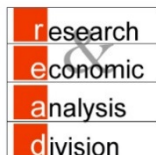


Hawaii's Working Population: An Analysis by Industry 2015-2019



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Research and Economic Analysis Division

This report is prepared by Dr. Wayne Liou, Economist, under the direction of Dr. Eugene Tian, Division Administrator.

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EXECUTIVE SUMMARY

Employment

The major industry structure difference between Hawaii and the U.S., in terms of employment, lies in tourism and Manufacturing during the 2015-2019 period. The top three industries with the largest employment for the U.S. were Healthcare and Social Assistance (14.0%), Retail Trade (11.2%), and Manufacturing (10.2%), while the top three industries in Hawaii were Accommodation and Food Services (14.4%), Healthcare and Social Assistance (11.6%), and Retail Trade (11.1%).

The male-to-female ratio in Hawaii's workforce was 51.5 males to 48.5 females per 100 workers during the 2015-2019 period. The construction sector was the top industry dominated by male workers at 88.5% versus 11.5% female workers. Utilities had the second largest share of male workers at 70.4%. The third largest industry with male workers was Manufacturing, with 67.4% male workers.

The Health Care and Social Assistance sector had the largest share of female workers at 75.2%, followed by the Educational Services sector (66.4%). The Finance and Insurance sector was the industry with the third largest share of female workers, at 62.0%. The accommodation and Food Services had about the same number of males as females (50.2% male vs. 49.8% female).

Overall in the state, among the working population, both payroll and self-employed workers, Millennials (those who were born between 1981 and 1996) accounted for just under one third of the total workforce (33.0%), as did Generation X (those who born between 1965 and 1980), accounting for 32.9%. Baby Boomers (those who were born between 1946-1964) accounted for 27.8% and the Silent Generation (those who were born between 1928 and 1945) and the Greatest Generation (those who were born between 1915 and 1927) combined for 2.2% of the total workforce during the 2015-2019 period. Generation Z (born 1997 and later) made up the rest of the workforce, at about 4.1%.

Accommodation and Food Services, Retail Trade, Wholesale Trade, and Arts, Entertainment, and Recreation industry sectors had a larger proportion of Millennials. The industry that had the highest share of Generation X workers was Utilities, which also had the highest share of Baby Boomers (38.8% and 41.9%, respectively). Information; Public Administration; Professional, Scientific and Technical Services; Finance and Insurance; Manufacturing; Administrative and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; and Construction had a bigger share of Generation X workers relative to other generations. Real Estate and Rental and Leasing; Agriculture, Forestry, Fishing and Hunting; and Transportation and Warehousing had a larger share of Baby Boomers relative to other generations.

Due to the large number of Asians in Hawaii (37.8% of Hawaii's population was Asians-only in 2015-2019), Asians were the largest race group for all the industry sectors except for the Real Estate and Rental and Leasing industry and the Art, Entertainment and Recreation industry, where White was the dominating race group, and Construction, where Others including mixed had the highest share. White was the second largest race group in Educational Services; Information; Professional, Scientific and Technical Services; and Utilities.

Professional, Scientific and Technical Services; Educational Services; Finance and Insurance; Public Administration; Health Care and Social Assistance; and Information sectors hired more workers with at least a bachelor's degree. On the other hand, Agriculture, Forestry, Fishing and Hunting; Administrative and Support and Waste Management and Remediation Services; Accommodations and Food Services; Construction; Wholesale Trade; Retail Trade; Other Services; and Manufacturing hired more workers with high school diploma (including GED) or below.

78.6 percent of workers had full-time jobs compared to 21.4 percent of workers who had part-time jobs during the 2015-2019 period. The top five industries with more full-time workers included Public Administration (95.3%), Finance and Insurance (90.6%), Construction (88.0%), Wholesale Trade (87.4%), and Manufacturing (87.1%). The Arts, Entertainment and Recreation industry had the largest share of part-time workers at 44.0%, followed by Other Services (31.1%), Retail Trade (30.5%), and Educational Services (27.2%).

89.2 percent of total workers in the state were wage and salary (payroll) workers, with the other 10.8 percent working as self-employed proprietors during the 2015-2019 period. All workers in Public Administration sector were wage and salary employees. The next two industries with the largest share of wage and salary workers were in Educational Services and Accommodation and Food Services sectors (97.5% and 96.5%, respectively). The largest share of self-employed workers was in the Agriculture, Forestry, Fishing and Hunting industry at 28.9%, followed by Other Services (26.7%), Real Estate and Rental and Leasing (26.1%), and Professional, Scientific and Technical Services (24.6%).

Labor Earnings

The top paying industry in the country was Professional, Scientific and Technical Services sector with average annual labor earnings of \$92,264. People in the same industry in Hawaii earned 82.3% of the U.S. average labor earnings in that sector. The industry with the highest labor earnings in Hawaii was Utilities (\$83,264). In most industries, the U.S. average labor earnings were higher than those of Hawaii. However, there were a few industries where Hawaii average labor earnings were higher than the U.S. averages. These industries included Accommodation and Food Services (\$11,705 higher than the U.S. average), Construction (\$9,446 higher) and Health Care and Social Assistance (\$9,346 higher).

The state average labor earnings for male workers was \$59,322, over \$14,000 higher than the average labor earnings by female workers (\$44,941). Male workers earned more on average than females in all the industries except the Utilities industry (\$85,095 for females vs \$82,496 for males) and the Real Estate and Rental and Leasing industry (\$61,257 for females vs \$59,798 for males).

In general, average labor earnings increased with age until Baby Boomers age. In all the industry sectors, Generation X had higher average earnings than Millennials. In half of the industries, and on average, Generation X workers earned more than Baby Boomers, though the difference in the average was small.

Looking at average labor earnings by race, earnings for White alone were higher than other major race groups in all the industry sectors, though all races earned similar amounts in the Art, Entertainment and Recreation industry.

Average labor earnings had a close, positive relationship with education level. The higher the education level, the higher the earnings. This is generally true for all the industry sectors (in some sectors, those with associate degrees were paid slightly less than those with a high school degree or less). The average labor earnings of the workers with a high school diploma (including GED) or below was \$38,195, workers with an associate degree or some college education earned an average income of \$45,355, and workers with bachelor's degree or above earned an average income of \$73,110.

Overall, for all the industries, full-time workers had average labor earnings of \$60,342 and part-time workers had an average labor earnings of \$22,682 during the 2015-2019 period. Full-time workers in Professional, Scientific, and Technical Services had the highest average labor earnings at \$85,503 per year, followed by Utilities at \$84,375, Finance and Insurance at \$73,983, Health Care and Social Assistance at \$72,770, Information at \$71,006, and Public Administration at \$68,346. Full-time workers in Accommodations and Food Services had the lowest average labor earnings among full-time workers at \$43,126 per year during the 2015-2019 period.

State average labor earnings for payroll (wage and salary) workers was \$51,421 per year, including full-time and part-time workers during the 2015-2019 period. Self-employed workers made more money on average than payroll workers. The average labor earnings for self-employed workers was \$60,028 per year, over 14% higher than payroll workers.

Wages of Full-Time Payroll Employees

Overall, the industry average wage of full-time payroll workers was \$58,447 for Hawaii, lower than the U.S. average of \$62,017 during the 2015-2019 period. In other words, Hawaii's average wage for full-time payroll workers was 94.2% of the U.S. average.

U.S. average wages were higher than those of Hawaii in most of the industry sectors, except Agriculture, Forestry, Fishing and Hunting; Utilities; Construction; Transportation and Warehousing; Administrative and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; and Accommodation and Food Services.

Among the full-time payroll workers in Hawaii, for all the industry sectors combined, male employees had an average annual wage of \$63,460, about \$11,000 higher than female workers at \$52,654. An average male worker earned more wage than an average female worker for all industry sectors except two, Utilities and Information.

Average wage increased with age, especially up to the Baby Boomer's age, for most of the industry sectors. This indicates that experience did play an important role in wage level.

Among the Millennials, those that worked in Utilities had the highest average wage at \$68,039 per year, followed by Professional, Scientific and Technical Services at \$59,002, Public Administration at \$55,176, and Health Care and Social Assistance at \$54,931. Millennials who worked in Accommodations and Food Services had the lowest annual wage at \$36,912 per year.

For Generation X workers, Utilities had the highest annual wage at \$88,282, followed by Professional, Scientific and Technical Services at \$87,493, Information at \$81,129, and Health Care and Social Assistance at \$76,813.

Among Baby Boomers, those working in the Professional, Scientific and Technical Services industry had the highest annual wage at \$93,030, followed by Utilities at \$84,998, Finance and Insurance at \$82,697, and Construction at \$81,876.

Among the races, White alone had the highest average wage during the 2015-2019 period. The average wage for Whites was the highest in every industry. Among the workers who were only White, the Utilities sector had the highest average annual wage at \$116,450, followed by Finance at \$91,114, and Professional, Scientific and Technical Services at \$89,837.

Average wage went up with educational level for every industry sector, except for in Educational Services, where those with an associate degree or some college earned slightly less than those with just a high school degree or less, and in Information, where those with a bachelor's degree or above earned slightly less than those with an associate degree or some college. The average annual wage for those with an associate degree and some college was 19.6% higher than those with high school diploma or below. Workers with at least a bachelor's degree had an average annual wage of \$77,016, 46.9% higher than those with associate degree, and 75.8% higher than those with high school diploma.

Introduction

This report provides information on the demographic, social, and economic characteristics of Hawaii's workforce by major industry sectors at the state level during the 2015-2019 period. The workforce in this report includes civilians 16 years of age and older either employed full-time or part-time with wage and salaries income or/and self-employed with proprietor's income. Unpaid workers are excluded.

The major industries presented in this report is based on 2017 North American Industry Classification System (NAICS). There are 20 major industry sectors classified by 2-digit code as presented in table 1.

Table 1. 2012 North American Industry Classification System

Sector	Description
11	Agriculture, Forestry, Fishing and Hunting
21	Mining, Quarrying, and Oil and Gas Extraction
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information
52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment and Recreation
72	Accommodation and Food Services
81	Other Services, except Public Administration
92	Public Administration

Source: NAICS Association, <https://www.naics.com/search/>

The data source for this report is the U.S. Census Bureau's American Community Survey (ACS) 2015-2019 5-Year estimates Public Use Microdata (PUMS). The ACS is the survey conducted nationwide throughout the year and collects information on demographic, social, economic and housing characteristics of households and people. About 9,500 households in Hawaii were surveyed each year during the five-year period by the U.S. Census Bureau. Due to the small sample size, Mining, Quarrying, and Oil and Gas Extraction (NAICS code = 21) and Management of Companies and Enterprises (NAICS code = 55) are excluded from this report.

A. Employment Analysis

Employment by Industry

Figure 1. Employment distribution by major industry: Hawaii vs U.S.

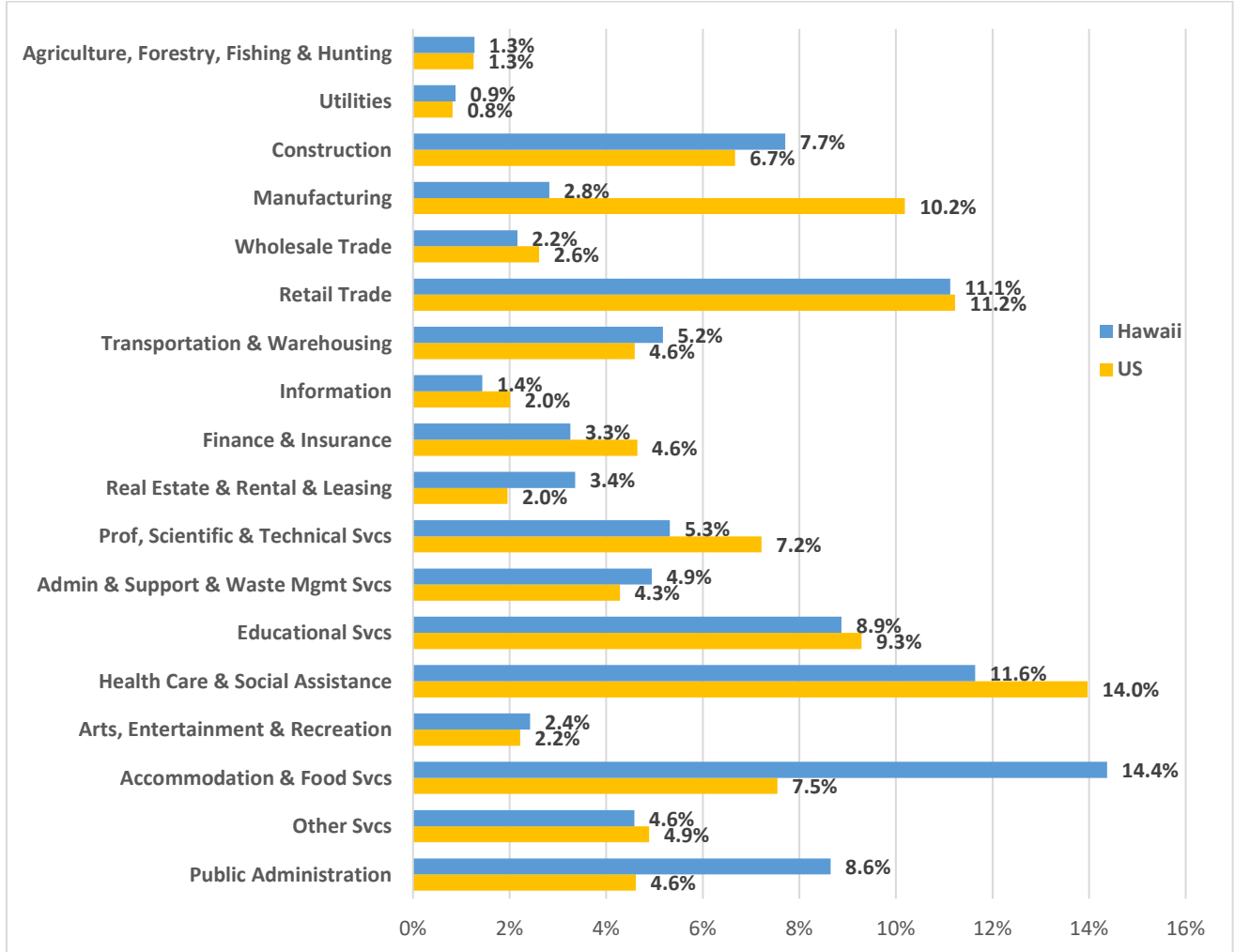


Figure 1 shows the employment distribution by major industry sector, comparing Hawaii and the U.S. during the 2015-2019 period. The figure reveals the following differences in industry structure between Hawaii and the U.S.:

