obesity, cancer, mental health and other complex diseases and health issues, alongside significant inequities in health outcomes particular in relation to ethnicity (Baker et al., 2012; Pearce et al., 2012). New Zealand healthcare providers also face workforce challenges in seeking to meet present and future demand for healthcare. Amongst nurses in 2015, for example, 45 per cent of current nurses are aged over 50 years, up from 40 per cent in 2009. New Zealand trained nurses are also highly mobile themselves and there are significant patterns of migration to Australia and the UK. There has, accordingly, been a continued need to recruit both experienced and relatively junior overseas trained nurses. Contemporaneously, there is a growth in health care assistant, support or kaiāwhina occupations (Ministry of Health, 2016; Nursing Council of New Zealand, 2013). The growth in these occupations relates in part to role-shifting as nurses start to take on tasks that were once primarily in the scope of medical practitioners and some nursing roles are being taken on by unregulated workers such as health care assistants (New Zealand Nurses Organisation, 2011).

2.1   Demographic profile

Over the five-year period of 2013-2018, a total of 9,600 work visas were issued for care workers and 2,500 work visas were issued for registered nurses (see Table 2.1). For the purposes of this report, the role care worker includes the ANZSCO occupations of 'Aged or Disabled Carer', 'Personal Care Assistant' and 'Nursing Support Worker', all Level 4 'lower skilled' positions; 'Registered Nurse' includes all registered nurse specialities (e.g. Aged Care, Mental Health, Child and Family Health, Surgical etc.), all Level 1 'highest skilled' positions. Over the five years there has been notable growth in the number of care worker visas issued, from 1,400 in 2013/14 to 3,000 in 2017/18 while work visas issued to nurses initially declined to 380 in 2014/15 before increasing steadily to 740 in 2017/18. Table 2.1 also demonstrates that extent to which individual workers gain multiple visas, with 4,400 individual care workers receiving 9,600 visas over the five years, while 2,000 individual nurses received only 2,500 visas over the same period. In other words, care workers are much more likely to reapply for visas, not least because they are usually issued visas for only one year at a time but also because nurses are much more likely to be eligible for a residence class visa once they are employed.

Table 2.1: Number of essential skills (nursing and care) workers with approved work visa in the health industry (selected occupations), 2013/14 to 2017/18

	Skill Level	Number of Workers with Approved Work Visa					Total*	Total workers (5-year period)
		2013/14	2014/15	2015/16	2016/17	2017/18		
CARE WORKERS	4	1,400	1,400	1,600	2,200	3,000	**9,600**	4,400
REGISTERED NURSES	1	530	380	400	470	740	**2,500**	2,000
ALL ESSENTIAL SKILLS HEALTH WORKERS ON APPROVED WORK VISA		1,900	1,700	2,000	2,700	3,600	**12,100**	6,200

* A person can have an approved visa in multiple years and therefore this gives the total number of work visas approved and not the total number of people.
Note: All counts have been changed using GRR because of which some totals across rows/column may not add up.

Figure 2.1 shows the sex profile for nurses and care workers holding work visas 2013-2018. In both occupations, females make up around three quarters of all work visa holders. While this is substantial and reflects general gendered patterns in these occupations, the proportion of male work visa holders is substantially greater than for the general healthcare workforce. Indeed, in 2015 males made up only 9 per cent of all unregulated healthcare roles (Ministry of Health, 2016) and in 2018/19 males made up only 6 per cent of the total registered nurse workforce in New Zealand (Nursing Council of New Zealand, 2019). Moreover, the proportion of males holding work visas for care worker roles has increased over time, from 20.6 per cent in 2013/14 to 28.7 per cent in 2017/18. The higher proportion of male migrants taking up nurse and caring roles than the general workforce is a pattern observed internationally that reflects in part the growing significance of nursing as an occupation tied to migration strategies (Walton Roberts, 2019).

Figure 2.1 Sex profile of all essential skills (nursing and care) workers in the Health industry, 2013/14 to 2017/18
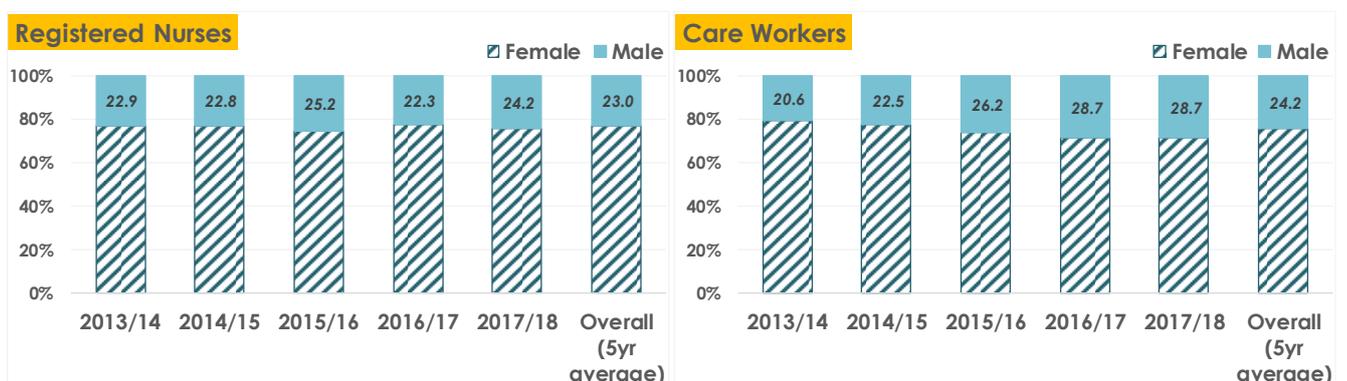
Figure 2.2. presents the age profile for registered nurses and care workers holding work visas. In both cases, the temporary migrant populations are substantially younger than the overall workforce in these occupations. Some 92.7 per cent of registered nurses on work visas are below 45 years of age compared to 47.3 per cent of the entire registered nurse workforce (New

Zealand Nursing Council, 2019); similarly amongst care workers 86.9 per cent are below 45 years of age, while only 46 per cent of the entire unregulated healthcare workforce is below 45 years of age (Ministry of Health, 2016). Over the five year period under study the age profile of work visa holders in each occupation has also gotten younger, with 86.3 per cent of work visa holding nurses younger than 35 years of age in 2017/18 (up from 77.1 per cent in 2013/14) and 72.8 per cent of care workers younger than 35 years of age in 2017/18 (compared to 59.9 per cent).

Figure 2.2 Age profile of all essential skills (nursing and care) workers in the Health industry, 2013/14 to 2017/18
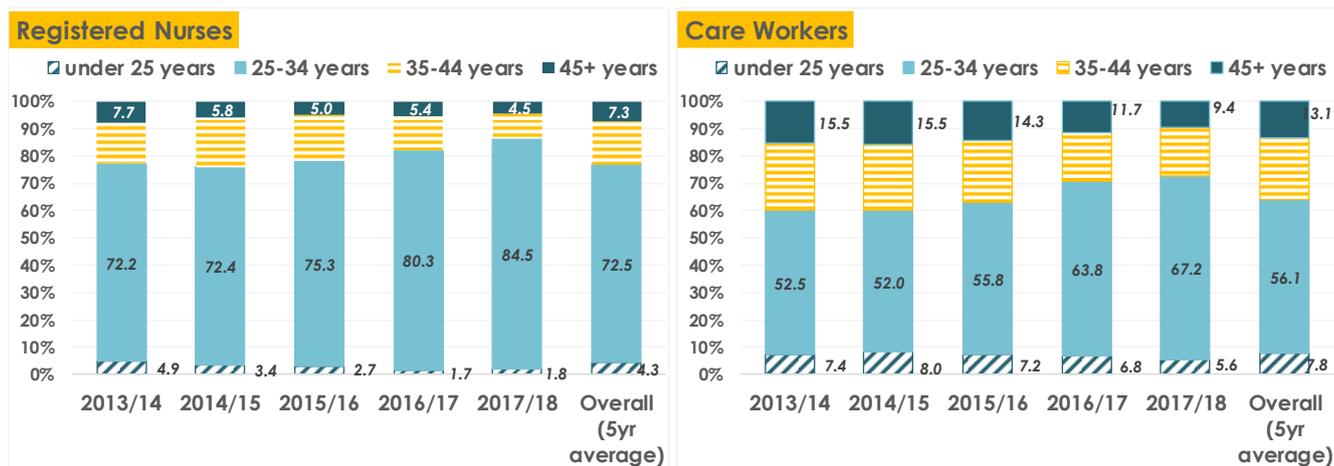
Table 2.2 shows information on the nationality of registered nurses and care workers holding work visas. People from the Philippines, in both occupations, are the largest nationality and made up 57.5 per cent of all registered nurses in 2017/18 and 50.5 per cent of care workers in 2017/18. Amongst registered nurses the growing proportion of people from the Philippines (from 30.2 per cent in 2013/14 to 57.5 per cent in 2017/18) has occurred alongside notable declines in the proportion of people from India (29.5 per cent to 18.9 per cent), Great Britain and Ireland (24.4 per cent to 13.4 per cent) as well as those from all other countries (15.9 per cent to 10.2 per cent). By contrast, amongst care workers, people from the Philippines have been around 50 per cent of work visa holders throughout this period. Concurrently, there has been an increase in the proportion of care workers from India (14.8 per cent to 28.4 per cent) and a decline in the proportion of care workers from Pacific Island countries (20.8 per cent to 9.7 per cent). This growth likely reflects the emergence of a distinct migration pathway amongst registered nurses from India (as well as the Philippines) who seek employment as care workers in as part of a process of seeking New Zealand nursing registration, often following the completion of care work diplomas (see Collins, 2020)

Table 2.2: Nationality profile of all essential skills (nursing and care) workers in the health industry, 2013/14 to 2017/18

| | Registered Nurses (%) | | | | | |
	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
Philippines	30.2	33.2	49.9	56.2	57.5	42.3
India	29.5	27.6	18.0	16.5	18.9	22.9
Great Britain & Ireland	24.4	23.6	20.4	17.4	13.4	20.8
Other (41 countries)	15.9	15.6	11.7	9.9	10.2	14.1
Grand Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

| | Care Workers (%) | | | | | |
	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
Philippines	47.3	48.9	51.8	52.0	50.5	51.7
India	14.8	13.4	14.9	21.6	28.4	17.2
Pacific Islands	20.8	20.4	18.7	13.2	9.7	16.4
China	4.9	4.0	3.5	2.5	1.5	3.3
Nepal	2.4	2.8	1.9	1.3	0.7	1.8
Other (60 countries)	9.8	10.4	9.3	9.4	9.1	9.6
Grand Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

2.2   Income

The average nominal monthly incomes of people holding essential skills work visas and employed as registered nurses and care workers have increased over the period, 2013/14 to 2017/18 (see Appendix Table 8). Amongst registered nurses the average monthly income for all essential skills work visa holders increased by 12.6 per cent over this period, from $4,463 to $5,110. For care workers, average monthly incomes increased incrementally from $3,076 to $3,243 between 2013/14 and 2016/17 (5.5 per cent). In 2017/18 care worker incomes jumped substantially to $4,150 (34.9 per cent increase on 2013/14) as a result of the Care and Support Workers (Pay Equity) Settlement Act 2017, which set out new wage rates that would recognise experience in care work and increased from 2017 to 2021. In comparison, average income for nurses increased by 14.5 per cent from $4,463 in 2013/14 to $5,110 in 2017/18. Subsequent to this research, nurses have secured at least a 12.5 per cent pay increase coming into effect in August 2019 and May 2020. Table 2.3 shows the monthly income cut-offs for all migrant health workers where one-fifth (20 per cent) of the migrant workers fall between each cut off point.

