UHERO

THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAIʻI

Exploring the Gender Pay Gap in Hawaiʻi

MAY 28, 2024

UHERO

THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAIʻI

Exploring the Gender Pay Gap in Hawai`i

Rachel Inafuku
Research Economist

Victoria Rhinebolt
Graphic Design and Layout

Research Support
Caleb Wood

2424 MAILE WAY, ROOM 540 • HONOLULU, HAWAII 96822
(808) 956-7605 • UHERO@HAWAII.EDU

Executive Summary

The US has made substantial progress in closing the historical earnings gap between men and women, but data from the American Community Survey (ACS) shows that from 2015 to 2022 full-time working women in the US earned 84 cents for every dollar a man made. In Hawai'i, full-time women fared slightly better, making 86 cents for every dollar earned by a man, though the gap was still substantial. This report uses data from the ACS to take a deeper look into Hawai'i's gender pay gap to further understand the role of gender in the workforce. The key findings are displayed below.

- **Women in Hawai'i are disproportionately represented among low earners and notably less represented among high earners.** In our analysis, women constitute just 29% of individuals in the highest observed earnings bracket—those making more than $160,000 annually—yet they account for over half of those earning less than $20,000 per year.
- **At every level of education, men earn more than women.** The gap in earnings varies depending on the level of education, with women holding associate degrees earning 74% of what their male counterparts earn, compared to 93% for those with a high school diploma or GED.
- **Women earn less than men in 74% of occupations.** Among the top five *highest-paid* occupations in the state, the median earnings for women were lower than they were for men in four of them. In contrast, women outearned men in three of the five *lowest-paying* occupations.
- **Although women, on average, earn less than men, they tend to hold positions of greater occupational prestige.** Women constitute a majority of the workforce in jobs ranked within the top 25% for occupational prestige. Nonetheless, men predominantly occupy roles in the highest tier, specifically the top 5% of prestigious positions.
- **The gender pay gap differs among ethnic groups.** The pay gap ranges from women earning 81% of men's earnings within the Micronesian community to women earning 98% of men's earnings in the Southeast Asian community.
- **Hawai'i's gender pay gap aligns with the findings of Nobel laureate Claudia Goldin and her co-authors, indicating that the disparity is largely driven by motherhood (Bertrand et al., 2010).** In Hawai'i, mothers earn 74% of what fathers earn, while women without children make 99% of the income of men without children.

Introduction

The gender pay gap has long been a major puzzle in economics, but it has received even more attention over the past year after Claudia Goldin won the Nobel Prize for her rigorous investigation into the fundamental factors shaping gender disparities in the labor market. While there has been substantial progress in female labor participation over the past century, Goldin reports that the earnings gap between men and women remained largely unchanged.

One possible explanation for the gender pay gap is occupational sorting, in which women tend to choose careers that pay less or offer more flexible work hours compared to the careers chosen by men. Studies have found that women are more likely to work fewer hours to care for their families, which may hinder their career advancement (Hideg et al., 2018; Knop, 2019). For example, during the COVID-19 pandemic, the gender pay gap in the US worsened as mothers were four to

five times more likely than fathers to reduce their work hours to care for their families (Collins et al., 2021).

The literature also indicates that women tend to choose career fields that may pay less than those typically chosen by men. A notable example is the underrepresentation of women in STEM fields, which often offer higher salaries (Holman et al., 2018; Quadlin, 2020). Although occupational sorting accounts for a portion of the gender pay gap, disparities persist within the same occupations: Marianne Bertrand's research on the glass ceiling shows that only 34% of women earn enough to place them within the top 50% of earners among men in their respective occupations (Bertrand, 2017).

Although national studies have provided ample evidence of the persistent gender pay gap in the US, there is a notable lack of information regarding gender pay disparities specifically within Hawai'i. Given Hawai'i's distinctive labor market, drawing direct comparisons between national findings and local circumstances may not be appropriate. To address this gap, this report utilizes data from the American Community Survey (ACS) to examine the gender pay gap within Hawai'i's unique landscape.[1]