- The largest industry in terms of employment in the U.S. was Health Care and Social Assistance, which hired 14.0% of the total workers in the country, while the industry with the largest number of workers in Hawaii was Accommodation and Food Services, which hired 14.4% of Hawaii workers;
- The share of workers in Public Administration in Hawaii was almost twice as large as the U.S. (8.6% and 4.6%, respectively);
- The share of workers in Manufacturing in the U.S., on the other hand, was 10.2%, more than three times as large as the share for Hawaii (2.8%);

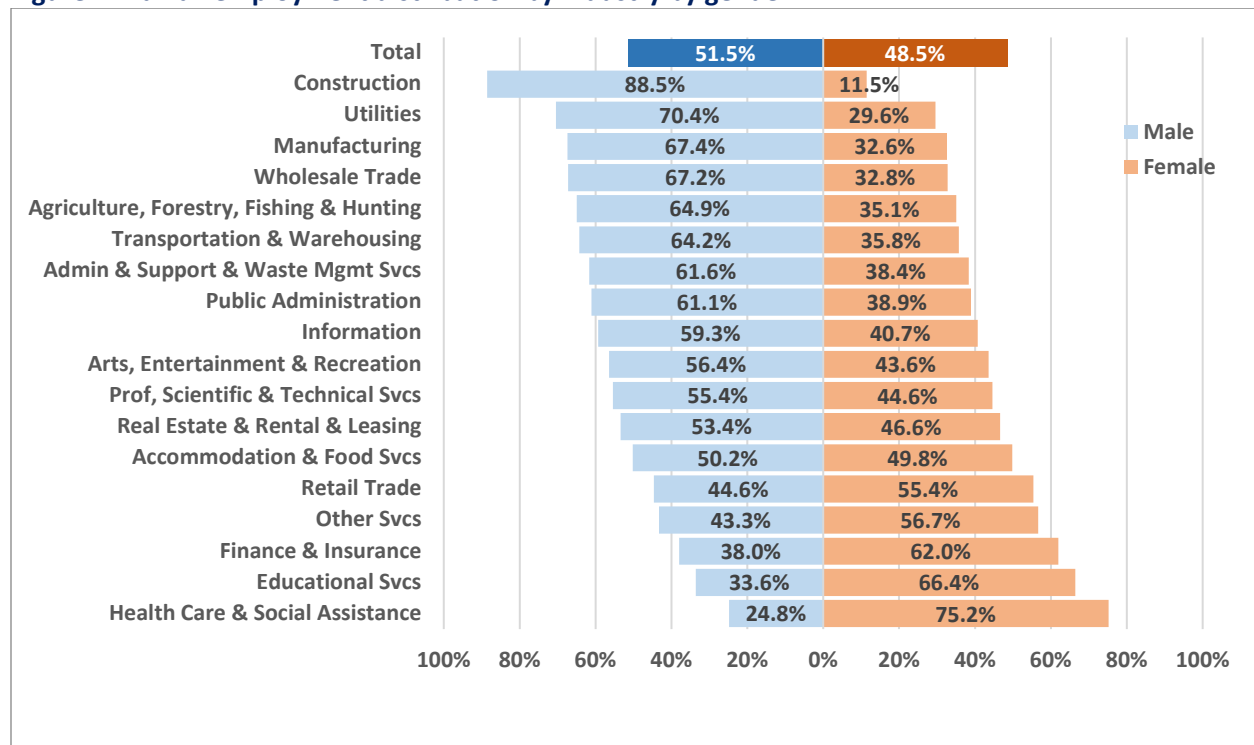
- There were relatively more Real Estate and Rental and Leasing workers in Hawaii (3.4%) than the U.S. average (2.0%).

Industries with similar job shares between Hawaii and the nation included Agriculture, Forestry, Fishing and Hunting (both 1.3%), Utilities (0.9% for Hawaii, 0.8% for the U.S.), Wholesale Trade (2.2% for Hawaii, 2.6% for the U.S.), Retail Trade (11.1% for Hawaii, 11.2% for the U.S.), Educational Services (8.9% for Hawaii, 9.3% for the U.S.), Arts, Entertainment and Recreation (2.4% for Hawaii, 2.2% for U.S.), and Other Services (4.6% for Hawaii, 4.9% for the U.S.).

Looking at the top three industries, in terms of employment, both Healthcare and Social Assistance and Retail Trade were among the top three for both Hawaii and the nation. The difference lies in Tourism and Manufacturing. As an indication of the stronger Tourism industry in Hawaii, Accommodation and Food Services was among the top three industries, ranked number one in Hawaii. Manufacturing was among the top three industries for the U.S. indicated that Manufacturing was one of the core industries in the country.

Employment by Gender

Figure 2. Hawaii employment distribution by industry by gender



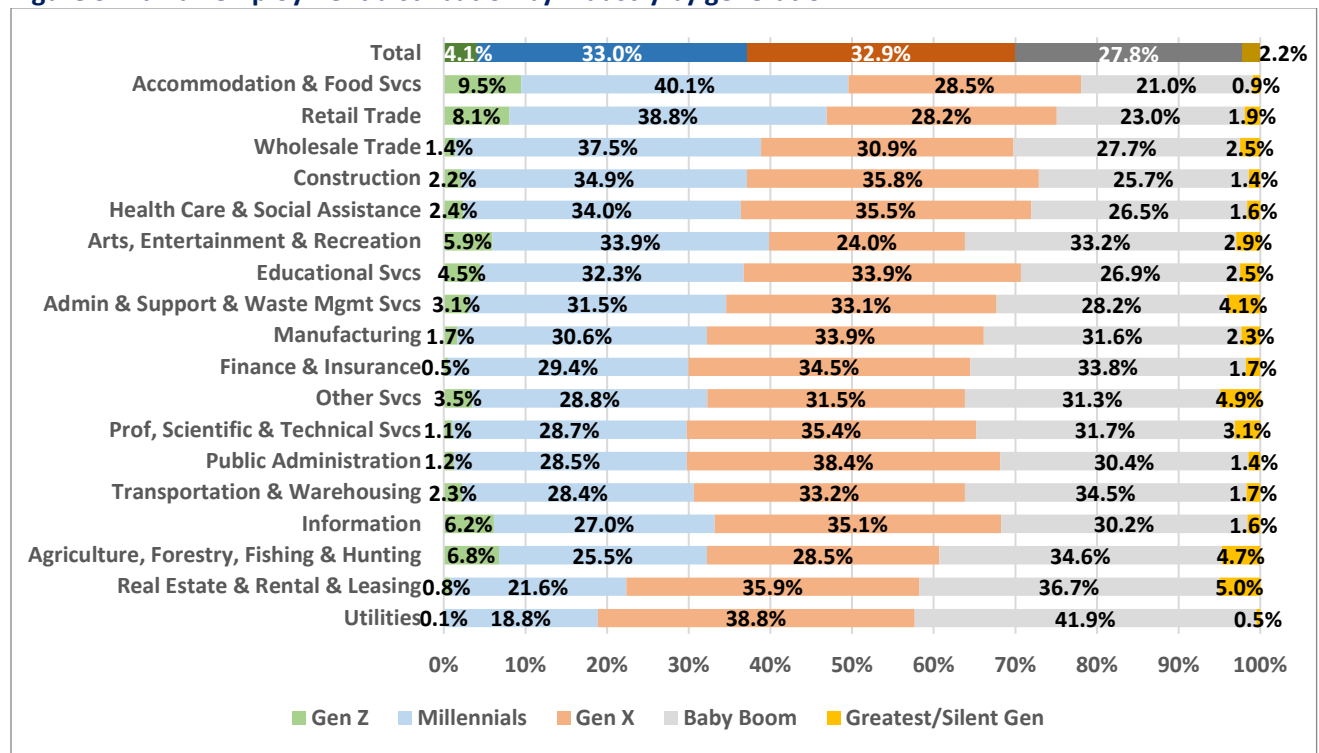
As shown in Figure 2, Hawaii workforce was 51.5% male and 48.5% female during the 2015-2019 period. 13 industries were male dominated (with 50% or more males in the workforce), with 12 of those industries having a higher share of male workers than the state average of 51.5%. There were six industries with a higher share of female workers than the state average of 48.5%. The Construction

sector was the top industry dominated by male workers at 88.5% male workers versus 11.5% female workers. Utilities had the second largest share of male workers at 70.4%. The third largest industry with male workers was Manufacturing with 67.4% of male workers.

Health Care and Social Assistance sector had the largest share of female workers at 75.2%, followed by Educational Services sector (66.4%). These two industries had about three times and two times as many female workers as male workers, respectively. Finance and Insurance sector was the third largest industry with 62.0% share of female workers. Accommodation and Food Services had an approximately even male-to-female ratio (50.2% male vs. 49.8% female).

Employment by Generation

Figure 3. Hawaii employment distribution by industry by generation



Generations are defined following Pew Research¹:

- Generation Z are those born from 1997-2012,
- Millennials are those born 1981-1996,
- Generation X are those born 1965-1980,
- Baby boomers are those born 1946-1964, and
- Silent Generation are those born 1928-1945 and Greatest Generation are those born before 1927

¹ See <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>

Overall in the state, among the working population, both payroll and self-employed workers, Millennials and Generation X each accounted for around one third of the total workforce (33.0% and 32.9%, respectively), Baby Boomers accounted for 27.8%, and the Silent Generation and the Greatest Generation combined accounted for 2.2% of the total workforce during the 2015-2019 period. Generation Z made up the rest, about 4.1%.

The Accommodation and Food Services, Retail Trade, Wholesale Trade, and Arts, Entertainment, and Recreation industry sectors had a larger proportion of Millennials. Baby Boomers had the highest share of workers among the Utilities; Real Estate and Rental and Leasing; Agriculture, Forestry, Fishing and Hunting; and Transportation and Warehousing sectors. Information; Public Administration; Professional, Scientific and Technical Services; Finance and Insurance; Manufacturing; Administrative and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; and Construction had a bigger share of Generation X workers.

Real Estate and Rental and Leasing; Agriculture, Forestry, Fishing and Hunting; and Other Services each had almost 5% of its workers who were over 70 years old during the 2015-2019 period. Accommodation and Food Services and Retail Trade each had over 8% of its workers who were Generation Z.