Table 2.3: Monthly income quintile cut-offs for all essential skills (nursing and care) workers in the health industry, 2013/14 to 2017/18

Year (Jul - Jun)	REGISTERED NURSES: Quintile cut-off values for average monthly income			
	2	3	4	5
2013/14	$3,122	$4,057	$4,829	$5,786
2014/15	$3,499	$4,341	$5,097	$6,006
2015/16	$3,582	$4,424	$5,144	$5,897
2016/17	$3,670	$4,366	$4,989	$6,004
2017/18	$4,111	$4,702	$5,198	$5,996
% increase over 5 years (2013/14 to 2017/18):	+31.7	+15.9	+7.6	+3.6

Year (Jul - Jun)	CARE WORKERS: Quintile cut-off values for average monthly income			
	2	3	4	5
2013/14	$2,424	$2,807	$3,133	$3,606
2014/15	$2,485	$2,865	$3,184	$3,656
2015/16	$2,509	$2,916	$3,268	$3,756
2016/17	$2,614	$2,956	$3,314	$3,808
2017/18	$3,372	$3,815	$4,246	$4,844
% increase over 5 years (2013/14 to 2017/18):	+39.1	+35.9	+35.6	+34.3

2.2.1 Differences by sex

The analysis of income data by quintiles makes it possible for us to examine income levels of different sub-populations of work visa holders employed as registered nurses and care workers in 2017/18. Figure 2.3 shows information on the proportion of male and female essential skills workers in nursing and care work in each of the five quintiles. Unlike income data on dairy farmers and farm workers, gender differences are not as apparent amongst health care workers. Amongst registered nurses the differences in proportions of male and female workers in each quintile is only marginally different. For care workers, it is notable that male care workers are generally paid higher wages, with 26.5 per cent in quintile 5 and 24.1 per cent in quintile 4. In contrast, 64.2 per cent of female care workers are earning in the lowest three quintiles and are much more likely to earn in the lowest quintile (22.7 per cent in contrast to 13.4 per cent). These gender differences mirror those in the general workforce for these occupations: in 2018 female registered nurses earned 8.2 per cent less than male nurses; female care workers earned 9.5 per cent less than male care workers (see Appendix 15).

Figure 2.3 Proportion of male and female (nursing and care) workers in the Health Industry falling in each of the five income quintiles in 2017/18
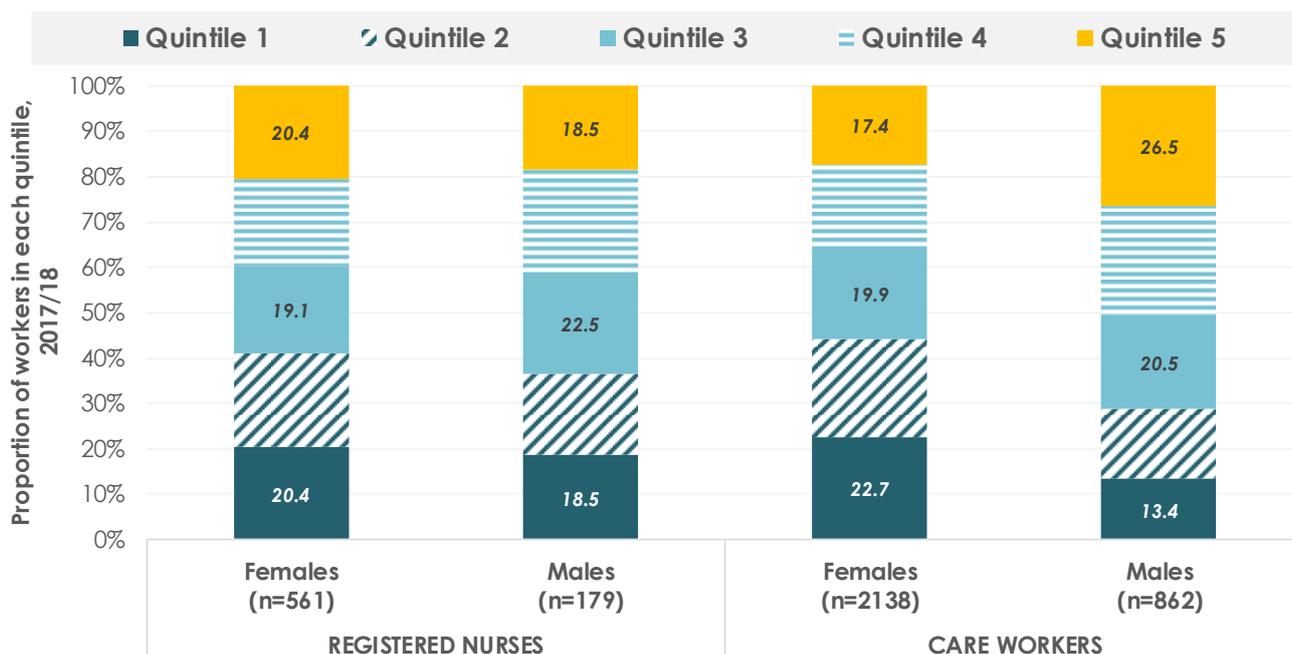
2.2.2 Differences by nationality

Differences in income are much more apparent in relation to nationality, particularly amongst registered nurses on work visas. Indeed, some 54.5 per cent of nurses from Great Britain and Ireland earn an income that positions them in quintile 5, a figure that has increased from 44.6 per cent in 2013/14; only 12.2 per cent of nurses from Great Britain and Ireland earn in the lowest two quintiles. By contrast, only 13.9 per cent and 10.1 per cent of nurses from the Philippines and India earn in quintile 5 respectively, and 45.5 per cent and 49.7 per cent respectively earn in the lowest two quintiles. Other, less striking nationality differences are evident amongst care workers. Here people from the Philippines and India are distributed relatively evenly across income quintiles, while for those from countries in the Pacific Islands 49.6 per cent earn in the lowest two quintiles and only 15.4 per cent earn in the highest quintile.

Figure 2.4 Proportion of migrant nursing and care workers disaggregated by nationality, falling in each of the five income quintiles in 2017/18

REGISTERED NURSES
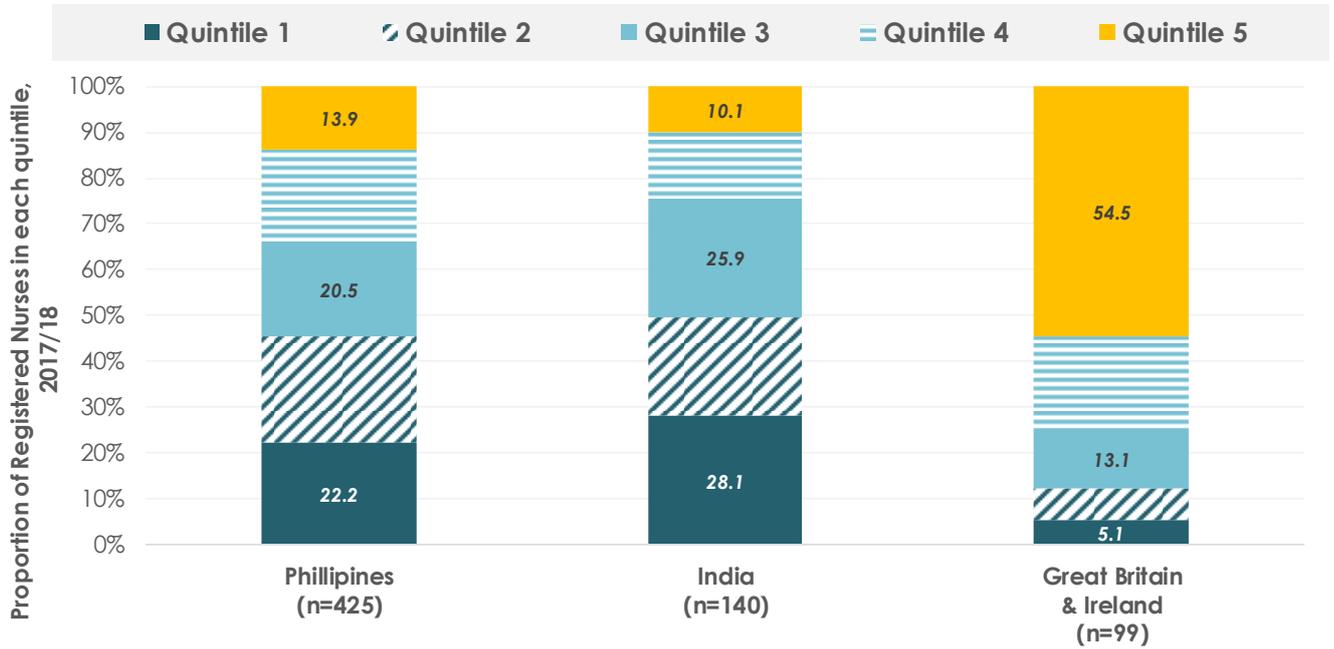
Care Workers
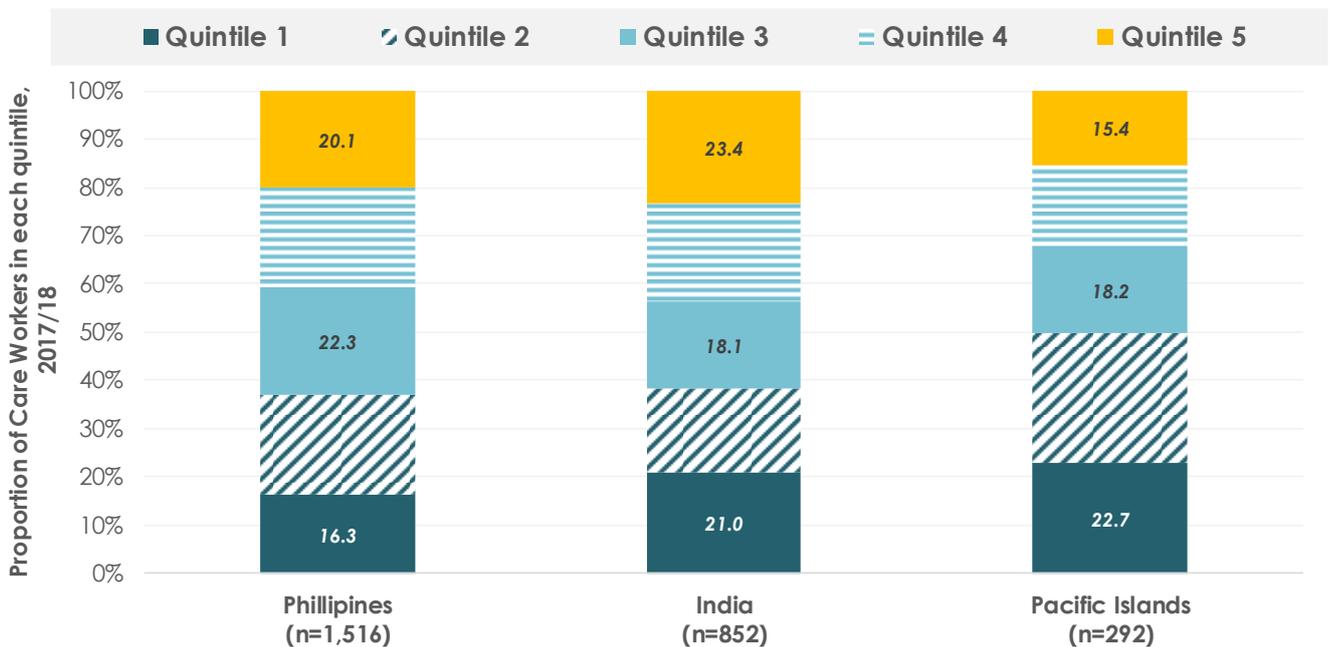
3 CONSTRUCTION WORKERS