The Gender Pay Gap in Hawai'i

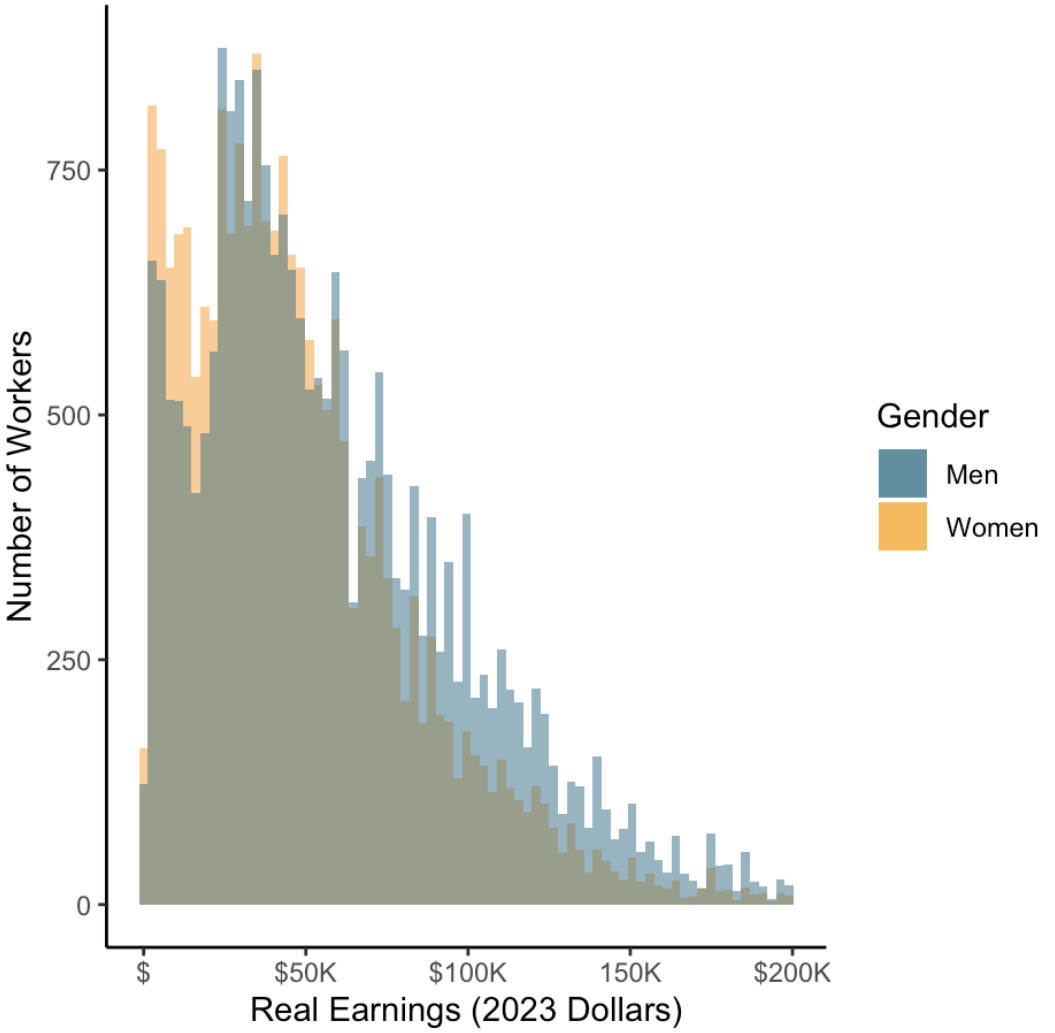
Hawai'i's labor market stands apart from other US states due to its heavy reliance on tourism and geographically isolated economy. The accommodation and food services sector holds the largest share of nonfarm jobs in the state, comprising more than 15%. Because tourism holds such a large share of payrolls, many jobs in Hawai'i are service-based positions. This abundance of service-based positions and lack of economic diversification contributes to wage compression in Hawai'i and thus relatively less income inequality compared to the rest of the country. Despite these factors, the gender pay gap in Hawai'i still persists.

Data from the ACS shows that from 2015 to 2022, women working full-time in Hawai'i earned 86 cents for every dollar that men working full-time earned.[2] This disparity in earnings, while slightly smaller than the national gender pay gap—where full-time working women earned 84% of their male counterparts earnings—remains significant. In 2022, although women made up about half of Hawai'i's workforce, including both part-time and full-time workers, they were underrepresented among higher income earners and overrepresented among lower income earners.

When taking a deeper look into earnings brackets, men significantly outnumber women among six-figure earners, constituting over 60% of this group. The disparity is widest at the highest earnings bracket, with males representing 71% of those earning more than $160,000 per year, while women represent just 29%. Conversely, among lower-income earners, women predominate. Specifically, in the two lowest earnings brackets—those earning less than $10,000 or between $10,000 and $20,000 annually—the majority of workers are women. This trend partly stems from women's greater likelihood to work fewer hours or choose part-time employment to fulfill caregiving responsibilities, compared to men.