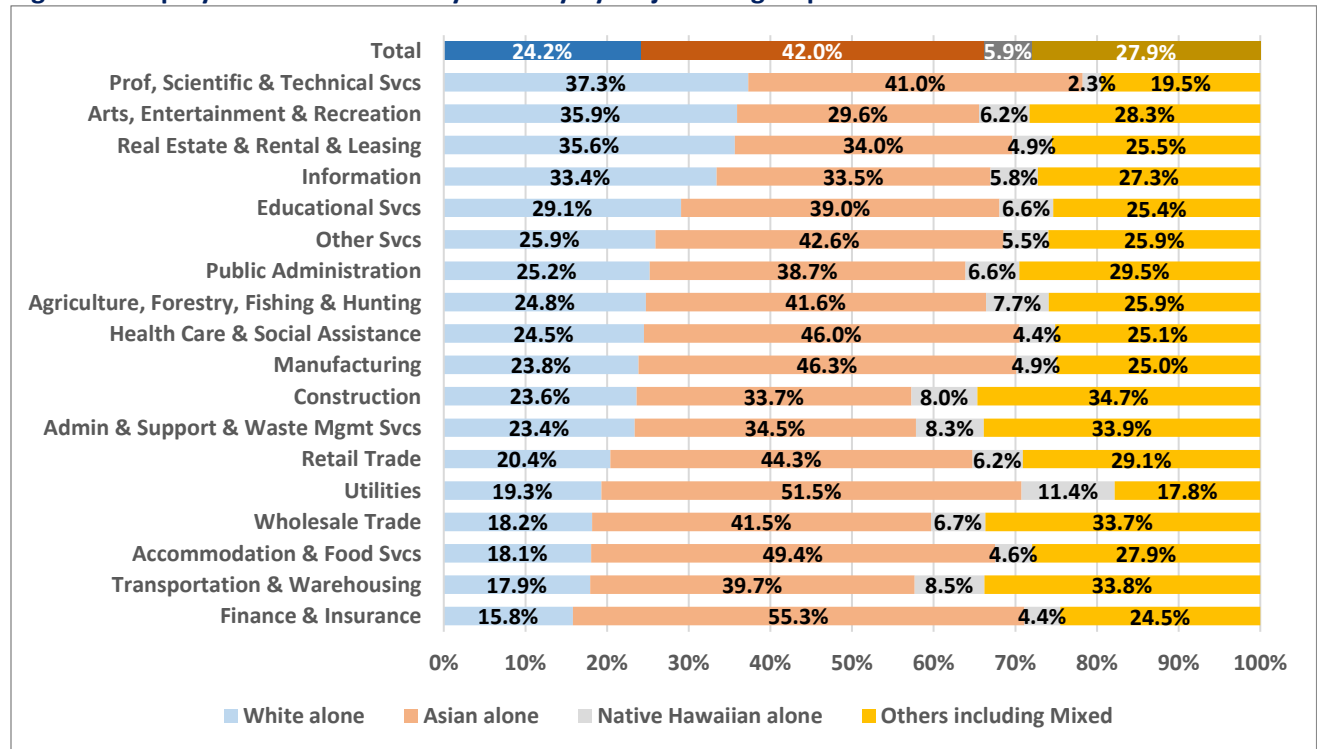
Employment by Major Race Group

Table 2. Hawaii employment distribution by industry by major race group (%)

Industry	White Alone	Asian Alone	Native Hawaiian Alone	Other incl. Mixed
Total	100.0%	100.0%	100.0%	100.0%
Health Care & Social Assistance	11.8%	12.8%	8.7%	10.5%
Accommodation & Food Svcs	10.7%	16.9%	11.2%	14.4%
Educational Svcs	10.7%	8.2%	9.9%	8.1%
Retail Trade	9.4%	11.7%	11.7%	11.6%
Public Administration	9.0%	8.0%	9.7%	9.1%
Prof, Scientific & Technical Svcs	8.2%	5.2%	2.1%	3.7%
Construction	7.5%	6.2%	10.6%	9.6%
Real Estate & Rental & Leasing	5.0%	2.7%	2.8%	3.1%
Other Svcs	4.9%	4.7%	4.3%	4.3%
Admin & Support & Waste Mgmt Svcs	4.8%	4.1%	7.0%	6.0%
Transportation & Warehousing	3.8%	4.9%	7.5%	6.3%
Arts, Entertainment & Recreation	3.6%	1.7%	2.6%	2.5%
Manufacturing	2.8%	3.1%	2.4%	2.5%
Finance & Insurance	2.1%	4.3%	2.4%	2.9%
Information	2.0%	1.1%	1.4%	1.4%
Wholesale Trade	1.6%	2.1%	2.5%	2.6%
Agriculture, Forestry, Fishing & Hunting	1.3%	1.3%	1.7%	1.2%
Utilities	0.7%	1.1%	1.7%	0.6%

The Health Care and Social Assistance industry was the top industry among White alone workers at 11.8%, followed by Accommodation and Food Services (10.7%), Educational Services (10.7%) and Retail Trade (9.4%) during the 2015-2019 period. Among Asian alone workers, Accommodation and Food Services was the top industry, accounting for 16.9%. Health Care and Social Assistance was the second highest industry among Asian alone workers at 12.8%, followed by Retail Trade (11.7%) and Educational Services (8.2%). More than 50% of those who responded as Native Hawaiian alone worked in five industries. The largest number of Hawaiian alone workers were found in Retail Trade (11.7%), followed by Accommodation and Food Services (11.2%), Construction (10.6%), Educational Services (9.9%), and Public Administration (9.7%).

Figure 4. Employment distribution by industry by major race group



Due to the large number of Asians in Hawaii (37.8% of Hawaii population were Asians-only in 2015-2019), Asians were the largest race group for all the industry sectors except for the Art, Entertainment and Recreation sector and the Real Estate and Rental and Leasing sector, where White alone had the largest share among the race groups, and Construction, where Others including Mixed had the largest share among the race groups. White was the second largest race group in Professional, Scientific and Technical Services; Information; and Educational Services. The industry with the highest share of Native Hawaiian alone was Utilities, at 11.4%.

Employment by Educational Attainment

Figure 5. Employment distribution by industry and educational attainment

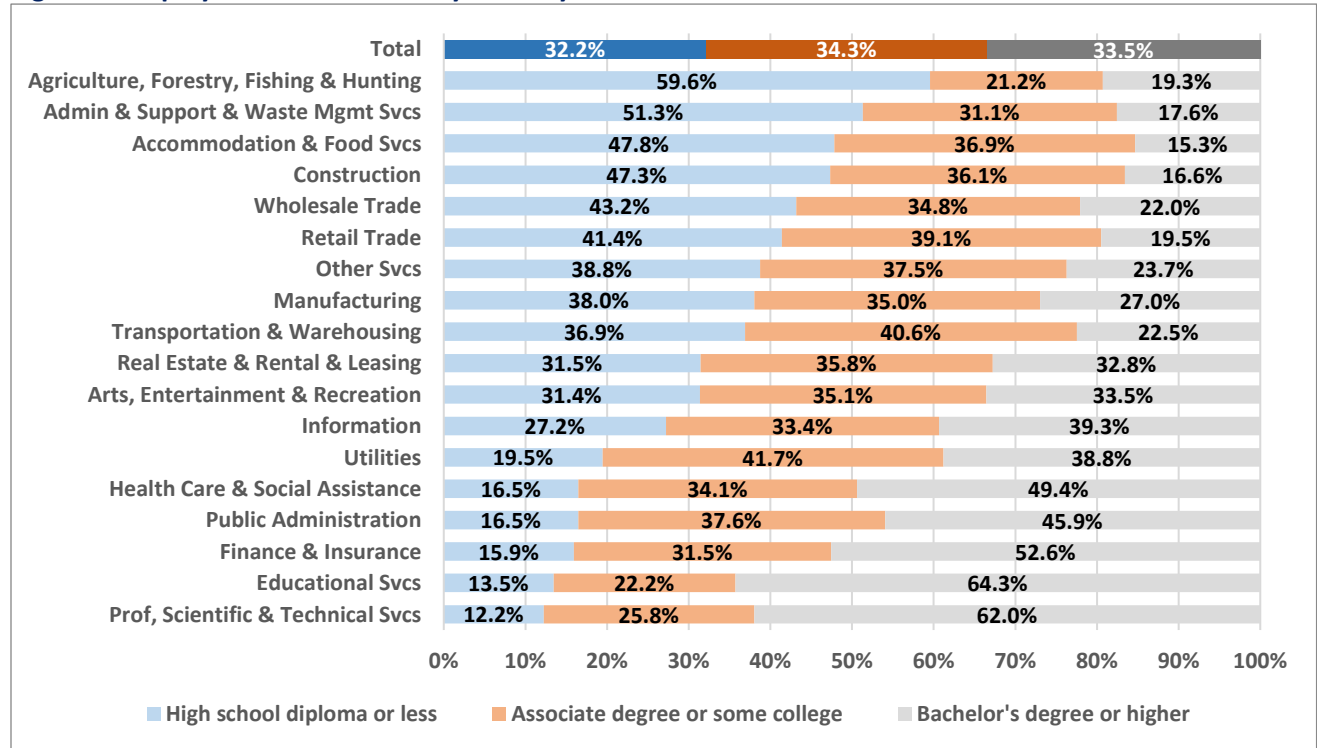


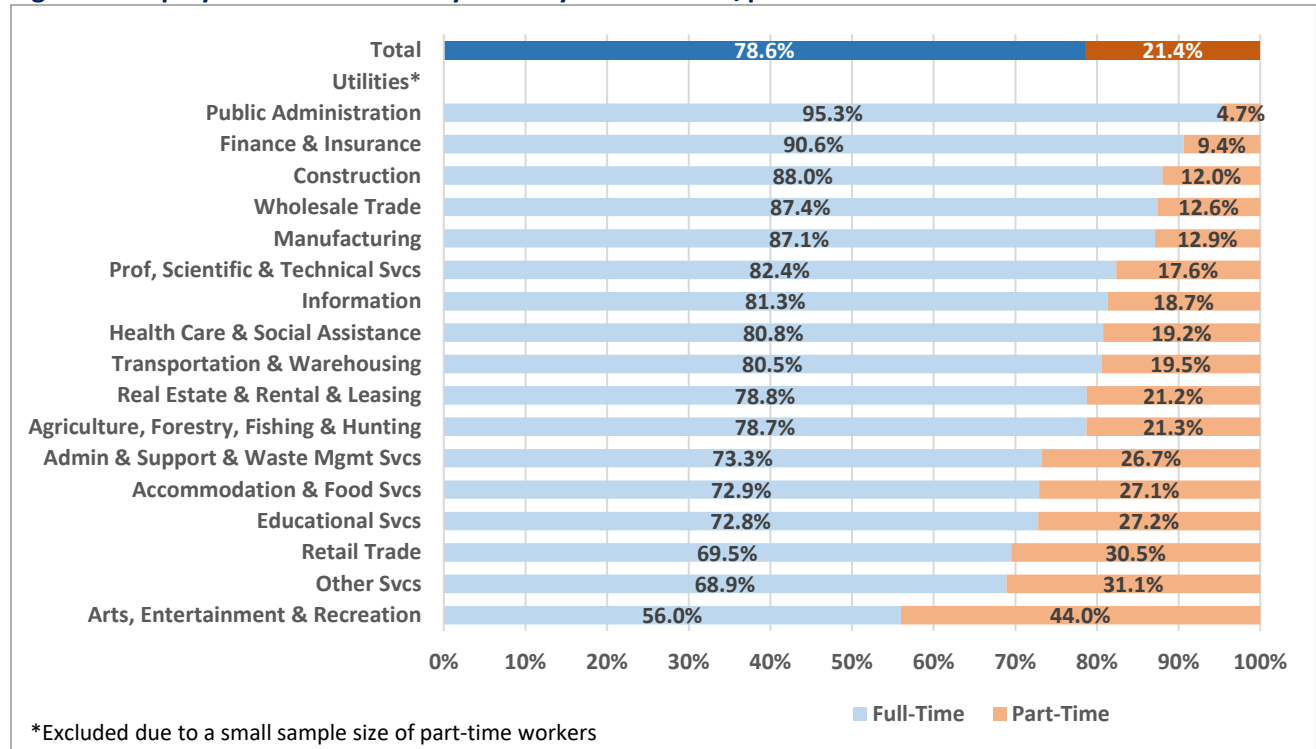
Figure 5 presents the education level of Hawaii workers. Of the total civilian workers in Hawaii, it was roughly one third at each education level: high school diploma or below (32.2%), associate degree or some college (34.3%), and bachelor's degree and above (33.5%) during the 2015-2019 period. Nine industries had higher than the state's average percentage of workers with education level at high school diploma or below, led by Agriculture, Forestry, Fishing and Hunting sector at 59.6%, Administrative and Support and Waste Management and Remediation Services (51.3%), and Accommodation and Food Services (47.8%). Eleven industries had a larger share of workers with an associate degree and some college than the state average of 34.3%. The sectors with the highest share of workers with an associate degree or some college were Utilities at 41.7%, followed by Transportation and Warehousing (40.6%) and Retail Trade (39.1%). Seven industries had a larger share of workers with bachelor's degree or above than the state average of 33.5%. The Educational Services sector had the largest share of the workers with bachelor's degree or above at 64.3%, followed by Professional, Scientific and Technical Services (62.0%) and Finance and Insurance (52.6%). The Real Estate and Rental and Leasing sector and the Arts, Entertainment, and Recreation sector had educational attainment distributions most similar to the state average.

It is apparent from Figure 5 that Educational Services; Professional, Scientific and Technical Services; Finance and Insurance; Public Administration; Health Care and Social Assistance; and Utilities sectors required the most education. Less than 20% of the workers in these sectors had no college experience. On the other hand, Agriculture, Forestry, Fishing, and Hunting; Administrative and Support and Waste

Management and Remediation Services; Accommodations and Food Services; Construction; and Retail Trade hired more workers with lower education levels, with less than 20% in these sectors with a bachelor’s degree or higher.