Since 2011 there has been a significant increase in activity in New Zealand's construction industry that has led to growing demand from employers to recruit trades workers offshore or amongst people on work and study visas already in Aotearoa New Zealand. Initially, growth in the number of people on work visas employed in construction was directly related to the Canterbury earthquake rebuild. Indeed, in the 24 months following the quakes between 2011/12 and 2013/14 the number of work visas approved for construction trades workers increased from 672 to 2,145 annually, 80.1 per cent of which were for employment in the Canterbury region. More recently, however, growth has shifted to Auckland as major housing, commercial, rail, roading and other infrastructure projects have been initiated by government and the private sector. By 2017/18 the number of work visas issued annually had increased to 3,744 with 56.7 per cent of those for employment in the Auckland region. Despite this substantial growth in migrants employed in the sector, the government's Construction Skills Action Plan suggest that there remain significant shortages in appropriately skilled labour (Salesa, 2018) while the National Construction Pipeline Report projects continued growth in industry investment and activity into the third decade of this century (MBIE, 2019).

3.1   Demographic profile

For the purposes of this report we have selected five broad occupations that represent key areas of the construction industry where there have been notable numbers of people on work visas and representing different skills levels. These occupations—carpenter/joiner, painter/plasterer, plumber, structural steel construction workers and building and plumbing labourers—were defined around different types of work (e.g. carpentry, painting etc.) and different skills levels ranging from Level 3 'mid-skilled' to Level 5 'lowest skilled'; each of the occupations used here are made up of more than one occupation within the ANZSCO framework (see Table A in the introduction section for full details on these occupations). Over the five-year period of 2013-2018, a total of 20,600 work visas were issued for the five construction occupations covered in this report (see Table 3.1). Over the course of the five years, these visas have been issued to a total of 9,700 workers, suggesting that each worker is on average issued approximately two visas during this time, a pattern that is relatively constant across these occupations. While all of these occupations have increased over this period, growth in visa approvals and workers has been particularly notable for structural steel construction workers (1400 per cent, from 200 in 2013/14 to 3,000 in 2017/18) and carpenters/joiners (from 1,000 in 2013/14 to 3,400 in 2017/18). As Table 3.2 demonstrates, work visa holders in these construction occupations are almost exclusively men, with only 0.7 per cent of workers or 68 individuals over the five years being women. Amongst the general workforce, women are only 2.8 per cent of all construction trades occupations.

Table 3.1: Number of essential skills workers with approved work visa in the construction industry (selected occupations), 2013/14 to 2017/18

	Skill Level	Number of Workers with Approved Work Visa					Total*	Total workers (5-year period)
		2013/14	2014/15	2015/16	2016/17	2017/18		
CARPENTER/JOINER	3	1,000	1,600	1,800	2,300	3,400	**10,200**	4,900
PAINTER/PLASTERER	3	660	800	780	730	920	**3,900**	1,800
PLUMBER	3	160	210	250	280	360	**1,200**	650
STRUCTURAL STEEL CONSTRUCTION WORKERS	4	200	310	540	700	1,200	**3,000**	1,500
BUILDING & PLUMBING LABOURERS	5	220	280	370	520	760	**2,100**	1,200
Total		2,300	3,200	3,800	4,600	6,700	**20,600**	9,700

* A person can have an approved visa in multiple years and therefore this gives the total number of work visas approved and not the total number of people.
Note: All counts have been changed using GRR because of which some totals across rows/column may not add up.

Table 3.2: Sex profile of all essential skills workers in the construction industry (selected occupations), 2013/14 to 2017/18

	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
Female	1.1	0.9	0.9	0.7	0.5	0.7
Male	98.9	99.1	99.1	99.3	99.5	99.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Figure 3.1 shows the age profile for all essential skills workers in construction industry occupations analysed in this report. The charts for each occupation illustrate that over the five-year period there has been a consistent increase in the proportion of workers who are aged 35 years of age and older, and in the case of carpenters/joiners a near doubling of the proportion of workers who are 45 years and older. By 2017/18, 72.3 per cent of carpenters/joiners were 35 years of age or older, and amongst structural steel construction workers that figure was 74.3 per cent. In this regard, the construction industry and these occupations in particular differ somewhat from the overall temporary migrant work population where in June 2018 some 61.4 per cent of workers were *under* the age of 35 years. Some of this ageing is likely related to the time that migrants spend in New Zealand on temporary visas, with visas for carpenters/joiners usually issued for three years and an average of two visas per worker substantial ageing will occur while workers are in New Zealand. It is also likely these trends are related to changing recruitment practices or international labour supply.

Figure 3.1 Age profile of all essential skills workers in the construction industry (selected occupations), 2013/14 to 2017/18

Carpenter/Joiner

under 25 years · 25-34 years · 35-44 years · 45+ years

	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
45+	16.3	18.9	21.3	23.0	29.5	23.6
25-34	41.2	38.9	37.2	33.9	26.4	33.5
under 25	7.8	6.8	5.2	3.3	1.3	4.0

Painter/Plasterer

under 25 years · 25-34 years · 35-44 years · 45+ years

	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
45+	13.7	15.8	15.9	14.7	16.9	15.5
25-34	45.0	42.3	41.7	43.3	35.5	41.2
under 25	9.1	7.4	5.1	4.1	2.2	5.4

Plumber

under 25 years · 25-34 years · 35-44 years · 45+ years

	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
45+	14.2	7.2	10.5	10.1	13.3	11.2
25-34	57.4	65.2	62.8	57.8	48.1	57.1
under 25	12.3	7.2	3.6	2.5	1.7	4.5

Structural Steel Contruction Worker

under 25 years · 25-34 years · 35-44 years · 45+ years

	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
45+	16.2	14.8	12.9	13.8	18.9	16.0
25-34	42.9	40.3	38.3	35.2	25.2	32.6
under 25	5.1	4.2	3.4	2.1	0.5	2.1

Building & Plumbing Labourer

under 25 years · 25-34 years · 35-44 years · 45+ years

	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
45+	9.0	10.1	10.5	11.6	15.7	12.4
25-34	54.1	50.0	52.5	50.9	48.0	50.3
under 25	17.1	17.1	18.2	14.7	7.4	13.3

Table 3.3 presents data on the nationality of all essential skills workers in these construction industry occupations. There is some variation in the nationalities that dominate each occupation, although in all cases the vast majority of workers come from the Philippines, Great Britain or Ireland and Pacific Island countries, with workers from Brazil and South Africa making up small proportions in painter/plasterer and plumber occupations respectively. There are also changes over time in each of these occupations. In carpenter/joiner, painter/plasterer, structural steel construction workers and building and plumbing labourers, the proportion of people from the

Philippines has increased over the five-year period. Particularly notable has been the increase in people from the Philippines working as carpenters/joiners, rising from 40.8 per cent in 2013/18 to 61.3 per cent in 2017/18, and as structural steel construction workers, from 48.5 per cent to 80.6 per cent; note that these are also the occupations that have grown in the number the most so these increases for these nationalities are both absolute and proportional. There have been notable but much more modest increases in the proportions of workers from Pacific Island countries (amongst plumbers and building and plumbing labourers), Brazil (painters/plasterers) and South Africa (plumbers). Concurrently, the proportion of workers from Great Britain and Ireland has reduced in all occupations, which means that with the exception of plumbers those workers now represent less than 17 per cent in all areas whereas in 2013/14 they represented around one third of workers in all of these occupations.

Table 3.3: Nationality profile of all essential skills workers in the construction industry (selected occupations), 2013/14 to 2017/18

CARPENTER/JOINER						
	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
Philippines	40.8	48.8	54.1	57.9	61.3	55.3
Great Britain & Ireland	36.9	30.5	22.7	14.4	9.6	19.0
Pacific Islands	7.6	6.2	6.8	7.7	7.0	7.1
Other (56 countries)	14.6	14.4	16.5	20.0	22.1	18.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

PAINTER/PLASTERER						
	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
Philippines	31.9	38.5	41.3	42.4	42.7	39.7
Great Britain & Ireland	32.5	27.5	21.5	18.8	12.5	21.9
Brazil	12.4	10.4	13.1	15.1	16.8	13.7
Other (54 countries)	23.3	23.6	24.1	23.7	28.0	24.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

PLUMBER						
	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
Great Britain & Ireland	63.9	60.9	53.0	39.7	33.9	47.2
Pacific Islands	11.6	11.6	11.3	14.8	15.6	13.4
South Africa	7.1	7.2	8.5	15.2	17.8	12.3
Other (29 countries)	17.4	20.3	27.1	30.3	32.8	27.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

STRUCTURAL STEEL CONSTRUCTION WORKERS						
	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
Philippines	48.5	61.0	74.4	76.8	80.6	74.4
Great Britain & Ireland	38.4	28.1	17.6	12.6	6.8	14.4
Other (37 countries)	13.1	11.0	8.0	10.6	12.6	11.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

BUILDING & PLUMBING LABOURERS						
	2013/14	2014/15	2015/16	2016/17	2017/18	Overall (5yr average)
Philippines	18.9	22.7	23.8	33.5	37.5	30.3
Great Britain & Ireland	36.0	31.5	28.5	24.6	16.6	24.5
Pacific Islands	9.5	14.7	11.0	8.8	15.6	12.4
Other (40 countries)	35.6	31.1	36.7	33.1	30.3	32.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

3.2 Income

The average nominal incomes of people holding essential skills work visas and employed in these selected occupations in the construction industry have increased by 11.7 per cent, from $4,450 in 2013/14 to $4,972 in 2017/18 (see Appendix Table 12). These increases are notably lower than the 13.0 per cent per cent growth for average incomes in building construction industry over this period (LEED data – Building Construction). Although there are insufficient numbers of female workers in construction to properly analyse income data in relation to gender, it is notable that on average females earned 18.7 per cent less than males in 2017/18 ($4,045 compared to $4,979) and over five year period female average incomes have increased 9.0 per cent compared to 11.7 per cent for males. There is a substantial gender pay gap and it is increasing, a pattern that is reflected more generally in the industry where it is reported that men earn 20 per cent more than women (OneStaff, 2019). Analysis was also undertaken in relation to age, although we do not detail it here as this revealed a relatively predictable pattern of older workers earning higher incomes, likely resulting from greater experience in their occupations. The table below shows the monthly income cut-offs for all essential skills construction workers where one-fifth (20 per cent) of the workers fall between each cut off point.