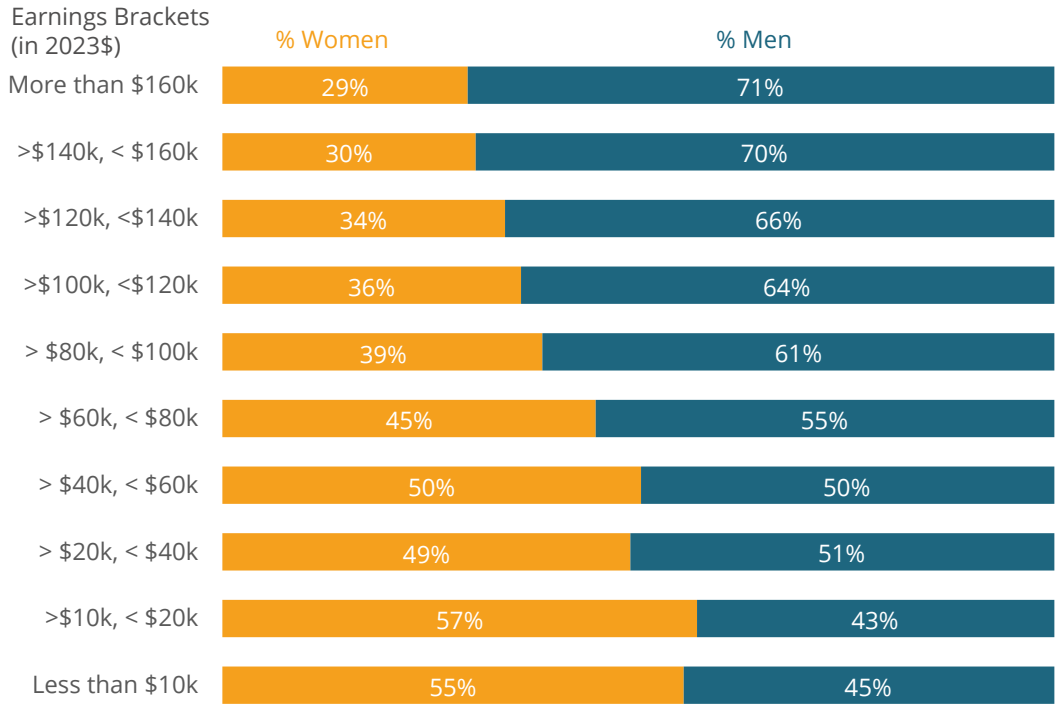
Aggregate data indicates that men in Hawai'i generally outearn women, yet this overlooks critical factors such as educational attainment, work hours, and occupation, which significantly impact earnings. The disparity might stem from the predominance of men in higher-skilled and better-paid occupations in Hawai'i. This results in higher male earnings on average. A more specific assessment of the gender pay gap beyond occupational sorting would compare women and men with comparable skills, occupations, and educational backgrounds, to determine if a disparity persists under these controlled conditions. The remainder of this report focuses exclusively on full-time working men and women, specifically those who work at least 40 hours per week.

The Number of Workers by Level of Earnings



Women are underrepresented amongst high income earners.