Employment by Full-Time and Part-Time Status

Figure 6. Employment distribution by industry and full-time/part-time status



Full-time workers in this report are defined as anyone who worked for 35 hours or more per week in their primary job. Part-time workers are defined as anyone who worked for 1 to 34 hours per week in their primary job. Under this definition, a worker who had two part-time jobs was included in the part-time category even if the person worked more than 35 hours per week in total. The ACS survey asked respondents to report only one job if a person had two jobs. During the 2015-2019 period, 78.6% of workers had full-time jobs in the state, and 21.4% of workers had part-time jobs. Eleven industries had a larger share of full-time workers than the state average (though 2 barely so). The largest share of full-time workers was found in the Public Administration sector at 95.3%, followed by Finance and Insurance at 90.6% and Construction at 88.0%. The Arts, Entertainment and Recreation industry had the largest share of part-time workers at 44.0%. The other industries with a high share of the part-time workers were Other Services (31.1%) and Retail Trade (30.5%). Industries with a higher share of full-time workers like Public Administration, Finance and Insurance, Information, and Professional, Scientific and Technical Services are associated with working in an office. With that being said, three of the top full-time industries are more blue collar: Construction, Wholesale Trade, and Manufacturing.

Employment by Payroll Status

Figure 7. Employment distribution by industry by payroll status

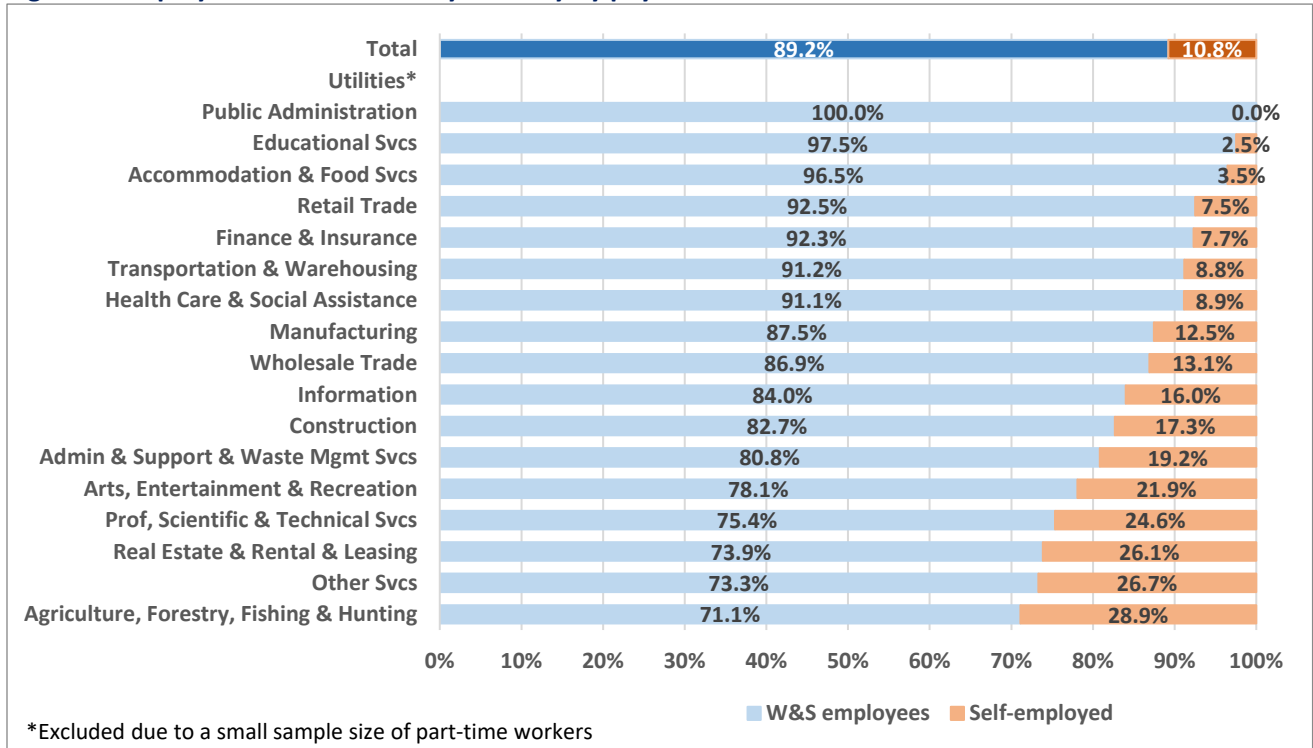


Figure 7 presents the payroll status of Hawaii workers by industry sector. Overall, 89.2% of total workers in the state were wage and salary (payroll) workers and 10.8% of total workers were self-employed during the 2015-2019 period. The percentage of wage and salary employees in seven industries were larger than the state average. All workers in the Public Administration sector were wage and salary employees. Educational Services and Accommodation and Food Services sectors had a high share of wage and salary employees (97.5% and 96.5%, respectively).

Ten industries had a larger percentage of self-employed workers than the state average. The largest share of self-employed workers was found in Agriculture, Forestry, Fishing and Hunting industry at 28.9%, followed by Other Services (26.7%), Real Estate and Rental and Leasing (26.1%), and Professional, Scientific, and Technical Services (24.6%).

Employment by Nativity

Table 3. Employment by industry by nativity (%)

Industry	Native	Foreign-born
Total	100.0%	100.0%
Accommodation & Food Svcs	12.0%	22.4%
Health Care & Social Assistance	11.5%	12.2%
Retail Trade	10.8%	12.3%
Public Administration	9.9%	4.3%
Educational Svcs	9.7%	5.9%
Construction	8.1%	6.2%
Prof, Scientific & Technical Svcs	5.8%	3.6%
Transportation & Warehousing	5.2%	5.2%
Admin & Support & Waste Mgmt Svcs	4.4%	6.7%
Other Svcs	4.4%	5.4%
Finance & Insurance	3.5%	2.5%
Real Estate & Rental & Leasing	3.4%	3.2%
Manufacturing	2.8%	2.8%
Arts, Entertainment & Recreation	2.5%	2.2%
Wholesale Trade	2.3%	1.8%
Information	1.6%	0.8%
Utilities	1.0%	0.4%
Agriculture, Forestry, Fishing & Hunting	1.0%	2.2%

In this report, “native” and “native-born” follow the U.S. Census Bureau definition, referring to those who are U.S. citizens or U.S. nationals at birth, regardless of where they were born. “Foreign-born” refers to those people who were not U.S. citizens or U.S. nationals at birth.

Hawaii ranked first in terms of foreign born population. From 2015-2019, with approximately 18% of Hawaii’s population were born in foreign countries to non-American parents. Among the Hawaii working population during the 2015-2019 period, 22.4% were foreign-born.

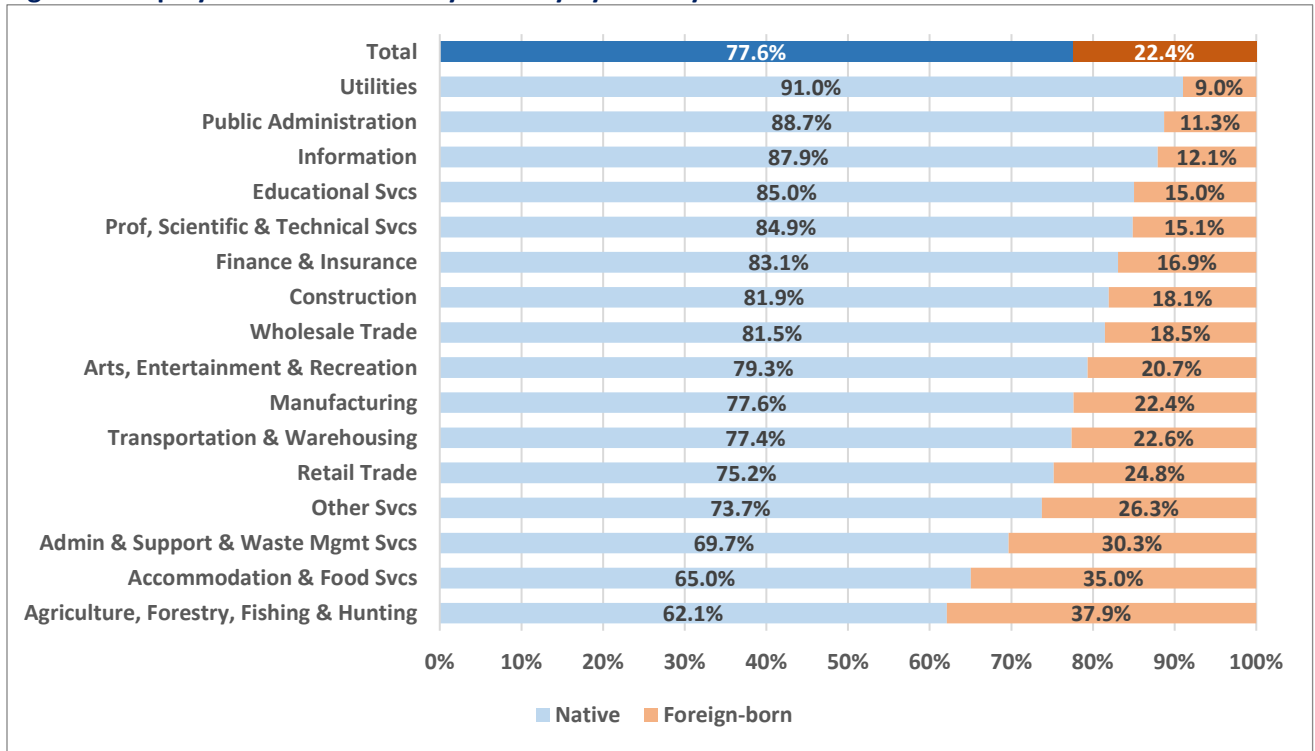
Over half (53.9%) of native workers worked in five industries. Accommodation and

food services was the top industry among native workers at 12.0%, followed by Health Care and Social Assistance (11.5%), Retail Trade (10.8%), Public Administration (9.9%), and Educational Services (9.7%)

Almost one fourth of foreign-born workers were found in Accommodation and Food Services (22.4%). Foreign-born workers also were more likely to work in Retail Trade (12.3%) and Health Care and Social Assistance (12.2%).

By industry, as shown in Figure 8, Agriculture, Forestry, Fishing and Hunting had the largest share of foreign born workers at about 37.9%, followed by Accommodation and Food Services at 35% and at Administrative and Support and Waste Management and Remediation Services 30.3%. Utilities had the least foreign-born employees at 9.0%.

Figure 8. Employment distribution by industry by nativity



B. Average Labor Earnings Analysis

This section provides comparisons of average labor earnings by industry and by the worker’s demographic and social characteristics. Labor earnings in this section include wage and salaries of both full-time and part-time payroll employees, as well as proprietor’s income of self-employed individuals. Fringe benefits are not included in this labor earnings definition.

The statistics in this section would provide a general information about return on labor by industry and by worker characteristics.

Average Labor Earnings by Industry

Figure 9. Labor earnings by industry: Hawaii vs U.S. (2019\$)