Table 3.4: Monthly income quintile cut-offs for all essential skills workers in the Construction Industry (selected occupations), 2013/14 to 2017/18

| Year (Jul - Jun) | CARPENTERS/JOINERS: Quintile cut-off values for average monthly income | | | |
	2	3	4	5
2013/14	$3,674	$4,224	$4,788	$5,316
2014/15	$3,893	$4,468	$4,967	$5,548
2015/16	$3,965	$4,486	$5,023	$5,594
2016/17	$4,013	$4,541	$5,029	$5,604
2017/18	$4,131	$4,639	$5,092	$5,631
% increase over 5 years (2013/14 to 2017/18):	+12.4	+9.8	+6.4	+5.9

| Year (Jul - Jun) | PAINTERS/PLASTERERS: Quintile cut-off values for average monthly income | | | |
	2	3	4	5
2013/14	$3,200	$3,753	$4,259	$4,926
2014/15	$3,355	$3,897	$4,394	$5,012
2015/16	$3,301	$3,905	$4,341	$4,917
2016/17	$3,411	$3,999	$4,472	$5,087
2017/18	$3,611	$4,144	$4,581	$5,149
% increase over 5 years (2013/14 to 2017/18):	+12.9	+10.4	+7.6	+4.5

Year (Jul - Jun)	PLUMBERS: Quintile cut-off values for average monthly income			
	2	3	4	5
2013/14	$3,732	$4,328	$5,027	$5,436
2014/15	$3,912	$4,515	$4,954	$5,613
2015/16	$4,092	$4,636	$5,169	$5,963
2016/17	$3,918	$4,613	$5,221	$6,061
2017/18	$4,252	$4,829	$5,419	$6,200
% increase over 5 years (2013/14 to 2017/18):	+13.9	+11.6	+7.8	+14.1

Year (Jul - Jun)	BUILDING & PLUMBER LABOURERS: Quintile cut-off values for average monthly income			
	2	3	4	5
2013/14	$3,287	$3,715	$4,287	$4,673
2014/15	$3,308	$3,832	$4,361	$4,863
2015/16	$3,418	$4,008	$4,508	$5,050
2016/17	$3,424	$3,977	$4,548	$5,140
2017/18	$3,511	$4,062	$4,607	$5,241
% increase over 5 years (2013/14 to 2017/18):	+6.8	+9.3	+7.4	+12.1

Year (Jul - Jun)	STRUCTURAL STEEL CONTRUCTION WORKERS: Quintile cut-off values for average monthly income			
	2	3	4	5
2013/14	$3,804	$4,323	$4,914	$5,842
2014/15	$3,979	$4,571	$5,074	$5,916
2015/16	$4,137	$4,668	$5,186	$5,812
2016/17	$4,349	$4,929	$5,480	$6,235
2017/18	$4,206	$4,932	$5,543	$6,254
% increase over 5 years (2013/14 to 2017/18):	+10.6	+14.1	+12.8	+7.0

3.2.1 Differences by nationality

Differences in income levels are observed by nationality across all occupations we analysed in the construction industry. In four out of five cases, workers from Great Britain and Ireland earn more than other nationalities, usually followed by workers from the Philippines and then those from Pacific Island countries, Brazil or South Africa. In the case of carpenters/joiners (who are the largest occupation in the construction industry), workers from Great Britain and Ireland earned an average income in 2017/18 ($5,704) that was 12.8 per cent higher than those from the Philippines ($5,054), and 29.9 per cent higher than those from countries in the Pacific Islands ($4,392). The differences are much smaller for painters/plasterers where those from Great Britain and Ireland

($4,806) and the Philippines ($4,710) earn relatively similar incomes following an increase in average income of 22.7 per cent for workers from the Philippines over the five-year period. Painters/plasterers from Brazil and 'other countries', however, earn 15.1 per cent and 15.5 per cent less that workers from Great Britain and Ireland respectively. Amongst plumbers, workers from Great Britain and Ireland ($5,721) and South Africa ($5,867) earn more than 27 per cent higher incomes on average than workers from Pacific Island countries. Similar patterns exist for structural steel construction workers, where workers from Great Britain and Ireland ($6,013) earn 8.8 per cent more than workers from the Philippines ($5,525). Lastly, for building and plumbing labourers a different pattern was apparent in relation to average incomes. In this occupation, workers from the Philippines earned the highest average income, $4,909, 7.4 per cent higher than workers from Great Britain ($4,571) and 21.5 per cent higher than those from Pacific Island countries ($4,039). These differences in average income are particularly notable between workers from Pacific Island countries and other nationalities. Indeed, both carpenters/joiners and plumbers (both Level 3 mid-skilled positions) from Pacific Island countries earn less on average than labourers (Level 5 lowest skill positions) from Great Britain and Ireland and the Philippines in both these occupations (see Appendix Table 14 for average income data).

Figure 3.2 Proportion of essential skills workers in the Construction Industry, disaggregated by nationality, falling in each of the five income quintiles in 2017/18

PAINTER/PLASTERER

Quintile 1　Quintile 2　Quintile 3　Quintile 4　Quintile 5

Proportion of Painters/Plasterers in each quintile, 2017/18

	Phillipines (n=393)	Great Britain & Ireland (n=115)	Pacific Islands (n=155)
Quintile 5	24.1	30.4	12.3
Quintile 3	22.1	21.7	19.4
Quintile 1	5.3	14.8	33.5

STRUCTURAL STEEL CONSTRUCTION WORKERS

Quintile 1　Quintile 2　Quintile 3　Quintile 4　Quintile 5

Proportion of Structural Steel Construction Workers in each quintile, 2017/18

	Phillipines (n=967)	Great Britain & Ireland (n=82)
Quintile 5	20.1	35.3
Quintile 3	21.0	9.4
Quintile 1	19.0	15.3

BUILDING & PLUMBING LABOURERS

Quintile 1　Quintile 2　Quintile 3　Quintile 4　Quintile 5

Proportion of Building & Plumbing Labourers in each quintile, 2017/18

	Phillipines (n=285)	Great Britain & Ireland (n=126)	Pacific Islands (n=118)
Quintile 5	29.2	23.8	8.5
Quintile 3	23.9	19.8	15.3
Quintile 1	7.4	13.5	35.6

The income profile by quintile for these occupations by nationality is shown in Figure 3.2 (insufficient data was available to present information on plumbers by quintile). In each occupation nationality differences by quintile further reinforce observed differences in relation to average income. In all occupations except building and plumbing labourers, workers from Great Britain and Ireland are more likely to earn in the highest income than any other nationality, and in the case of carpenters/joiners some 44.2 per cent are in this top income quintile (compared to only 18.2 per cent and 13.3 per cent for those from the Philippines and Pacific Island countries). By contrast, in all occupations where people from Pacific Island countries significant, they are much more likely to earn in the lowest quintile 1 than any other nationality, reaching as high as 46.5 per cent for carpenters/joiners.

4 INCOME CHANGE OVER TIME

The differences in income observed by nationality and gender have been substantial across the five year period from 2013/14 to 2017/18. However, we have also observed that there has been a notable and favourable growth in the average incomes of work visa holders in some of these occupations, and a reduction in the gap between highest and lowest quintiles and the income differences between nationalities. The analysis of incomes presented in this report demonstrates that the pay rates of people on work visas have increased considerably over the period 2013/14-2017/18 (see Table 4.1), especially in dairy farming and health. Migrants working on dairy farms have seen increases of 19.3 per cent as farmers and 24.1 per cent as workers, while in health care the incomes of nurses on work visas have increased by 12.6 per cent and those of care workers by 34.9 per cent. Migrants working in the construction sector have also seen increases but at varying rates ranging between 7.1 per cent and 14.3 per cent.

Table 4.1: Income change for work visa holders (IR Data), general workforce (Census 2013 and 2018) and industry (Household Labour Force Survey) between 2013 and 2018

Industry (ANZSIC)	Occupation (ANZSCO)	Average Income: % Change, 2013-2018		
		Work Visa Holders (IR Data)	General Workforce (Census)	Industry (HLFS)
Agriculture, Forestry and Fishing	Dairy Cattle Farm Worker	+24.1	+0.0	+22.6
	Dairy Cattle Farmer	+19.3	+1.7	
Construction	Carpenters and Joiners	+8.0	+14.2	+14.0
	Painters and Plasterers	+7.1	+10.0	
	Plumbers	+14.3	+16.5	
	Structural Steel Construction Workers	+12.6	+5.7	
	Building and Plumbing Labourers	+10.8	+7.2	
Health	Care Workers	+34.9	+20.1	+12.0
	Registered Nurses - All	+14.5	+4.8	
	Registered Nurse - Aged care	+23.7	+2.1	
	Registered Nurse - Medical	+9.3	+3.7	

Note: Census data presented above is based on customised job number 10680 provided by StatsNZ (personal income, including average and median income) by age group and sex for employed census usually resident population aged 15 years and over in select grouped occupations.

Table 4.1 shows percentage change in average monthly income of work visa holders in each occupation (IR Data) alongside percentage change in self-reported annual income data for the general workforce (Census 2013 and 2018 questions on income and occupation), and percentage change in average weekly earnings for each industry between 2013 and 2018

(Household Labour Force Survey (HLFS)). The actual incomes from each of these datasets cannot be directly compared due to differences in measures and modes of collection. This is compounded by the absence of data on hours worked generally and for work visa holders specifically – it is not possible to assess to what extent increased incomes have occurred as a result of greater wages and salaries or increases in hours worked, which may vary substantially between migrants and the general workforce.

Despite these limitations, the comparable differences in income change over time are illustrative of the situation of migrants in different occupations and industries. In dairy farming, for example, the per cent growth of incomes of work visa holders compares to effectively zero self-reported income growth from census data and on par with industry wide income growth. In health care, aged care nurses on work visas have fared especially well in comparison to the general workforce and industry, experiencing more than ten times the self-reported income growth from census data and nearly twice that of industry wide income growth. Care worker incomes have also grown notably more than self-reported general workforce incomes. In construction, mid-skilled work visa holders have fared less favourably. In the carpenter/joiner, painter/plasterer occupations (the two largest groups of work visa holders), income growth is lower than the general workforce and just over half of the industry-wide rates. The per cent income growth of plumbers is slightly below general workforce income growth and on par with industry wide income growth. It is only amongst lower skilled occupations that growth rates for work visa holders have been favourable; structural steel construction workers have experienced more than twice and building and plumbing labourers are slightly ahead of general workforce income change, although in both cases income growth is lower than the industry as a whole.

The different levels of growth in incomes for workers in these sectors overall intersects in a range of way with changes in the spread of incomes by quintile as well as changes in average incomes by nationality. There are no notable differences in income growth by gender across any of these occupations.

4.1.1 Dairy farming

In dairy farming the distribution of income has not varied significantly (see Table 4.2). For dairy farmers the growth in income by quintile between 2013/14 and 2017/18 ranged from 19.7 to 20.5 per cent. Amongst dairy farm workers there is slightly greater growth in the income of the highest quintile (26.6 per cent) in comparison to the other income quintiles (22.9 to 24 per cent). A similar pattern is apparent in relation to nationality for dairy farm workers, where incomes of all major nationalities grew by between 22.7 per cent (Philippines) and 29.9 per cent (Chile) over the five year period and the difference between average incomes in 2017/18 was less than two per cent.

By contrast, amongst higher skilled dairy farmers income growth has been greatest for work visa holders from Chile (27.6 per cent) and India (26.6 per cent), particularly in comparison to farmers from the Philippines (16.7 per cent) and Sri Lanka (15.2 per cent). By the end of the five-year period, the gap between the highest paid and the lowest paid major nationality (Great Britain/Ireland and Sri Lanka respectively) had increased from 10.7 per cent to 16.6 per cent. As Appendix Table 5 also shows, people from Chile, Great Britain and to a lesser degree Pacific Island nations were more likely to earn in the highest quintiles by the end of the five year period, the opposite of which was true for people from the Philippines.

Table 4.2: Income change for the dairy farming sector, 2013/14-2017/18

INCOME CHANGE BETWEEN 2013/14 AND 2017/18		
	Occupation	
	Dairy Farm Worker	Dairy Farmer
QUINTILE		
Quintile 2	+22.9 per cent	+19.7 per cent
Quintile 3	+23.0 per cent	+19.9 per cent
Quintile 4	+24.0 per cent	+20.0 per cent
Quintile 5	+26.6 per cent	+20.5 per cent
SEX		
Female	+15.3 per cent	+21.9 per cent
Male	+19.3 per cent	+23.7 per cent
NATIONALITY		
Philippines	+22.7 per cent	+16.7 per cent
India	+26.1 per cent	+26.6 per cent
Pacific Islands	+26.9 per cent	+23.4 per cent
Great Britain and Ireland	+27.4 per cent	+21.3 per cent
Chile	+29.9 per cent	+27.6 per cent
Sri Lanka	No data	+15.2 per cent
South African	No data	+18.8 per cent

4.1.2 Nursing & care

In the health care sector (nursing and care), income changes also reveal different patterns by occupation and that relate in particular to the impact of the Care and Support Workers (Pay Equity) Settlement Act 2017 (CSWSA). Amongst the lower skilled care worker occupations, incomes across all quintiles have grown at relatively similar rates across the five years, ranging

from 34.3 per cent (quintile 5) to 39.1 per cent (quintile 2). Unsurprisingly, the effect of the CSWSA has been apparent for all workers but more so for those on the lowest incomes. There has been more variability in the average income growth between nationalities, which has led to a flattening of income differences over the five years. In 2013/14 the difference between the average income of the highest and lowest paid major nationalities (Philippines and China) was 15.7 per cent. Over the five years, higher income growth for care workers from India (49.4 per cent) and China (38.6 per cent) in comparison to the Philippines (28.2 per cent) and Pacific Islands (30.4 per cent) has reduced the difference between highest and lowest average income by nationality to 7.9 per cent (now between India and China).

Table 4.3: Income change for the health (nursing and care) sector, 2013/14-2017/18

INCOME CHANGE BETWEEN 2013/14 AND 2017/18		
	Occupation	
	Care Workers	Registered Nurses (all)
QUINTILE		
Quintile 2	+39.1 per cent	+31.2 per cent
Quintile 3	+35.9 per cent	+15.9 per cent
Quintile 4	+35.6 per cent	+7.6 per cent
Quintile 5	+34.3 per cent	+3.6 per cent
SEX		
Female	+34.1 per cent	+14.3 per cent
Male	+34.0 per cent	+15.1 per cent
NATIONALITY		
Philippines	+28.2 per cent	+16.0 per cent
India	+49.4 per cent	+32.5 per cent
Pacific Islands	+30.4 per cent	No data
Great Britain and Ireland	+33.2 per cent	+9.4 per cent
China	+38.6 per cent	No data

Amongst nurses there is a much more varied pattern of change. Income growth has been much more apparent for those in the lowest quintile (the cut off for quintile 2 rising by 31.7 per cent), with lower income growth in the higher quintiles (3.6 per cent for quintile 5). This difference is likely the result of the CSWSA, which created upward pressure on the incomes of aged care nurses working alongside care workers. Over the five years, the average incomes of aged care nurses have increased by 23.7 per cent while those of the second largest group, registered nurses (medical), grew by only 9.3 per cent and the total growth for all registered nurses was 14.5 per cent. This pattern is reflected in the nationality changes too, the average incomes of nurses from

the Philippines and India (nearly two thirds of whom work in aged care) increased by 16.0 per cent and 32.5 per cent over the five years, while for nurses from Great Britain and Ireland income growth was 9.4 per cent. The difference between the average incomes of major nationalities in nurses have thus also shifted. In 2013/14 the average incomes of nurses from Great Britain and Ireland were 59.4 per cent higher than those from India, while by 2017/18 this had reduced to 31.6 per cent as the average incomes of nurses from India have nearly reached the same level as those from the Philippines.

4.1.3 Construction

As noted above, work visa holders in the construction industry have overall experienced lower rates of income growth than the other two sectors and there is also variability in changes between quintiles. Amongst carpenters/joiners there has been more growth in quintile 2 at 12.4 per cent, then declining to 5.9 per cent for quintile 5. For structural steel construction workers, there has been higher growth in the 3rd and 4th quintiles (14.1 per cent and 12.8 per cent respectively), with slightly lower growth for quintile 2 (10.6 per cent) and quintile 5 (7.0 per cent). Conversely, amongst building and plumber labourers, income growth is highest in quintile 5 (12.1 per cent) and lowest at quintile 2 (6.8 per cent), suggesting an increase in spread of income over the five years studied.

Table 4.4: Income change for the construction sector, 2013/14-2017/18

INCOME CHANGE BETWEEN 2013/14 AND 2017/18			
	Occupation		
	Carpenters/Joiners	Structural Steel Construction Workers	Building and Plumbing Labourers
QUINTILE			
Quintile 2	+12.4 per cent	+10.6 per cent	+6.8 per cent
Quintile 3	+9.8 per cent	+14.1 per cent	+9.3 per cent
Quintile 4	+6.4 per cent	+12.8 per cent	+7.4 per cent
Quintile 5	+5.9 per cent	+7.0 per cent	+12.1 per cent
SEX			
Female	No data	No data	No data
Male	No data	No data	No data
NATIONALITY			
Philippines	+11.7 per cent	+19.6 per cent	+12.6 per cent
Great Britain and Ireland	+11.7 per cent	+13.9 per cent	+7.5 per cent
Pacific Islands	+21.4 per cent	No data	-1.6 per cent

In relation to nationality, average incomes of carpenters/joiners from the Philippines and Great Britain/Ireland both grew by 11.7 per cent, while those from Pacific Island countries grew by 21.4 per cent. This difference has led to a reduction in the gap between highest and lowest paid nationality (Great Britain/Ireland and Pacific Islands) from 41.1 per cent in 2013/14 to 29.9 per cent in 2017/18. Amongst structural steel construction workers, a less notable reduction in income differences is apparent as average incomes of workers from the Philippines grew by 19.6 per cent in comparison to 13.9 per cent for those from Great Britain and Ireland; in 2017/18, the average income difference between these nationalities was 8.8 per cent, having declined from 14.2 per cent in 2013/14. In contrast, the difference between the average incomes of different nationalities of building and plumbing labourers have increased over the five years; those from the Philippines (who had the highest average incomes in 2013/14) increased by 12.6 per cent, Great Britain/Ireland by 9.6 per cent and those from the Pacific Islands experienced a decline of 1.6 per cent over the five years. The result is that the gap between the average incomes of these nationalities is now greater, 21.5 per cent in 2017/18, up from 6.2 per cent in 2013/14. In other words, whether in terms of the spread of incomes or differences between nationalities, there was more income inequality amongst building and plumbing labourers at the end of the five years than at the beginning.

5 DISCUSSION

5.1.1 Intersectional occupational niches

The demographic profiles presented here point to the emergence of occupational niches (Liu-Farrer, 2011; Waldinger, 1994) in the dairy farming, health and construction industries in Aotearoa New Zealand. In descriptive terms, an occupational niche related to ethnicity or immigration status highlights "the tendency of members of a specific ethnic group [and/or people with shared migrant status] to be over-represented in an activityor job associated with the production of a good or service" (Wilson, 2003: 431). Such niches come about through the intersection of migration pathways for particular nationalities, the role of social networks in recruitment and socially constructed notions of suitability of different nationalities/ethnicities for particular occupations. In Aotearoa New Zealand, it is now well known that certain industries have higher proportions of people on work visas for reasons that vary but often relate to the availability of appropriately skilled workers and the desirability of certain occupations (Collins, 2020; Collins and Bayliss, 2020). This report shows that these migrant occupational niches also intersect with nationality and gender in ways that vary by both industry and specific occupations.

Nationality patterns in some of these occupations are not stable, however, and our analysis has demonstrated some notable shifts in composition. In dairy farming, for example, there has been a noted increase in the share of workers from India in both dairy farmer and farm worker occupations over the five-year period under study, while workers from the Philippines have increased in proportion to a more limited degree. In the dairy farm worker occupation there has been a concurrent decline in workers from Great Britain and Ireland, countries in the Pacific Islands and all 'other' countries. The net effect is an incremental but notable decline in the nationality diversity of these occupations. Another apparent change in composition is a result of changing government practices, as we observed a substantial increase in the lower skilled farm worker occupation in 2017/18 as the higher skilled farmer occupation declined by more than a third. The data presented here suggest that this change may have impacted workers from the Philippines more than other nationalities – i.e. they were more likely to be categorised as working in a 'lower skilled' occupation by 2017/18 than they were at in 2013/14.

These nationality patterns are apparent in health and construction as well, although there are differences too. In health, for example, while there are a substantial proportion of nurses from Great Britain and Ireland (although this has declined over time), they are not a significant feature of the care worker occupation, and the opposite is true for people from the Pacific Islands. In construction too, we observe quite different nationality patterns at the level of occupation –

Great Britain and Ireland significant for plumbers, painters/plasterers and carpenters/joiners but less so in other occupations, while there are very few plumbers from the Philippines and specific nationalities such as Brazil and South Africa are apparent only in certain occupations.