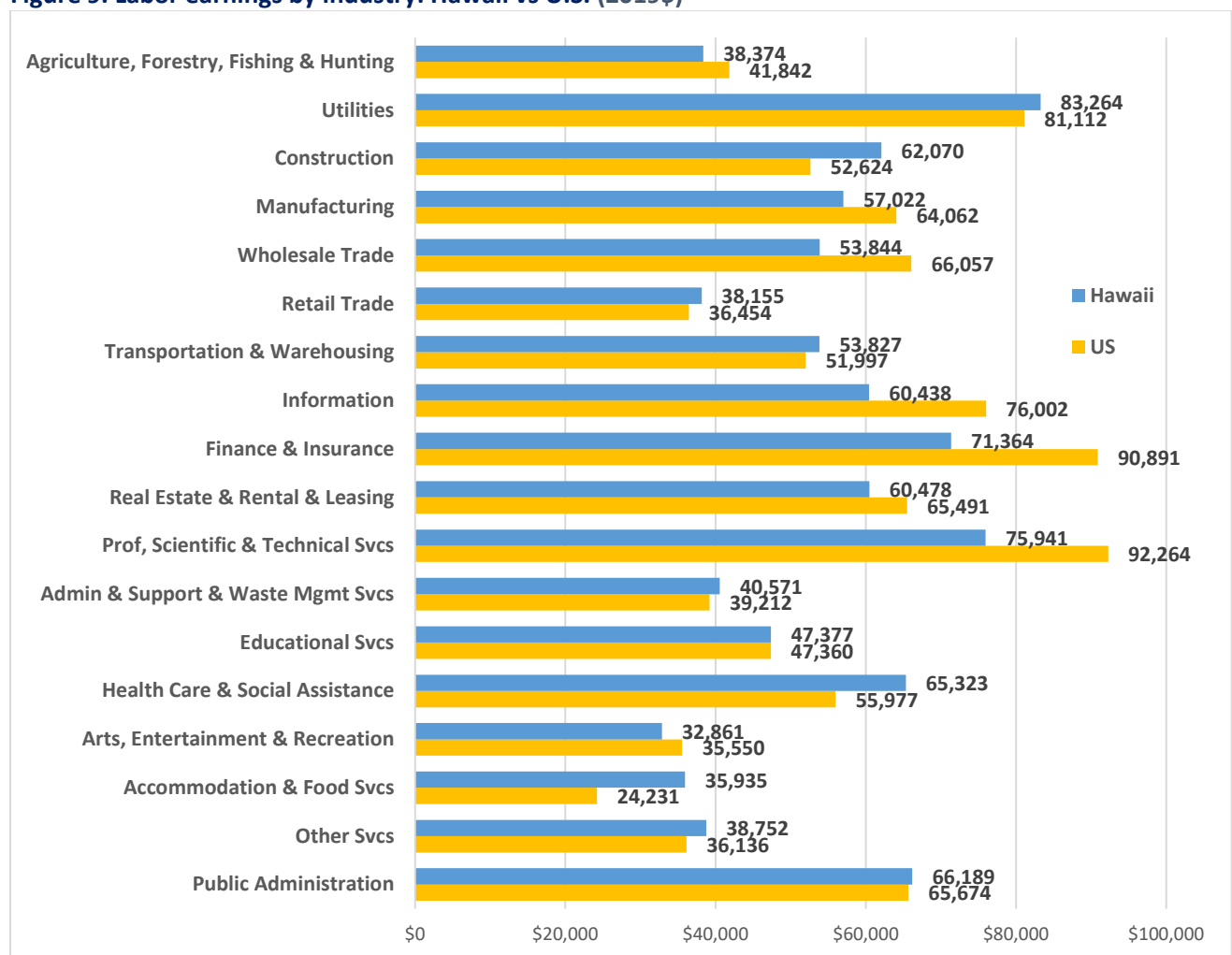
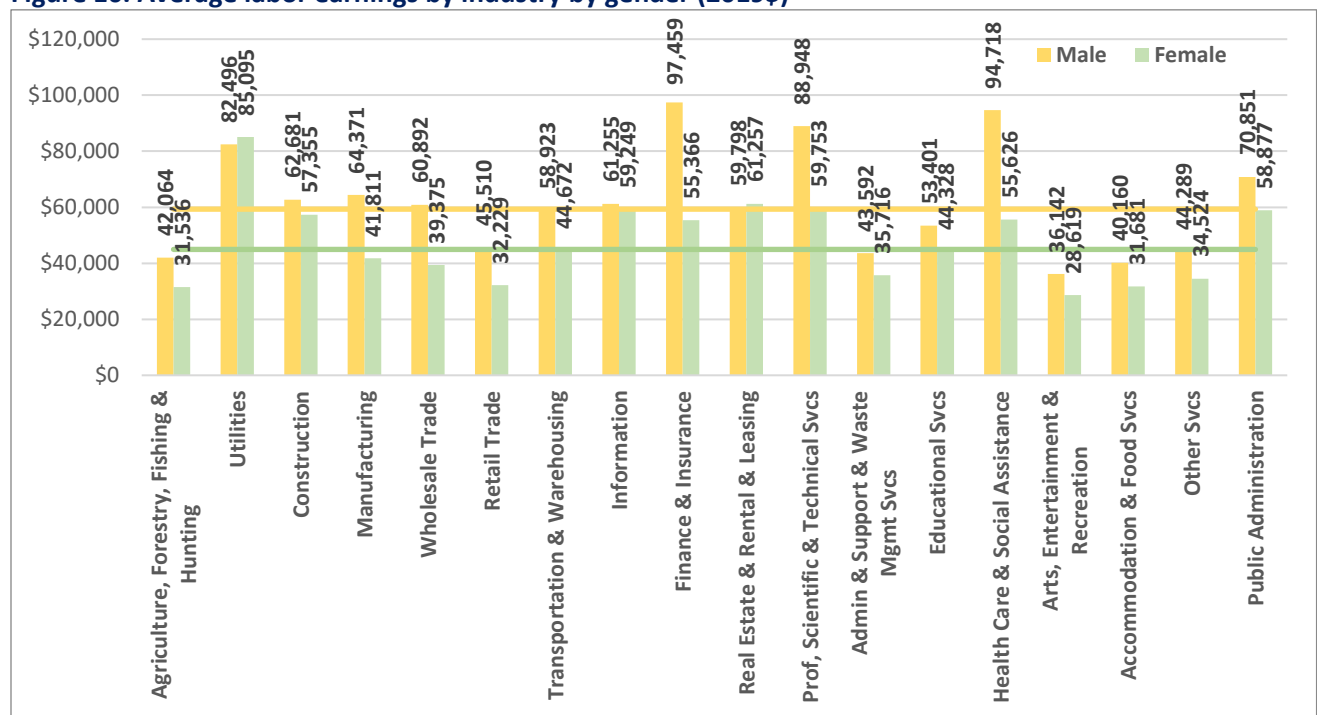


Figure 9 shows the average labor earnings by major industry, comparing Hawaii and the U.S. during the 2015-2019 period. The figure shows some differences between Hawaii and the U.S. The top paying industry in the country was Professional, Scientific and Technical Services sector with average annual

labor earnings of \$92,264. People in the same industry in Hawaii earned 82.3% of the U.S. average. The industry with the highest labor earnings in Hawaii was Utilities (\$83,264); U.S. workers in Utilities earned about the same amount (\$81,112). In most industries, the U.S. average labor earnings were higher than those of Hawaii, with the largest difference in the Finance and Insurance industry (\$90,891 in the U.S. vs. \$71,364 in Hawaii). However, there were a few industries where Hawaii average labor earnings were higher than the U.S. averages, including Accommodation and Food Services (\$11,705 higher than the U.S. average), Construction (\$9,446 higher) and Health Care and Social Assistance (\$9,346 higher). Industries with similar average labor earnings between Hawaii and the nation included Educational Services (\$47,377 vs. \$47,360, respectively) and Public Administration (\$66,189 vs. \$65,674).

Average Labor Earnings by Gender

Figure 10. Average labor earnings by industry by gender (2019\$)



During the 2015-2019 period, the state average labor earnings for male workers was \$59,322, over \$14,000 higher than the average labor earnings of female workers (\$44,941). Male workers earned more than females in all the industries except in the Utilities sector and Real Estate and Rental and Leasing sector, where female workers earned more than males (\$85,095 for females and \$82,496 for males, and \$61,257 for females and \$59,798 for males, respectively). There were ten industries that male labor earnings were higher than the state average for males. Male workers in Finance and Insurance earned an average \$97,459 annually, the highest among all industries. There were three other industries with more than \$80,000 average male labor earnings: Health Care and Social Assistance (\$94,718); Professional, Scientific and Technical Services (\$88,948); and Utilities (\$82,496). The average labor earnings by female workers in eight industries were higher than the state average for female workers. Female workers earned \$85,095 in Utilities, the highest among all industries for females.

Average Labor Earnings by Generation

Table 4. Average labor earnings by industry by generation (2019\$)

Industry	Millennials (born 1981-1996)	Generation X (born 1965-1980)	Baby Boomers (born 1946-1965)	Silent & Greatest Gen (born before 1945)	Total*
Total	39,974	61,350	62,336	51,772	52,348
Agriculture, Forestry, Fishing & Hunting	38,107	40,605	43,861	27,080	38,374
Utilities	66,486	88,316	86,201	80,509	83,264
Construction	48,366	66,397	76,800	80,235	62,070
Manufacturing	46,831	65,121	62,088	30,541	57,022
Wholesale Trade	41,764	65,567	59,279	52,995	53,844
Retail Trade	31,446	47,082	47,625	40,548	38,155
Transportation & Warehousing	40,760	59,404	60,591	73,419	53,827
Information	41,233	81,178	63,395	71,009	60,438
Finance & Insurance	50,082	74,555	84,731	125,998	71,364
Real Estate & Rental & Leasing	42,831	68,891	65,119	47,614	60,478
Prof, Scientific & Technical Svcs	51,795	87,749	87,711	63,629	75,941
Admin & Support & Waste Mgmt Svcs	32,465	46,927	46,164	29,211	40,571
Educational Svcs	33,666	55,370	60,889	45,506	47,377
Health Care & Social Assistance	49,150	74,954	77,210	73,253	65,323
Arts, Entertainment & Recreation	27,034	42,413	38,126	16,162	32,861
Accommodation & Food Svcs	31,207	44,718	44,181	43,674	35,935
Other Svcs	35,078	39,883	44,081	37,794	38,752
Public Administration	53,201	72,738	71,024	74,474	66,189

* Earnings for Generation Z workers are rather low, averaging \$12,644, and thus are not included in the table. However, their wages are included in the total calculation in each industry.

In general, average labor earnings increased with age until Baby Boomers age (ranging from 51 to 73 years of age during the 2015-2019 period). In all the industry sectors, Generation X had higher average earnings than Millennials. Baby Boomers had higher average earnings than Generation X in half of the industry sectors. Generation X had higher earnings in Utilities (\$86,201 for Baby Boomers vs \$88,316 for Generation X), Manufacturing (\$62,088 vs \$65,121), Wholesale Trade (\$59,279 vs \$65,567), Information (\$63,395 vs \$81,178), Real Estate and Rental and Leasing (\$65,119 vs \$68,891), Professional, Scientific and Technical Services (\$87,711 vs \$87,749), Administrative and Support and Waste Management and Remediation Services (\$46,164 vs \$46,927), Art, Entertainment and Recreation (\$38,126 vs \$42,413), Accommodation and Food Services (\$44,181 vs \$44,718), and Public Administration (\$71,024 vs \$72,738 for Generation X). The lower earnings for the older generations may be due to the number of part-time workers.

Sample sizes for the Silent and Greatest Generation were small, so average earnings may not be representative of the true wage in the industry groups.

Average Labor Earnings by Major Race Group

Table 5. Average labor earnings by industry by major race group (2019\$)

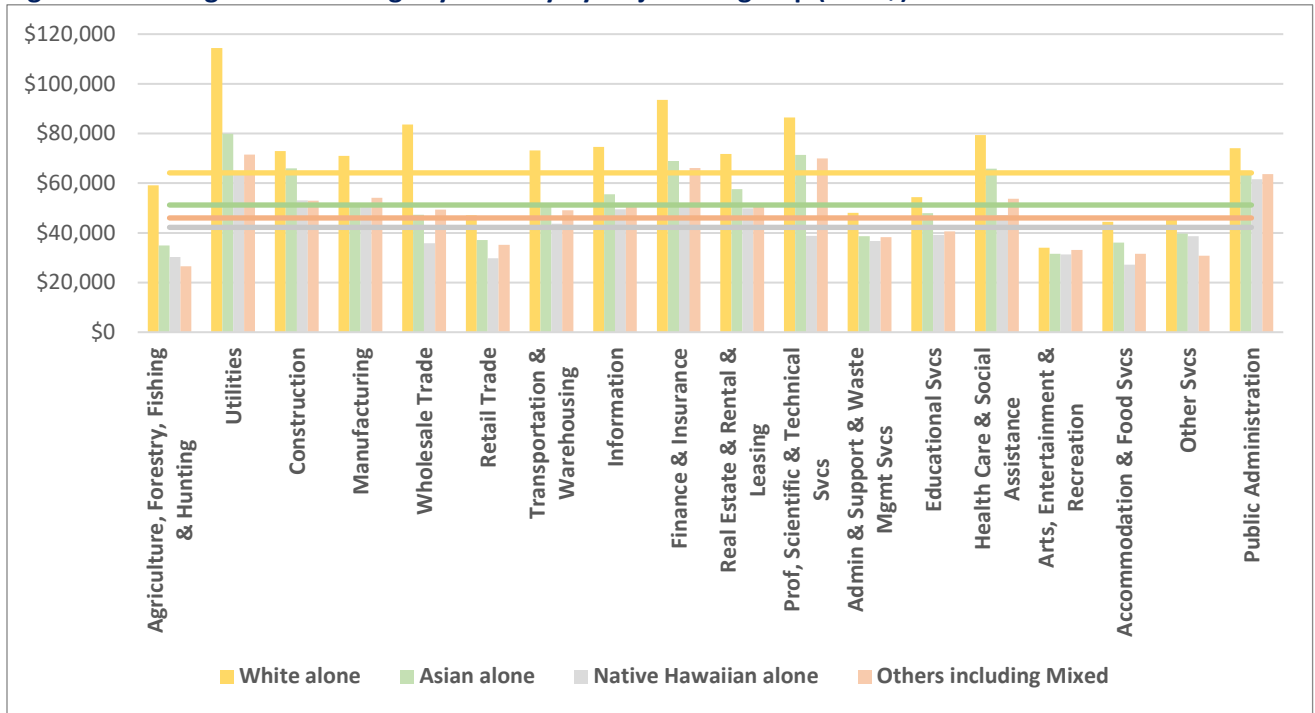
Industry	White Alone	Asian Alone	Native Hawaiian Alone	Other incl. Mixed
Total	64,144	51,202	42,206	45,996
Agriculture, Forestry, Fishing & Hunting	59,094	34,935	30,247	26,504
Utilities	114,382	79,941	63,871	71,548
Construction	72,954	65,997	53,083	52,926
Manufacturing	71,021	51,986	51,192	54,133
Wholesale Trade	83,603	47,336	35,772	49,396
Retail Trade	47,088	37,156	29,753	35,187
Transportation & Warehousing	73,212	51,269	43,622	49,125
Information	74,619	55,558	49,419	51,398
Finance & Insurance	93,482	68,990	50,765	66,137
Real Estate & Rental & Leasing	71,747	57,527	49,800	50,704
Prof, Scientific & Technical Svcs	86,402	71,340	38,801	69,917
Admin & Support & Waste Mgmt Svcs	48,109	38,592	36,769	38,315
Educational Svcs	54,337	47,951	39,139	40,649
Health Care & Social Assistance	79,382	65,864	47,161	53,773
Arts, Entertainment & Recreation	33,982	31,545	31,314	33,154
Accommodation & Food Svcs	44,493	36,078	27,222	31,569
Other Svcs	45,256	39,680	38,652	30,745
Public Administration	74,121	63,699	61,560	63,698

The average wage and salary and self-employment income earned by White alone workers during the 2015-2019 period was \$64,144. The Utilities sector had the highest average labor earnings by this group (\$114,382), followed by Finance and Insurance (\$93,482) and Professional, Scientific and Technical Services (\$86,402). Compared to other race alone groups, the average labor earnings by White alone was higher in all industries, though barely so in the Arts, Entertainment and Recreation sector.