People from the Philippines are particularly significant in all of these industries and occupations, a pattern that reflects the different opportunities available for entry into New Zealand, employer preferences for different nationalities and the emergence of particular 'mobility pathways' into New Zealand labour market opportunities (Friesen, 2017). Indeed, in related research (Collins 2021) it has been shown that the presence of people from the Philippines in certain occupations relates to a growing pattern of 'multinational migration' (Paul and Yeoh, 2020) that links Aotearoa New Zealand to labour markets in the Philippines, the Middle East and Japan via the inducements of migration agents. Further, it has been found that employers in the dairy farming (see Collins and Bayliss 2020) and health industries (see Collins, 2020) have developed a preference for workers from the Philippines because of racial stereotypes about work ethic and docility, a preference that also relates partly to the activities of migration agents.

Moreover, nationality and migrant status intersects with gender especially and also age in these occupations. Both construction and dairy farming are overwhelming staffed by male work visa holders. While both occupations are traditionally quite gendered the ratio of migrant men to women is much greater than is the case for the general workforce, especially in dairy farming. In in relation to health a different gendered pattern emerges. The migrant workforce is predominantly female but the ratio of migrant women to men is actually smaller than is the case in the general workforce. Amongst care workers, the proportion of males is also growing notably over the five year period, suggesting a shift in migration patterns and practices that relates partly to the viability of particular migration pathways (see also Collins, 2021).

In relation to age, while work visa holders in dairy farming and especially construction are getting older, those in health are getting younger. The ageing of the migrant workforce is particularly apparent amongst construction workers, especially carpenters/joiners and structural steel construction workers where three quarters are 35 years of age and older. This is likely at least partly the result of multiple extensions of work visas in construction as industry activity and labour shortages continue to grow (MBIE, 2019), while the pathway to residence-class visas is quite narrow for many of these workers (see Table C2). In contrast, work visa holders who are nurses and care workers have become younger on average over the five-year period under study. Amongst nurses over 85 per cent are under 35 years of age, a proportion that likely reflects the very quick progress of nurses to residence class visas (see Table C3). For care workers, the transition to residence class visas generally relies on care workers becoming nurses and so is less certain, but we still observe that the workforce is becoming younger, with 73 per cent under 35

years of age by the end of the five year period in 2017/18. These age profiles for health workers are also starkly different to the age profile of the general workforce of nurses and care workers, which is ageing rapidly (Ministry of Health, 2016).

Overall, then, these demographic profiles reveal a complex and dynamic set of intersectional occupational niches wherein migrant status, nationality, gender and age are taking shape around particular occupations and industries. These patterns are significant for understanding contemporary migration in Aotearoa New Zealand because they will influence the character of the workforce, their composition today and into the future and the way that migration emerges through transnational and local patterns of multinational migration. These occupational niches are also significant because they relate to our other significant questions here about the relative income inequality between temporary migrants in these occupations.

5.1.2 Variable pay queue

The analysis of incomes presented in this report demonstrate that there are apparent differences in the earnings of people on temporary work visas in most of these occupations that relate to nationality and gender. Indeed, whether analysed in terms of average incomes or income quintiles there are stark differences that suggest that some workers have been given more preferable treatment, or at least that their skills and contribution are valued at a higher rate than others. These findings echo recent research by the Human Rights Commission (2020), which has highlighted that unequal pay is a common feature of the New Zealand labour market, particularly in relation to age, ethnicity and gender.

Most apparent across almost all occupations is that when there are workers from Great Britain and Ireland they earn more than other nationalities on average, often substantially, and are far more likely to earn in the highest income quintile. In the higher skilled occupations of dairy farmer and nurse and the mid-skilled carpenter/joiner occupation, these differences are particularly notable, with 41 per cent, 54.5 per cent and 44.2 per cent respectively of workers from Great Britain and Ireland earning in the highest quintile. In some instances these wage differences reflect more granular dimensions of the occupational niches outlined above. In nursing, for example, there are very few nurses from Great Britain and Ireland working in aged care, the speciality that has the lowest income for migrants (see Appendix Table 11) and the general workforce (see Appendix 15), while nearly half of nurses from India and the Philippines are employed in this speciality. People from Great Britain and Ireland also earn more in occupations like structural steel construction work that are deemed lower skilled and are on par only with South Africans in a mid-skilled occupation like plumbing. While our analysis does not preclude other explanations, when it is placed alongside related research demonstrating racial

stereotyping in sectors employing temporary migrants (Collins, 2020; Collins and Bayliss, 2020; Human Rights Commission, 2020), it suggests that there is a premium that some employers are willing to pay for anglophone white workers.

The incomes of people from other major nationalities accross these occupations—Philippines, India, Pacific Islands—varies depending on the specific industries and occupations in question. In dairy farming, for example, the average incomes of people from Pacific Island countries are on par with those from the Philippines and India, and they are more likely to earn in the highest income quintile. By contrast, in all construction occupations people from Pacific Island countries earn substantially less than all other nationalities and more than a third in each occupation are earning in the lowest income quintile and very few in the highest income quintile. Because people from the Philippines occupy a significant proportion in many of these occupations their incomes tend to be evenly spread across the quintiles in each case.

Changes in income for different nationalities have in some cases moderated inequalities in income that were much more apparent in 2013/4 but only to a limited degree. Work visa holders from India, in particular, have seen notable increases in income above other nationalities in the dairy farmer, registered nurse and care worker occupations. As a result, by 2017/18 Indian nurses and dairy farmers were earning on par with those from the Philippines, although both were still earning substantially less than work visa holders from Great Britain and Ireland (as well as Chile and South Africa in the case of dairy farmers). In contrast, work visa holders from the Philippines, who represent the largest group in all of these occupations, have only experienced favourable income growth in construction occupations (especially lower skilled structural steel construciton workers and building/plumbing labourers) and have had relatively lower income growth than other nationalities in dairy farming and health care.

Gender has other kinds of patterns in relation to income. While there are very few women on work visas in dairy farming or construction work, the little data we have indicates a substantial gender pay gap in the dairy farmer occupation (15.2 per cent) and throughout the construction occupations we analysed (18.7 per cent). Amongst both care workers and nurses there are many more female work visa holders, although there remains a gender pay gap that priveleges males, 2.0 per cent for nurses and 7.3 per cent for care workers. These gaps echo the gaps that are evident in the general workforce – male dairy farmers earn 17.1 per cent more than females, male construction workers earn between 7.4 per cent and 25.5 per cent more than females, and even in the female dominated healthcare professions there is a gender pay gap of 8.4 per cent for care workers and 7.2 per cent for registered nurses. While these comparisons to general gender pay gaps highlights wider issues of discrimination in the labour market the inability to measure hourly rates in these occupations means we cannot take into account differences in the

amount of time worked by men and women. Nonetheless, the persistence of these gaps suggests that women on work visas from nationalities who are more poorly paid in these occupational areas face substantial economic disadvantage that bring together compound forms of discrimination on the basis of gender, migrant status and nationality (Raghuram, 2004).

Read in relation to the intersectional occupational niche's outlined above, these differences in income suggest that variable hiring and variable pay rates have been a characteristic of migrant labour recruitment and management in these sectors in New Zealand. A modified notion of the variable 'hiring queue' outlined by Waldinger and Lichter (2003) offers a probable explanation for these differences. The notion of the hiring queue is that employers select people for jobs not only based on purportedly objective assessments of skills but also through stereotypes about and assessments of "socially meaningful but arbitrary traits" that coalesce around ethnicity. The result is that preferences for jobs, the variable hiring queue, manifests in an "ordering of job candidates by ethnic or racial groups" (Waldinger and Licther 2003: 8). In the case of temporary labour migration that has emerged in New Zealand, the hiring queue clearly operates transnationally through recruitment channels and agents (Collins, 2021; Friesen, 2017) sourcing available workers from a range of countries for industries like health, construction and farming that suit the preferences of employers (Collins and Bayliss, 2020).

As the analysis of income differences outlined in this report demonstrate, overlaying the emergence of occupational niches around nationality and gender are differential pay rates wherein workers from different nationalities, and amongst them men and women, are offered distinctly unequal incomes. While the analysis in this report does not extend to accounting for the rationales behind different pay rates it is unlikely that these inequalities can be accounted for only through meaningful differences in skills and workplace contribution. Indeed, part of the function of the current work visa regime is that workers need to meet quite particular thresholds for qualifications and experience (e.g. number of years work experience) in order to qualify for a visa for a particular occupation such as dairy farmer, carpenter etc. The differences reveal here also need to be read in relation to qualitative research on temporary migration and employment (Collins, 2020; Collins and Bayliss, 2020) and workplace discrimination (Human Rights Commission, 2020) that has shown how different ethnicities/nationalities are valued differently by employers. In combination with such findings, the descriptive analysis here suggests that differences in income by nationality and gender are also likely the result of assessments of socially meaningful but arbitrary traits by employers that establish the value of individual and groups of workers in a discriminatory fashion.

6 Conclusion

This report has examined the population makeup and income of people holding temporary work visas employed in the dairy farming, health care and construction sectors in New Zealand. Over the last decade the size of the temporary worker population has increased substantially and there has been growing evidence that people on work visas experience disadvantageous working conditions and wages, including in some cases being subject to workplace exploitation and trafficking (Collins and Stringer, 2019; Stringer, 2016). While there has been some earlier research on income and employment conditions of work visa holders (Searle, 2015a; Searle, 2015b), there remains only limited evidence about the incomes of migrant workers. This report has drawn on anlaysis of administrative data on income and immigration from the IDI to document the differences in income that exist within three sectors where work visa holders have become a substantial part of the labour force.

Our findings demonstrate the extent to which occupational niches have emerged alongside the growth in work visa holders in these sectors of the labour market. These occupational niches are intersectional, reflecting a growing gendered and racialised character of temporary migration into New Zealand. Each of the occupations discussed in this report have particular nationality and gender characteristics amongst work visa holders that are different from the general workforce and point to the effects of migration systems and recruitment practices.

 The findings discussed here also demonstrate that there is substantial inequality in income earned within these occupations, particularly in relation to nationality and gender (although gender pay gaps appear to be similar to those in the general workforce). Most notably, workers from Britain and Ireland earn substantially more in all occupations where they are present, with varying pay levels for other nationalities depending on the occupation under examination. Alongside the observation of occupational niches these income differences appear to reveal evidence of employer preferences in recruitment and treatment of people on work visas.

Our report is limited to descriptive analysis of income levels amongst work visa holders in these selected occupations. The differences observed here suggest the need for further research examining the differences between temporary migrants and other workers, particularly those holding residence-class visas and citizens who are overseas and New Zealand-born. Future research could also look to analyse income differences for a wider range of occupations and across regions in New Zealand, as well as the impact of disruptive events such as the Covid-19 pandemic on employment status and income.

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Appendix

Appendix Table 1: Number of months of summarised gross income data from Wages & Salaries available for workers with essential skills work visa in the dairy, nursing & care and construction industries, 2013/14 to 2017/18

No. of months of IRD data recorded	Average, 2013/14 to 2017/18		
	Dairy	Health	Construction
4	2.2	2.4	4.7
5	2.1	2.6	4.5
6	2.2	2.1	3.6
7	2.7	2.4	3.2
8	3.0	2.9	5.0
9	3.5	3.9	5.4
10	5.5	4.6	5.7
11	12.4	7.5	9.8
12	66.6	71.6	58.2
	100.0	100.0	100.0

Appendix Table 2: Percentage of all workers with an approved work visa over the 2010/11 to 2017/18 period

	Percentage of all workers with an approved work visa over the 2010/11 - 2017/18 period		
	Dairy	Health	Construction
Only one approved visa application in 8 yrs	29.9	52.7	50.1
Multiple approved visa applications but all in only one category	45.4	33.1	47.7
Multiple approved visa applications in more than one category	24.7	14.2	2.1
	100.0	100.0	100.0

Appendix Table 3: Proportion of essential skills workers in dairy industry with an approved work visa, disaggregated by sex, falling in each of the five income quintiles, 2013/14 to 2017/18

	Dairy Farmers - Females						Dairy Farm Workers - Females				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	39.9	23.9	18.1	8.0	10.1		39.2	20.6	13.4	15.5	11.3
2014/15	39.0	20.7	17.7	13.4	9.1		41.4	18.8	12.8	12.8	14.3
2015/16	37.9	19.3	22.9	13.6	6.4		40.6	19.6	14.0	16.8	9.1
2016/17	31.9	19.3	20.2	15.1	13.4		44.8	21.2	13.3	11.3	9.4
2017/18	46.2	12.8	21.8	11.5	7.7		42.4	21.2	16.2	10.4	9.7

	Dairy Farmers - Males						Dairy Farm Workers - Males				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	18.5	19.7	20.1	20.9	20.7		16.7	20.1	21.1	20.2	21.9
2014/15	18.5	20.0	20.2	20.5	20.8		16.6	20.3	21.1	21.2	20.8
2015/16	18.7	20.1	19.6	20.7	20.9		16.9	20.0	20.9	20.4	21.8
2016/17	19.2	19.9	20.2	20.3	20.4		16.9	19.8	20.9	21.1	21.3
2017/18	18.4	20.4	19.9	20.5	20.8		17.6	19.7	20.4	21.1	21.1

Appendix Table 4: Average monthly income, essential skills workers in dairy industry with an approved work visa disaggregated by sex, 2013/14 to 2017/18

	DAIRY FARMERS						DAIRY FARM WORKERS				
	2013/14	2014/15	2015/16	2016/17	2017/18		2013/14	2014/15	2015/16	2016/17	2017/18
Females	$3,806	$3,909	$4,066	$4,276	$4,387		$3,221	$3,318	$3,511	$3,633	$3,926
Males	$4,234	$4,314	$4,516	$4,625	$5,053		$3,529	$3,622	$3,885	$4,098	$4,365
Total	**$4,206**	**$4,288**	**$4,490**	**$4,605**	**$5,017**		**$3,487**	**$3,584**	**$3,843**	**$4,052**	**$4,327**

Appendix Table 5: Proportion of essential skills workers in dairy industry with an approved work visa, disaggregated by nationality, falling in each of the five income quintiles, 2013/14 to 2017/18

	DAIRY FARMERS						DAIRY FARM WORKERS				
	Phillipines						Phillipines				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	15.8	20.1	21.0	23.0	20.0		10.5	19.4	24.5	23.5	22.1
2014/15	17.2	21.6	22.4	20.1	18.7		13.6	22.5	20.9	23.5	19.6
2015/16	20.5	22.3	21.0	18.8	17.4		15.3	21.3	21.9	22.2	19.3
2016/17	20.9	22.7	21.3	18.3	16.9		13.7	21.2	21.3	23.2	20.6
2017/18	18.7	21.0	22.8	21.3	16.2		14.9	19.8	22.1	23.7	19.5

	India						India				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	30.8	23.7	23.1	10.9	11.5		21.4	23.8	14.3	21.4	19.0
2014/15	28.9	20.4	19.4	19.9	11.4		25.0 S		25.0 S		27.1
2015/16	23.6	17.3	17.8	25.1	16.2		17.8 S		28.9 S		33.3
2016/17	19.8	20.8	20.8	19.3	19.3		19.1	20.4	21.7	20.4	18.3
2017/18	18.1	28.0	22.0	17.6	14.3		19.7	20.0	21.6	18.7	20.0

	Pacific Islands						Chile				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	25.6	15.0	27.1	20.3	12.0		25.0 S	S	S		16.7
2014/15	20.3	17.5	18.2	21.7	22.4		21.7	21.7	28.3	16.7	11.7
2015/16	20.2	20.2	16.9	22.6	20.2		31.3	15.6	17.2	18.8	17.2
2016/17	19.3	24.8	14.7	25.7	15.6		22.0	26.4	22.0	13.2	16.5
2017/18	28.2	16.9	15.5	15.5	23.9		22.8	19.5	17.4	14.8	25.5

	Chile						Pacific Islands				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	21.7	10.9	19.6	26.1	21.7		23.9	17.4	15.2	17.4	26.1
2014/15	18.8	12.9	14.9	18.8	34.7		22.7	15.9	20.5	15.9	25.0
2015/16	8.6	14.0	18.3	22.6	36.6		14.3	19.0	14.3	23.8	28.6
2016/17	9.8	20.7	12.2	29.3	28.0		22.5	11.3	18.3	15.5	32.4
2017/18	20.0	14.0	12.0	20.0	34.0		22.9	12.4	17.1	16.2	31.4

	Great Britain & Ireland				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	21.4	19.0	13.5	16.7	29.4
2014/15	23.0	15.8	15.1	19.4	26.6
2015/16	17.7	16.8	13.3	16.8	35.4
2016/17	17.4	8.3	17.4	19.8	37.2
2017/18	18.1	18.1	10.8	12.0	41.0

Appendix Table 6: Average monthly income, essential skills workers in dairy industry with an approved work visa disaggregated by nationality, 2013/14 to 2017/18

	DAIRY FARMERS				
	2013/14	2014/15	2015/16	2016/17	2017/18
Philippines	$4,235	$4,283	$4,423	$4,524	$4,942
India	$3,899	$4,102	$4,481	$4,595	$4,936
Pacific Islands	$4,023	$4,263	$4,450	$4,527	$4,965
Great Britain & Ireland	$4,532	$4,460	$4,860	$5,108	$5,498
Chile	$4,225	$4,474	$4,848	$4,940	$5,392
Sri Lanka	$4,094	$4,152	$4,264	$4,355	$4,715
South Africa	$4,476	$4,518	$4,663	$4,627	$5,318
Other (59 countries)	$4,185	$4,296	$4,562	$4,701	$5,085

	DAIRY FARM WORKERS				
	2013/14	2014/15	2015/16	2016/17	2017/18
Philippines	$3,566	$3,645	$3,876	$4,124	$4,375
India	$3,429	$3,452	$3,938	$4,029	$4,324
Chile	$3,364	$3,444	$3,723	$3,971	$4,368
Pacific Islands	$3,470	$3,636	$3,973	$4,140	$4,402
Great Britain & Ireland	$3,405	$3,655	$3,844	$4,151	$4,337
Sri Lanka	S	$3,644	$3,820	$4,160	$4,386
Other (56 countries)	$3,416	$3,496	$3,741	$3,865	$4,159

Appendix Table 7: Proportion of essential skills workers in health (nursing & care) industry with an approved work visa, disaggregated by sex, falling in each of the five income quintiles, 2013/14 to 2017/18

	Registered Nurses - Females						Care Workers - Females				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	20.0	18.0	21.7	20.9	19.5		21.8	20.1	20.7	19.1	18.4
2014/15	19.6	20.3	19.2	21.3	19.6		22.0	20.3	20.5	20.5	16.6
2015/16	19.0	18.0	20.3	20.7	22.0		20.6	21.0	22.2	19.1	17.1
2016/17	19.9	20.2	19.9	18.2	21.8		22.3	21.2	20.4	19.0	17.1
2017/18	20.4	20.8	19.1	19.3	20.4		22.7	21.6	19.9	18.4	17.4

	Registered Nurses - Males						Care Workers - Males				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	20.5	26.2	14.8	16.4	22.1		13.1	19.7	17.3	22.8	27.0
2014/15	20.9	19.8	22.1	16.3	20.9		13.1	17.9	18.9	17.9	32.1
2015/16	22.8	25.7	19.8	17.8	13.9		18.1	17.4	14.1	22.1	28.2
2016/17	21.0	20.0	22.0	27.0	14.0		13.9	17.0	19.3	22.6	27.3
2017/18	18.5	18.0	22.5	22.5	18.5		13.4	15.5	20.5	24.1	26.5

Appendix Table 8: Average monthly income, essential skills workers in health (nursing & care) industry with an approved work visa disaggregated by sex, 2013/14 to 2017/18

	REGISTERED NURSES					CARE WORKERS				
	2013/14	2014/15	2015/16	2016/17	2017/18	2013/14	2014/15	2015/16	2016/17	2017/18
Females	$4,450	$4,825	$4,921	$4,831	$5,086	$3,026	$3,059	$3,117	$3,167	$4,057
Males	$4,509	$4,798	$4,663	$4,689	$5,189	$3,267	$3,386	$3,367	$3,426	$4,378
Total	**$4,463**	**$4,819**	**$4,860**	**$4,801**	**$5,110**	**$3,076**	**$3,132**	**$3,182**	**$3,243**	**$4,150**

Appendix Table 9: Proportion of essential skills workers in health (nursing & care) industry with an approved work visa, disaggregated by nationality, falling in each of the five income quintiles, 2013/14 to 2017/18

	Phillipines					Phillipines				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	18.0	24.8	28.6	18.6	9.9	9.8	21.3	20.1	23.1	25.7
2014/15	17.6	28.8	22.4	19.2	12.0	14.6	17.7	23.9	22.5	21.3
2015/16	27.5	24.0	24.5	15.0	9.0	18.0	19.8	20.5	21.1	20.7
2016/17	25.6	24.4	22.1	17.9	9.9	18.4	20.5	21.1	21.0	19.0
2017/18	22.2	23.3	20.5	20.0	13.9	16.3	20.8	22.3	20.6	20.1

	India					India				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	36.9	29.9	17.2	8.3	7.6	34.1	17.8	19.2	16.3	12.5
2014/15	42.3	25.0	20.2	3.8	8.7	23.7	26.3	13.4	11.3	25.3
2015/16	23.0	29.7	28.4	10.8	8.1	23.2	19.9	19.9	12.9	24.1
2016/17	23.4	26.0	24.7	16.9	9.1	18.0	21.3	19.0	17.8	24.0
2017/18	28.1	21.6	25.9	14.4	10.1	21.0	17.3	18.1	20.2	23.4