The average labor earnings by Asian alone followed a similar pattern as White alone. The Utilities sector was the top industry among Asian alone (\$79,941), followed by Professional, Scientific and Technical Services (\$71,340) and Finance and Insurance (\$68,990). The industry with the highest ratio of income earned by Asian alone relative to the state average was in the Construction sector, where Asian alone earned 106% of the state average.

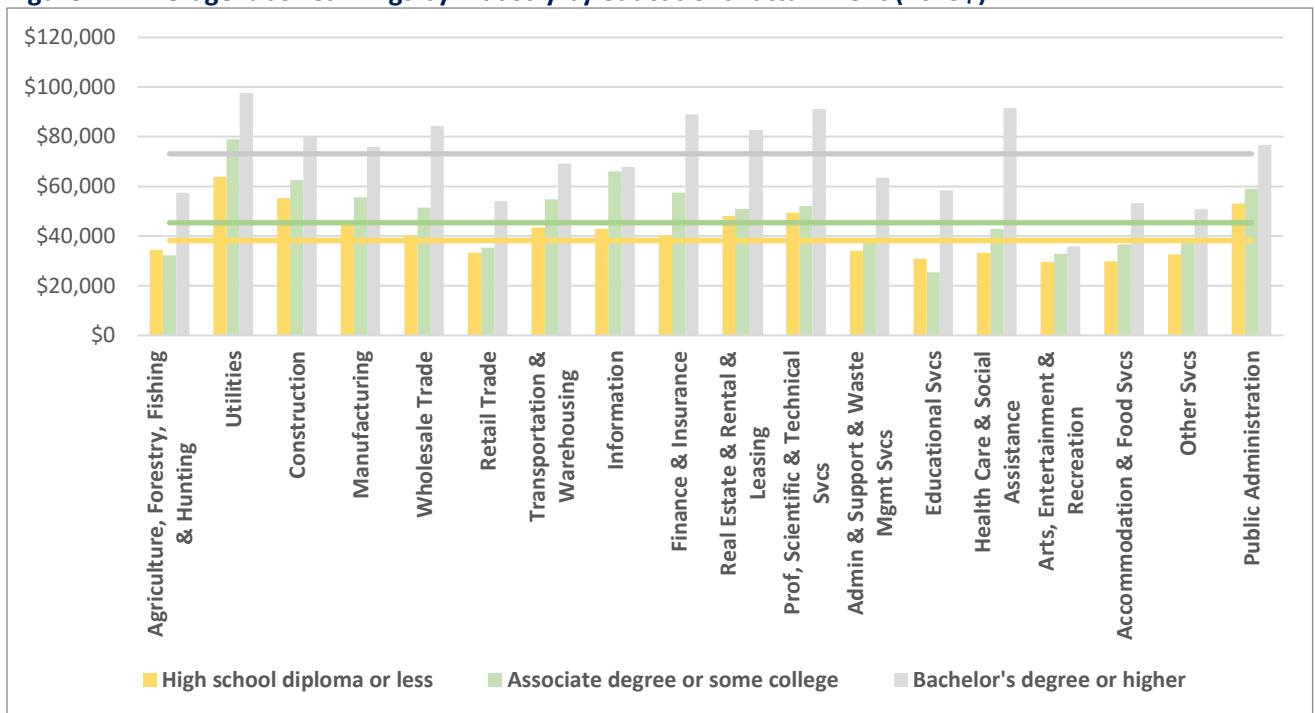
The average labor earnings by Hawaiian alone was the highest in Utilities sector as well, at \$63,871. Public Administration was the second highest for Hawaiian alone (\$61,560). The average income earned by this race group in all industries was less than the state average in the respective industry, though it was close in Other Services (\$38,652 for Native Hawaiians only vs \$38,752 for all workers).

Figure 11. Average labor earnings by industry by major race group (2019\$)



Average Labor Earnings by Educational Attainment

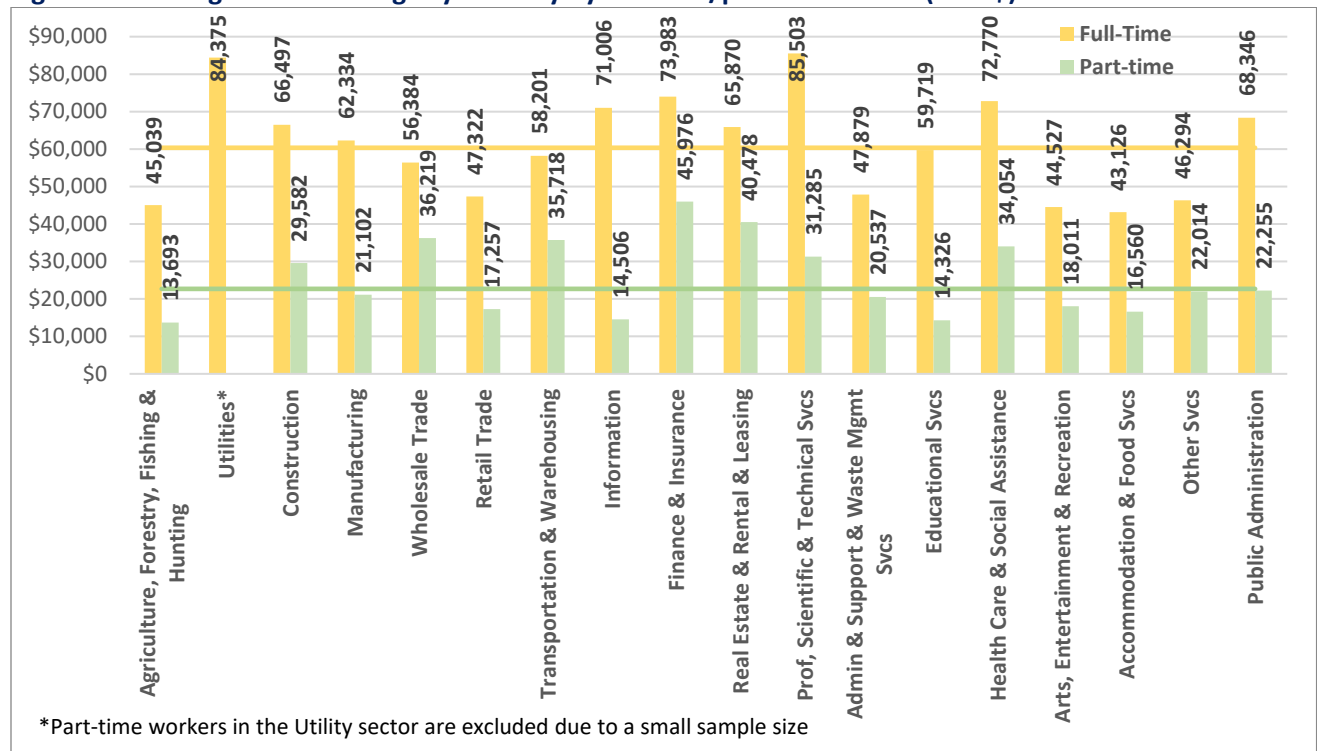
Figure 12. Average labor earnings by industry by educational attainment (2019\$)



As depicted in Figure 12, the higher the education level, the higher the earnings, for the most part; in some industries, workers with a high school diploma or less earn slightly more than those with an associate degree or some college. The average labor earnings by workers with a high school diploma (including GED) or below was \$38,195 during the 2015-2019 period. Workers with an associate degree or some college earned an average income of \$45,355, \$7,160 higher than the average income earned by those with a high school diploma or less. The workers with a bachelor’s degree or more earned an average income of \$73,110. Eight industries had average labor earnings higher than the state average for each respective level of educational attainment. The Utilities sector was the highest earning industry in each education category (\$63,879 for high school or less, \$79,015 for associate degree or some college, \$97,555 for bachelor’s degree or higher). The second highest earning industry was different for the different levels of education: Health Care and Social Assistance for bachelor’s degree or more (\$91,550), Information for associate degree or some college (\$65,977), and Construction for high school degree or less (\$55,284). The lowest earning industry for bachelor’s degree or higher workers and high school degree or less workers was in Arts, Entertainment, and Recreation (\$35,834 and \$29,605, respectively). Associate degree or some college workers in Educational Services earned even less than these workers (\$25,371).

Average Labor Earnings by Full-Time and Part-Time Status

Figure 13. Average labor earnings by industry by full-time/part-time status (2019\$)



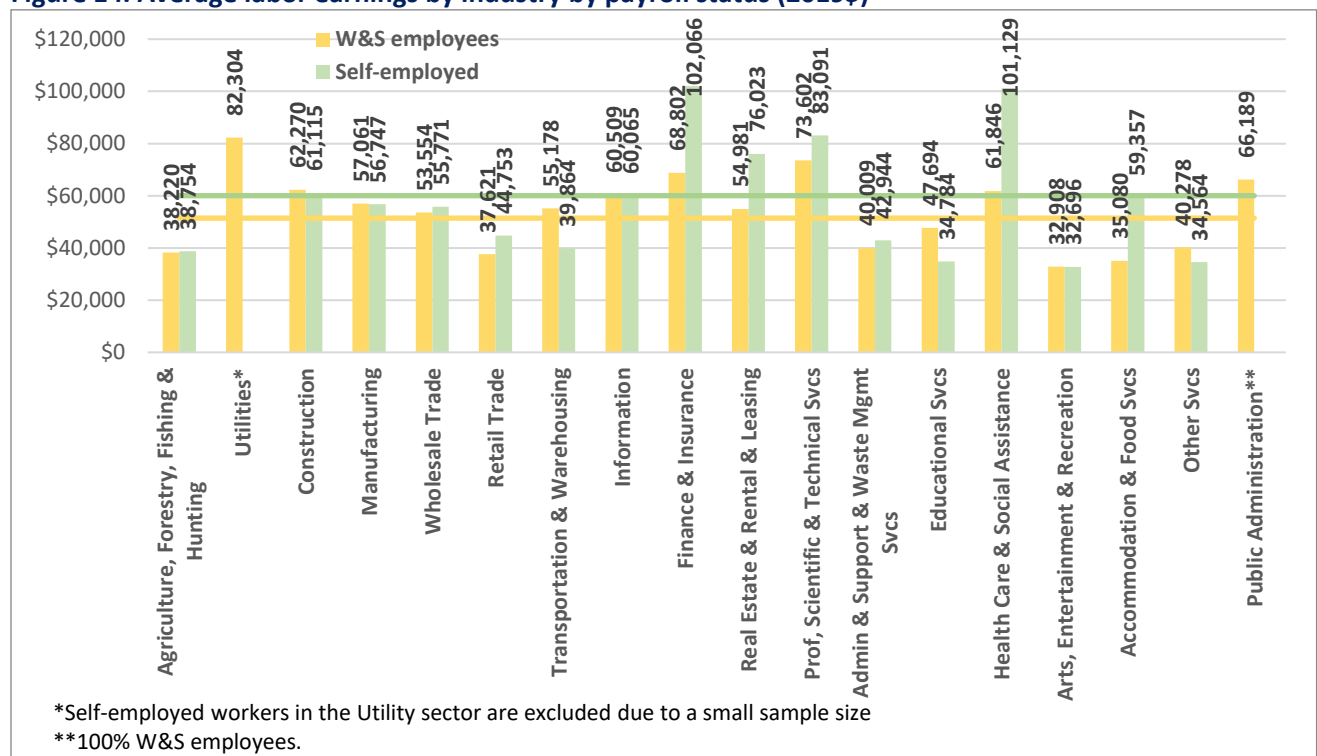
Overall, full-time workers had \$60,342 average labor earnings and part-time workers had an average labor earnings of \$22,682 during the 2015-2019 period. Full-time workers in Professional, Scientific and Technical Services had the highest average labor earnings at \$85,503 per year, followed by Utilities at \$84,375, Finance and Insurance at \$73,983, Health Care and Social Assistance at \$72,770, and

Information at \$71,006. Among full-time workers, Accommodation and Food Services had the lowest average labor earnings at \$43,126 per year during the 2015-2019 period.

Among part-time workers, the Finance and Insurance industry had the highest average labor earnings at \$45,976 per year, followed by Real Estate and Rental and Leasing at \$40,478, Wholesale Trade at \$36,219, and Transportation and Warehousing at \$35,718. Part-time workers in these four industries made more than 60% of the average labor earnings of their full-time counterparts. No other industries had part-time workers earn more than half of the full-time average labor earnings in the respective industry.

Average Labor Earnings by Payroll Status

Figure 14. Average labor earnings by industry by payroll status (2019\$)



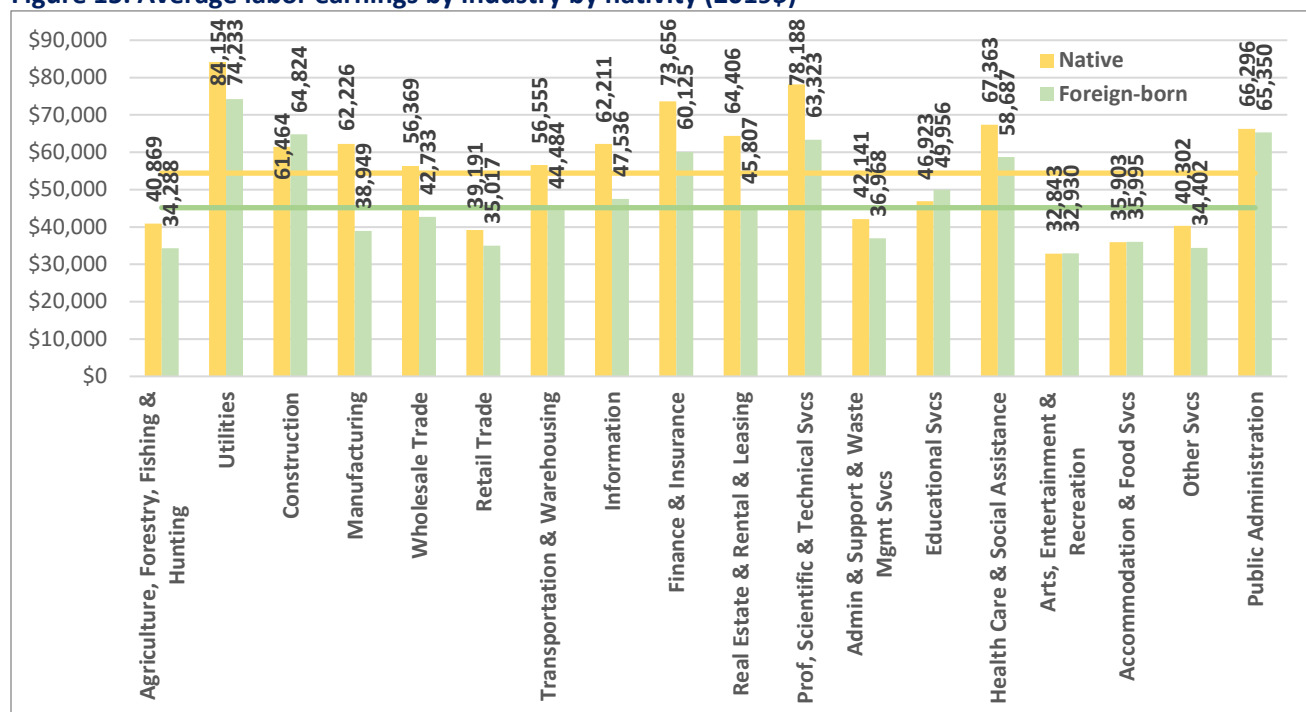
State average labor earnings for payroll (wage and salary) workers, including full-time and part-time workers, was \$51,421 per year during the 2015-2019 period. Self-employed workers made more money on average than payroll workers. The average labor earnings by self-employed workers was \$60,028 per year, 14.3% higher than that of payroll workers.

Of the 17 industry sectors with self-employed workers, self-employed average labor earnings were higher than those of payroll workers in nine industry sectors. Self-employed workers made significantly more money than payroll workers in Health Care and Social Assistance; Finance and Insurance; Accommodation and Food Services; Real Estate and Renting and Leasing; Professional, Scientific and Technical Services; and Retail Trade.

Among payroll workers, the Utilities sector had the highest average labor earnings at \$82,304, followed by Professional, Scientific and Technical Services at \$73,602, and Finance and Insurance at \$68,802. Self-employed workers in Finance and Insurance sector earned \$102,066, the highest labor earnings among self-employed workers, followed by Health Care and Social Assistance at \$101,129, and Professional, Scientific and Technical Services at \$83,091.

Average Labor Earnings by Nativity

Figure 15. Average labor earnings by industry by nativity (2019\$)



Overall, native-born workers in Hawaii had an average labor earnings of \$54,424, higher than that of the foreign-born workers' average labor earnings of \$45,166 during the 2015-2019 period. In most of the industry sectors, native-born workers had higher average labor earnings than foreign-born workers. The exceptions were in the Construction sector and Educational Services sector. In the Arts, Entertainment and Recreation and the Accommodation and Food Services sector, the point estimate of foreign-born workers average labor earnings is higher than native-born workers', but by less than \$100; for these two industries, their earnings are essentially identical.

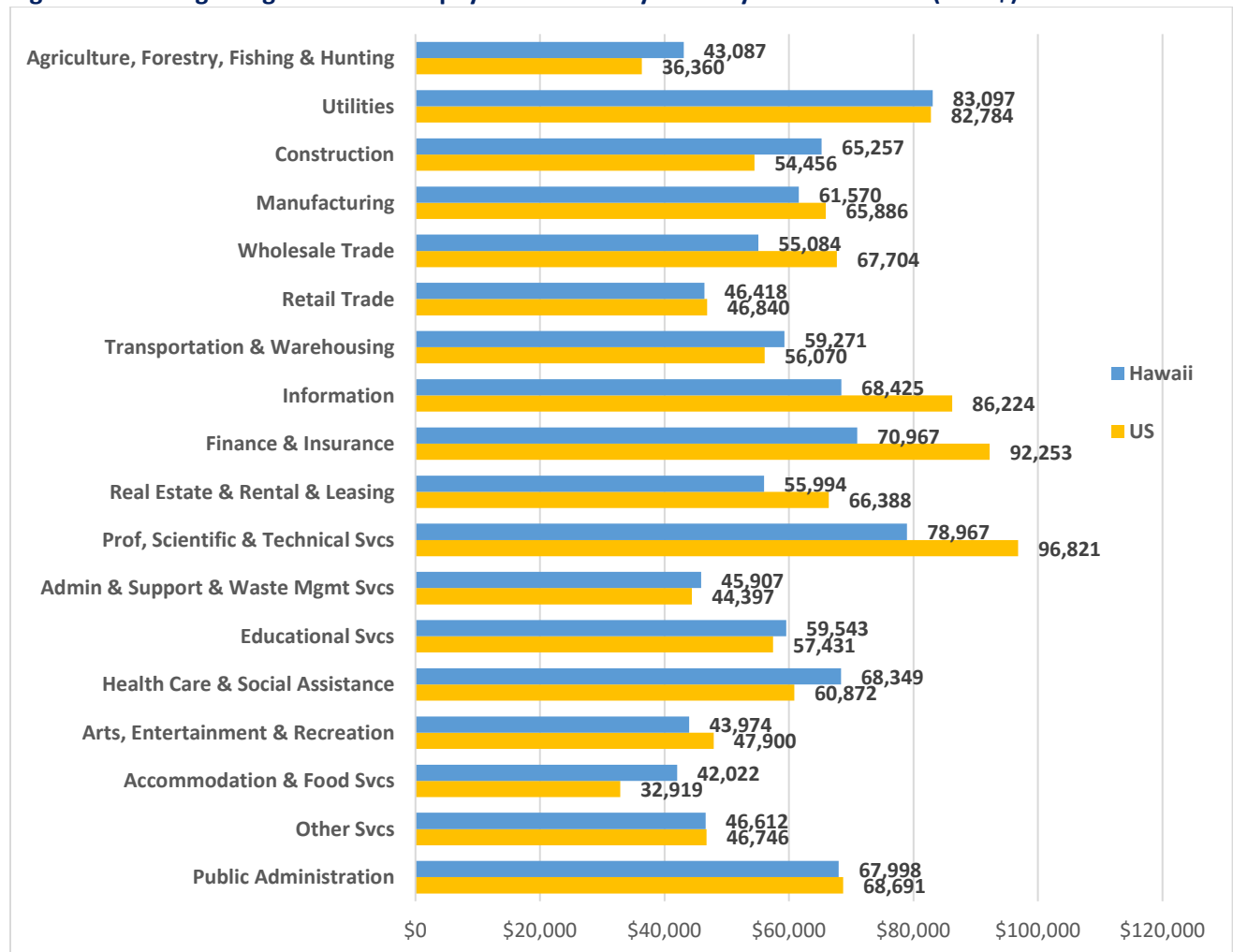
Among native-born workers, those in the Utilities sector earned the most at \$84,154, followed by Professional, Scientific and Technical Services at \$78,188 and Finance and Insurance at \$73,656. Similar to the native-born workers, foreign-born workers in the Utilities sector had the highest average labor earnings at \$74,233, followed by Public Administration at \$65,350 and Construction at \$64,824.

C. Average Wage Analysis

This section provides some statistics on average wages by industry and by demographic and social characteristics for full-time payroll workers. Part-time and self-employed workers are not included. The information may be useful for college students and even high school students in planning their field of studies. The average wage for an industry was calculated for all full-time pay-roll employees in that industry regardless of occupation.

Average Wage for Full-Time Payroll Workers by Industry

Figure 16. Average wage for full-time payroll workers by industry: Hawaii vs U.S. (2019\$)



Overall industry average wage of full-time payroll workers was \$58,447 for Hawaii, lower than the U.S. average of \$62,017 during the 2015-2019 period. In other words, Hawaii’s average wage for full-time payroll workers was 94.2% of the U.S. average.

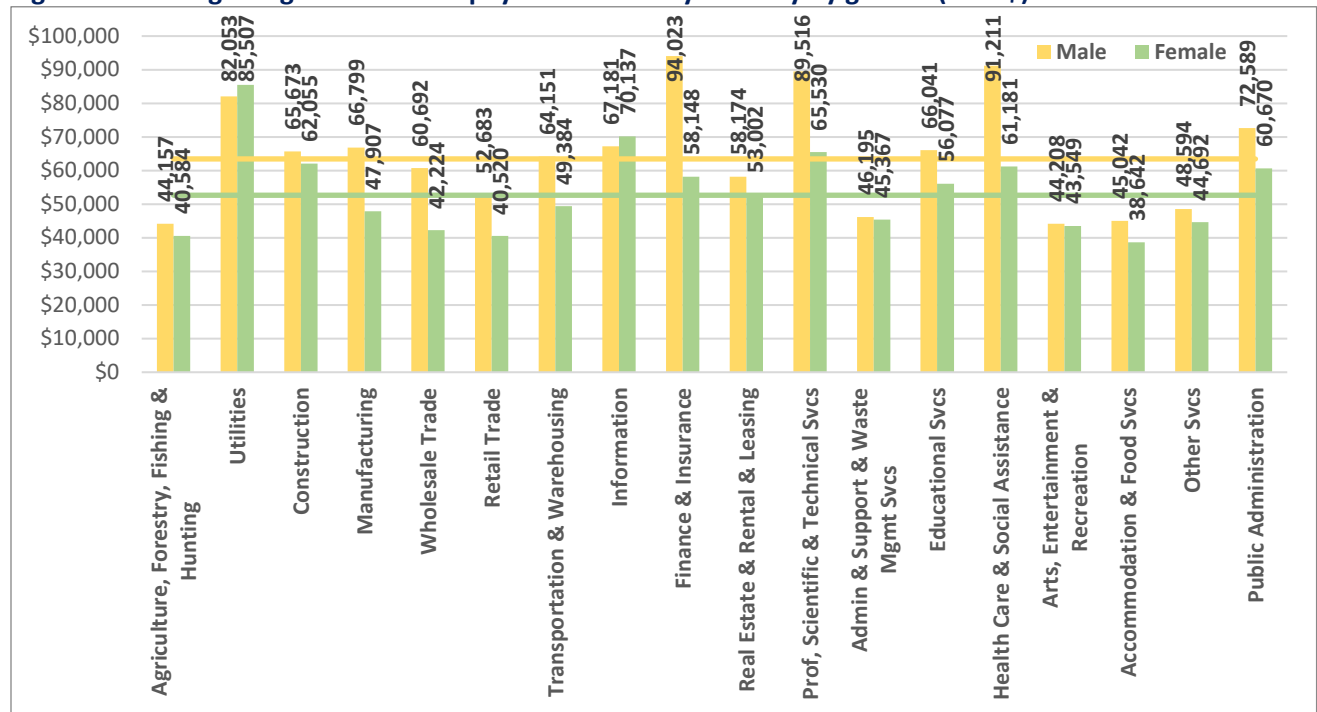
U.S. average wages were higher than Hawaii in most of the industry sectors, except Agriculture, Forestry, Fishing and Hunting; Utilities; Construction; Transportation and Warehousing; Administrative

and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; and Accommodation and Food Services.