	Great Britain & Ireland					Pacific Islands				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	2.3	7.7	13.1	32.3	44.6	19.9	19.6	24.1	15.8	20.6
2014/15	1.1	10.1	18.0	33.7	37.1	23.0	19.8	16.3	23.3	17.7
2015/16	3.7	4.9	8.5	29.3	53.7	16.8	20.1	20.8	22.8	19.5
2016/17	3.7	4.9	12.3	24.7	54.3	16.9	17.6	20.9	23.3	21.3
2017/18	5.1	7.1	13.1	20.2	54.5	22.7	26.9	18.2	16.8	15.4

Appendix Table 10: Average monthly income, essential skills workers in health (nursing & care) industry with an approved work visa disaggregated by nationality, 2013/14 to 2017/18

	REGISTERED NURSES				
	2013/14	2014/15	2015/16	2016/17	2017/18
Philippines	$4,220	$4,545	$4,331	$4,420	$4,897
India	$3,573	$3,891	$4,312	$4,392	$4,735
Great Britain & Ireland	$5,696	$5,721	$6,014	$5,978	$6,233
Other (41 countries)	$4,653	$5,261	$5,445	$5,424	$5,365

	CARE WORKERS				
	2013/14	2014/15	2015/16	2016/17	2017/18
Philippines	$3,260	$3,202	$3,211	$3,245	$4,180
India	$2,821	$3,098	$3,174	$3,306	$4,213
Pacific Islands	$3,084	$3,102	$3,237	$3,292	$4,023
Other (60 countries)	$2,787	$2,991	$3,017	$3,074	$3,963

Appendix Table 11: Income distribution of registered nurses disaggregated by sex and nationality

Occupation	Average monthly income, 2017/18	Distribution, Average over 5 years, 2013/14 - 2017/18				
		Sex		Nationality		
		Females	Males	Phillipines	India	Great Britain & Ireland
REGISTERED NURSE (AGED CARE)	$4,576	46.0	46.6	62.9	64.0	3.7
REGISTERED NURSE (MEDICAL)	$5,551	18.3	13.5	13.3	11.3	27.9
REGISTERED NURSES NEC	$5,507	11.6	10.7	8.6	13.3	13.6
REGISTERED NURSE (CRITICAL CARE AND EMERGENCY)	$6,104	7.2	8.1	3.7	2.2	17.6
REGISTERED NURSE (SURGICAL)	$5,781	4.6	5.8	4.0	2.5	8.7
REGISTERED NURSE (PERIOPERATIVE)	$5,520	4.8	4.9	4.8	2.7	6.6
REGISTERED NURSE (MENTAL HEALTH)	$7,057	3.8	8.0	0.6	1.0	16.4
REGISTERED NURSE (OTHER)	$5,863	3.7	2.3	2.1	2.8	5.5
	$5,110	100.0	100.0	100.0	100.0	100.0

Appendix Table 12: Average monthly income, essential skills workers in the construction Industry (selected occupations) with an approved work visa disaggregated by sex, 2013/14 to 2017/18

	CONSTRUCTION WORKERS (Selected Occupations)				
	2013/14	2014/15	2015/16	2016/17	2017/18
Female	$3,734	$3,546	$3,513	$3,693	$4,045
Male	$4,458	$4,654	$4,728	$4,846	$4,976
Grand Total	**$4,450**	**$4,645**	**$4,717**	**$4,838**	**$4,972**

Appendix Table 13: Proportion of essential skills workers in the construction Industry (selected occupations) with an approved work visa, disaggregated by nationality, falling in each of the five income quintiles, 2013/14 to 2017/18

	CARPENTER/JOINER - Philippines						PAINTER/PLASTERER - Philippines				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	16.5	28.9	25.4	17.5	11.7	2013/14	19.9	27.5	29.4	18.0	5.2
2014/15	14.9	26.2	23.3	22.4	13.2	2014/15	11.4	25.1	27.4	22.8	13.4
2015/16	13.8	23.9	23.6	22.2	16.5	2015/16	6.5	21.1	29.8	27.0	15.5
2016/17	11.4	22.7	24.1	22.6	19.3	2016/17	7.4	18.6	21.2	29.5	23.4
2017/18	12.2	22.0	23.4	24.1	18.4	2017/18	5.3	20.1	22.1	28.4	24.1

	CARPENTER/JOINER - Great Britain & Ireland						PAINTER/PLASTERER - Great Britain & Ireland				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	7.7	10.8	18.3	28.3	34.9	2013/14	2.8	10.7	15.3	30.2	40.9
2014/15	9.0	11.1	18.8	25.3	35.8	2014/15	7.3	10.5	16.9	24.7	40.6
2015/16	10.2	10.9	20.2	21.1	37.5	2015/16	8.9	12.5	13.1	22.0	43.5
2016/17	12.4	11.8	15.4	22.2	38.2	2016/17	15.2	15.9	15.2	21.0	32.6
2017/18	11.8	12.7	15.5	15.8	44.2	2017/18	14.8	13.0	21.7	20.0	30.4

	CARPENTER/JOINER - Pacific Islands						PAINTER/PLASTERER - Brazil				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	59.0	17.9	10.3	S	S	2013/14	39.0	20.7	13.4	13.4	13.4
2014/15	61.9	15.5	13.4	S	S	2014/15	38.6	24.1	12.0	18.1	7.2
2015/16	49.2	19.8	7.1	11.9	11.9	2015/16	47.1	18.6	13.7	11.8	8.8
2016/17	41.4	20.4	16.0	13.8	8.3	2016/17	28.8	29.7	25.2	7.2	9.0
2017/18	46.5	14.5	14.9	10.8	13.3	2017/18	33.5	22.6	19.4	12.3	12.3

	STRUCTURAL STEEL WORKERS - Philippines						BUILDING & PLUMBING LABOURERS - Philippines				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	24.0	22.9	21.9	15.6	15.6	2013/14	S	S	S	S	S
2014/15	23.3	23.3	25.9	16.9	10.6	2014/15	S	S	23.1	36.9	24.6
2015/16	21.1	23.1	22.1	21.1	12.6	2015/16	S	S	20.9	33.7	31.4
2016/17	17.7	22.2	22.0	19.2	18.8	2016/17	3.4	21.5	23.7	24.9	26.6
2017/18	19.0	19.3	21.0	20.6	20.1	2017/18	7.4	12.0	23.9	27.5	29.2

	STRUCTURAL STEEL WORKERS - Great Britain & Ireland						BUILDING & PLUMBING LABOURERS - Great Britain & Ireland				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
2013/14	11.8	17.1	18.4	25.0	27.6	2013/14	10.0	26.3	21.3	21.3	21.3
2014/15	10.3	9.2	8.0	27.6	44.8	2014/15	11.1	22.2	20.0	23.3	23.3
2015/16	11.7	9.6	11.7	13.8	53.2	2015/16	15.5	18.4	20.4	22.3	23.3
2016/17	21.6	9.1	10.2	20.5	38.6	2016/17	16.3	22.5	21.7	19.4	20.2
2017/18	15.3	17.6	9.4	22.4	35.3	2017/18	13.5	22.2	19.8	20.6	23.8

*s= suppressed values

Appendix Table 14: Average monthly income, essential skills workers in the construction Industry (selected occupations) with an approved work visa disaggregated by nationality, 2013/14 to 2017/18

	CARPENTER/JOINER				
	2013/14	2014/15	2015/16	2016/17	2017/18
Philippines	$4,526	$4,767	$4,852	$5,007	$5,054
Great Britain & Ireland	$5,104	$5,320	$5,374	$5,463	$5,704
Pacific Islands	$3,617	$3,786	$4,197	$4,316	$4,392
Other (56 countries)	$4,101	$4,330	$4,390	$4,432	$4,685
	PAINTER/PLASTERER				
	2013/14	2014/15	2015/16	2016/17	2017/18
Philippines	$3,837	$4,249	$4,304	$4,550	$4,710
Great Britain & Ireland	$4,821	$4,861	$4,858	$4,719	$4,806
Brazil	$3,706	$3,724	$3,590	$3,864	$4,079
Other (54 countries)	$3,811	$3,732	$3,742	$3,872	$4,059
	PLUMBER				
	2013/14	2014/15	2015/16	2016/17	2017/18
Great Britain & Ireland	$4,976	$5,157	$5,476	$5,596	$5,721
Pacific Islands	$4,041	$3,842	$4,046	$4,270	$4,490
South Africa	S	S	$4,960	$5,413	$5,867
Other (29 countries)	$3,761	$4,379	$4,469	$4,636	$5,048
	STRUCTURAL STEEL CONSTRUCTION WORKERS				
	2013/14	2014/15	2015/16	2016/17	2017/18
Philippines	$4,621	$4,710	$4,869	$5,361	$5,525
Great Britain & Ireland	$5,277	$5,837	$6,077	$5,851	$6,013
Other (37 countries)	$4,625	$4,560	$4,986	$4,906	$4,942
	BUILDING & PLUMBING LABOURERS				
	2013/14	2014/15	2015/16	2016/17	2017/18
Philippines	$4,359	$4,554	$4,761	$4,748	$4,909
Great Britain & Ireland	$4,250	$4,419	$4,463	$4,387	$4,571
Pacific Islands	$4,104	$3,993	$3,916	$3,933	$4,039
Other (40 countries)	$3,669	$3,816	$3,998	$4,036	$4,110

Appendix Table 15: Average personal income for selected occupations as self-reported at the 2013 and 2018 censuses disaggregated by sex

	Average Personal Income as reported in:					
	Census 2013			Census 2018		
	Female	**Male**	**Total**	**Female**	**Male**	**Total**
Dairy Cattle Farm Worker	$36,900	$44,400	$42,200	$36,900	$44,700	$42,200
Dairy Cattle Farmer	$58,800	$64,500	$63,200	$58,500	$65,900	$64,300
Carpenters and Joiners	$35,500	$46,500	$46,400	$41,800	$53,100	$53,000
Painters and Plasterers	$33,200	$42,600	$42,200	$37,400	$46,900	$46,400
Plumbers	$44,500	$52,300	$52,200	$47,800	$60,900	$60,800
Structural Steel Construction Workers	$30,600	$46,100	$46,000	$43,100	$48,600	$48,600
Building and Plumbing Labourers	$37,900	$44,800	$44,500	$44,500	$47,900	$47,700
Care Workers	$29,300	$33,000	$29,800	$35,300	$39,000	$35,800
Registered Nurses	$57,500	$63,700	$58,200	$60,400	$65,800	$61,000
Registered Nurse - Aged care	$47,100	$59,600	$47,700	$48,500	$49,500	$48,700
Registered Nurse - Community Health	$59,800	$64,100	$60,000	$63,600	$67,600	$63,800
Registered Nurse - Medical	$57,000	$60,900	$57,400	$58,900	$63,500	$59,500
Registered Nurse - Medical Practice	$53,000	$73,800	$53,400	$56,000	$58,700	$56,200
Registered Nurse - Other	$61,400	$72,900	$63,200	$62,600	$69,900	$63,500
Total stated	$50,300	$63,200	$57,900	$56,100	$69,400	$63,900
Not elsewhere included	$44,800	$55,200	$51,500	$0	$0	$0
Total	$50,100	$62,900	$57,700	$56,100	$69,400	$63,900