Industry sectors with larger differences in average wage between Hawaii and U.S. included Finance and Insurance (\$92,253 in the U.S. vs \$70,967 in Hawaii), Professional, Scientific and Technical Services (\$96,821 in the U.S. vs \$78,967 in Hawaii), Information (\$86,224 in the U.S. vs \$68,425 in Hawaii), and Wholesale Trade (\$67,704 in the U.S. vs \$55,084 in Hawaii). Hawaii’s average wages were much higher than the U.S. in four industry sectors: Construction (\$65,673 in Hawaii vs \$54,456 in the U.S.), Accommodation and Food Services (\$42,022 in Hawaii vs \$32,919 in the U.S.), Health Care and Social Assistance (\$68,349 in Hawaii vs \$60,872 in the U.S.), and Agriculture, Forestry, Fishing and Hunting (\$43,087 in Hawaii vs \$36,360 in the U.S.).

Average Wage for Full-Time Payroll Workers by Gender

Figure 17. Average wage for full-time payroll workers by industry by gender (2019\$)



Among the full-time payroll workers in Hawaii, for all the industry sectors combined, male employees had an average annual wage of \$63,460, about \$11,000 higher than female workers at \$52,654. An average male worker earned more wage than an average female worker for all industry sectors except in Utilities. Earnings in the Administrative and Support and Waste and Remediation Services sector and the Arts, Entertainment and Recreation sector were nearly identical.

Industry sectors with larger differences in average wage between male and female included Finance and Insurance (\$94,023 for males vs \$58,148 for females), Health Care and Social Assistance (\$91,211 for

males vs \$61,181 for females), and Professional, Scientific and Technical Services (\$89,516 for males vs \$65,530 for females).

Average Wage for Full-Time Payroll Workers by Generation

Table 6. Average wage for full-time payroll workers by generation (2019\$)

Industry	Generation Z (born after 1997)	Millennials (born 1981-1996)	Generation X (born 1965-1980)	Baby Boomers (born 1946-1965)	Silent & Greatest Gen (born before 1945)	Total
Total	24,222	46,585	64,367	67,268	69,159	58,447
Agriculture, Forestry, Fishing & Hunting	27,845	44,734	44,344	43,441	25,292	43,087
Utilities	44,926	68,039	88,282	84,998	80,509	83,097
Construction	32,330	51,803	70,445	81,876	88,762	65,257
Manufacturing	25,740	52,228	66,233	68,258	47,819	61,570
Wholesale Trade	17,315	44,507	63,416	63,035	43,206	55,084
Retail Trade	19,868	39,225	53,571	53,407	33,169	46,418
Transportation & Warehousing	23,495	44,498	63,834	67,288	191,551	59,271
Information	28,125	49,959	81,129	70,212	86,956	68,425
Finance & Insurance	16,146	53,570	74,390	82,697	173,467	70,967
Real Estate & Rental & Leasing	31,339	42,300	59,902	62,300	52,973	55,994
Prof, Scientific & Technical Svcs	28,059	59,002	87,493	93,030	73,282	78,967
Admin & Support & Waste Mgmt Svcs	27,656	38,131	50,223	51,500	43,075	45,907
Educational Svcs	30,426	45,785	60,502	71,239	82,606	59,543
Health Care & Social Assistance	21,470	54,931	76,813	76,854	95,631	68,349
Arts, Entertainment & Recreation	14,418	34,115	49,762	50,499	23,006	43,974
Accommodation & Food Svcs	22,344	36,912	46,279	48,154	34,445	42,022
Other Svcs	15,867	40,478	47,950	53,753	49,410	46,612
Public Administration	41,998	55,176	72,946	73,681	90,092	67,998

As shown in Table 6, average wage increased with age, especially up to the Baby Boomer’s age, for most of the industry sectors. This indicates that experience did play an important role in wage schedule.

Among Millennials, those working in Utilities had the highest average wage at \$68,039 per year, followed by Professional, Scientific and Technical Services at \$59,002, Public Administration at \$55,176, and Health Care and Social Assistance at \$54,931. Millennials who worked in Arts, Entertainment and Recreation had the lowest annual wage at \$34,115 per year.

For Generation X workers, Utilities workers had the highest annual wage at \$88,282, followed closely by Professional, Scientific and Technical Services at \$87,493, and Information at \$81,129. Generation X workers in the Agriculture, Forestry, Fishing and Hunting sector had the lowest annual wage for this generation, at \$44,344.

Baby Boomer workers in Utilities also had a high wage (\$84,998), but the highest earning industry among Baby Boomers was Professional, Scientific and Technical Services at \$93,030. The lowest annual wage industry for Baby Boomers was Agriculture, Forestry, Fishing and Hunting as well (\$43,441)

Sample sizes for Generation Z and the Silent and Greatest Generation were small, so the average wage numbers may not be representative of the true wage in the industry sectors.

Average Wage for Full-Time Payroll Workers by Major Race Group

Table 7. Average wage for full-time payroll workers by major race group (2019\$)

Industry	White alone	Asian alone	Native Hawaiian alone	Other incl. Mixed	Total
Total	72,141	56,589	47,523	52,996	58,447
Agriculture, Forestry, Fishing & Hunting	74,888	36,347	42,868	32,168	43,087
Utilities	116,450	80,175	63,890	72,292	83,097
Construction	77,494	68,467	56,255	57,668	65,257
Manufacturing	73,497	58,356	57,064	57,702	61,570
Wholesale Trade	87,862	47,762	44,450	51,026	55,084
Retail Trade	56,675	44,233	32,877	45,909	46,418
Transportation & Warehousing	81,676	57,827	46,742	53,645	59,271
Information	87,396	63,494	53,397	58,890	68,425
Finance & Insurance	91,114	68,531	53,987	67,374	70,967
Real Estate & Rental & Leasing	61,180	58,927	51,672	47,544	55,994
Prof, Scientific & Technical Svcs	89,837	73,196	54,341	74,671	78,967
Admin & Support & Waste Mgmt Svcs	57,489	43,458	41,660	43,480	45,907
Educational Svcs	68,037	59,205	45,652	53,856	59,543
Health Care & Social Assistance	88,311	67,328	44,216	56,588	68,349
Arts, Entertainment & Recreation	47,468	42,016	39,355	44,214	43,974
Accommodation & Food Svcs	50,578	40,988	37,094	39,288	42,022
Other Svcs	55,230	46,730	41,889	40,206	46,612
Public Administration	76,394	65,747	62,115	65,044	67,998

As shown in Table 7, White workers had the highest average wage compared with other major race groups during the 2015-2019 period. The average wage for White workers was the highest in every industry sector. Among the workers whose race is White alone, the Utilities sector had the highest average annual wage at \$116,450, followed by Finance and Insurance at \$91,114 and Professional, Scientific and Technical Services at \$89,837.

Among workers whose race is Asian alone, those working in Utilities sector had the highest average wage at \$80,175, followed by Professional, Scientific and Technical Services at \$73,196. Asian alone workers in the Finance and Insurance sector and Construction sector each earned an annual wage around \$68,500.

Among the workers with Native Hawaiian alone race, those working in the Utilities sector had the highest average annual wage at \$63,890. Only among other races, including mixed, Utilities was not the highest wage sector; for these workers, the highest wage industry was Professional, Scientific and Technical Services at \$74,671.

Average Wage for Full-Time Payroll Workers by Educational Attainment

Table 8. Average wage for full-time payroll workers by educational attainment (2019\$)

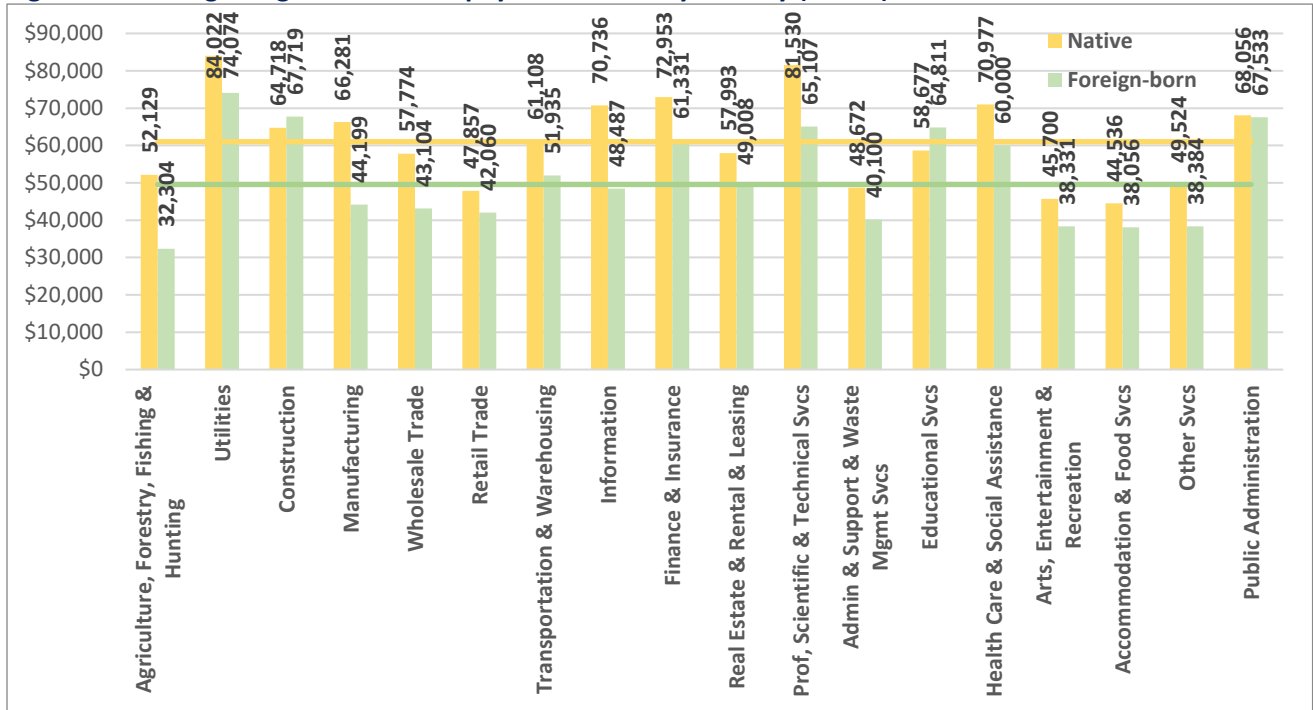
Industry	High school diploma or below	Associate degree or some college	Bachelor's degree or above	Total
Total	43,815	52,422	77,016	58,447
Agriculture, Forestry, Fishing & Hunting	37,407	43,398	64,870	43,087
Utilities	63,564	76,513	100,104	83,097
Construction	58,354	63,371	87,600	65,257
Manufacturing	46,460	60,345	83,470	61,570
Wholesale Trade	43,343	55,240	83,937	55,084
Retail Trade	40,772	44,006	62,146	46,418
Transportation & Warehousing	48,342	61,448	74,405	59,271
Information	53,206	75,347	74,124	68,425
Finance & Insurance	41,626	57,808	88,303	70,967
Real Estate & Rental & Leasing	41,153	49,815	83,773	55,994
Prof, Scientific & Technical Svcs	58,996	61,039	90,101	78,967
Admin & Support & Waste Mgmt Svcs	37,924	46,059	69,279	45,907
Educational Svcs	42,551	41,110	65,765	59,543
Health Care & Social Assistance	38,617	48,696	91,786	68,349
Arts, Entertainment & Recreation	38,289	43,196	50,682	43,974
Accommodation & Food Svcs	36,549	42,883	55,680	42,022
Other Svcs	37,045	44,523	62,714	46,612
Public Administration	55,732	60,898	78,003	67,998

Table 8 presents the average wage of full-time payroll workers by educational attainment. It was clear that average wage went up with education level for every industry sector, with two small exceptions: workers with an associate degree or some college earned slightly more than their bachelor's degree or above counterparts in the Information sector, while workers with a high school diploma or below earned slightly more than their associate degree or some college counterparts in educational services. The average annual wage for those with associate degree or some college education was 19.6% higher than those with high school diploma or below. Workers with at least a bachelor's degree had an average annual wage of \$77,016, 46.9% higher than those with associate degree and 75.8% higher than those with high school diploma.

By industry sector, workers with at least a bachelor's degree had average wages much higher than those with an associate degree including Health Care and Social Assistance (88.5% higher), Real Estate (68.2% higher), Educational Services (60% higher) and Finance and Insurance (52.8% higher). Workers with at least a bachelor's degree had an average wage more than twice that of workers without any college in three sectors: Finance and Insurance, Health Care and Social Services, and Real Estate and Rental and Leasing.

Average Wage for Full-Time Payroll Workers by Nativity

Figure 18. Average wage for full-time payroll workers by nativity (2019\$)



As shown in Figure 18, native-born workers had higher average wage for most of the industry sectors except for Construction and Educational Services. Overall, native-born workers had an average wage of \$61,018, compared to \$49,556 for foreign-born workers. The sectors with the largest gap between native annual wages and foreign-born annual wages was in Agriculture, Forestry, Fishing and Hunting (native-born workers earned 61.4% more than foreign-born workers), Manufacturing (50.0% higher), and Information (45.9% higher). Native-born workers and foreign-born workers earned about the same amount in the Public Administration sector.