The Percentage of Men and Women by Earnings Brackets

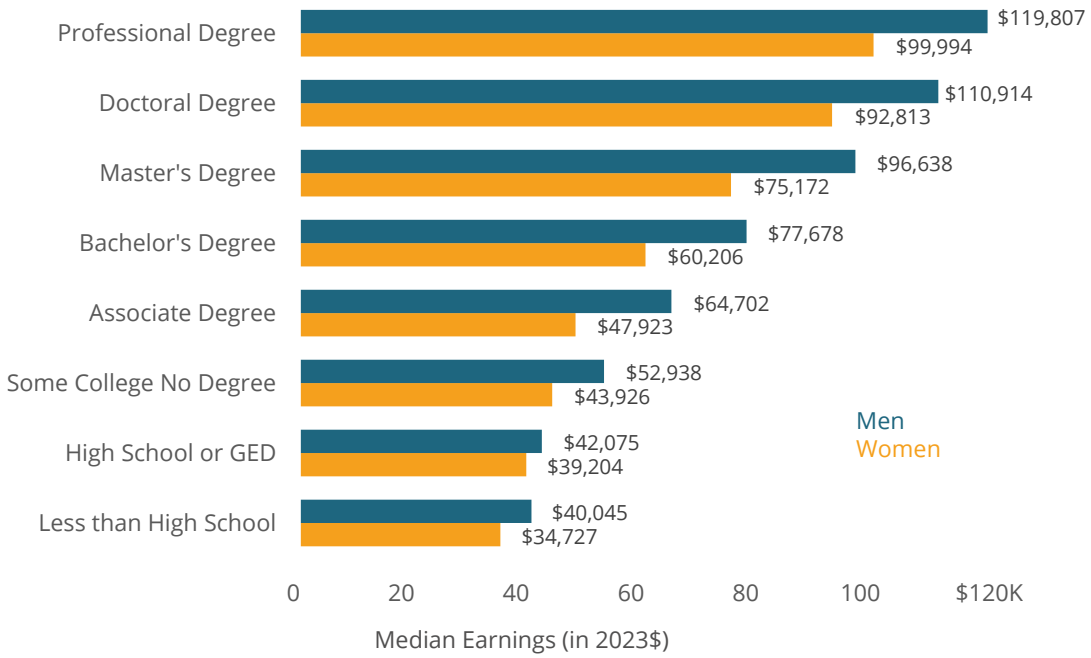


Women are a minority among the state's highest income earners.

Education and the Gender Pay Gap

We begin by analyzing the differential effect of educational attainment on earnings for full-time working men and women in Hawai'i. We first find that for both men and women, earnings increase with years of education. However, for every level of education, men still earn more than women with the same education level. Furthermore, the wage premium for men is significant. The smallest gap is at the lower levels of education, where women with a high school diploma earn 93% of what men earn. The largest gap exists for those who have obtained an associate degree, with women in this category earning 74% of what men make. The gaps in earnings at the bachelor's degree and master's degree levels are also substantial, with women earning just 78% of men's earnings.

Median earnings for full-time working men and women in Hawai'i by education level (in 2023 dollars)



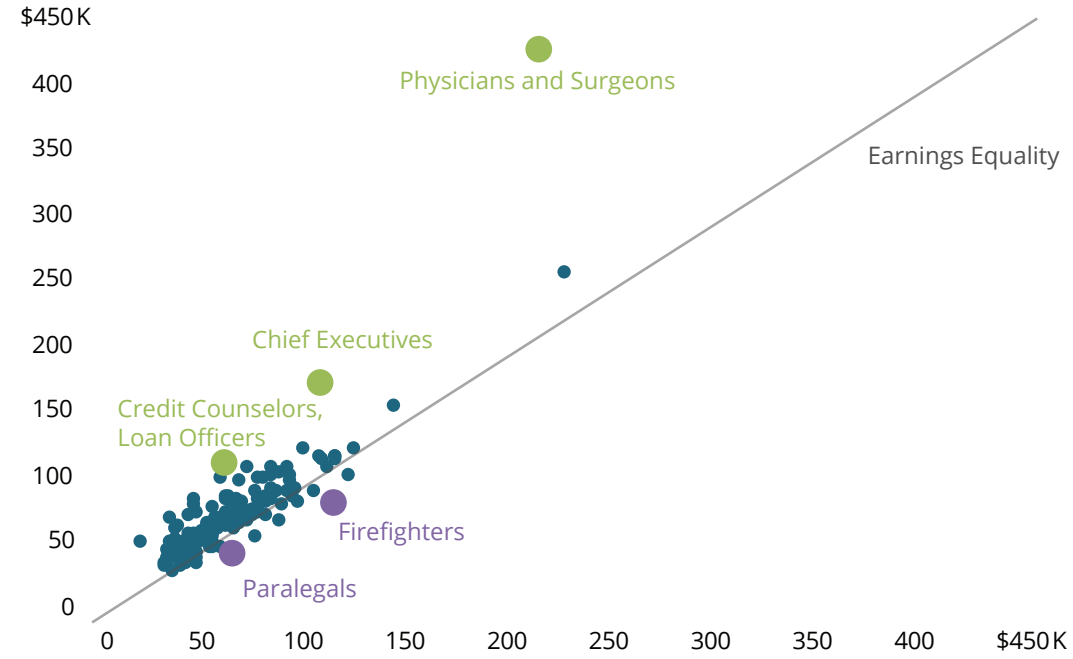
Median earnings for men are higher than for women within the same level of education across all levels.

Gender Pay Differentials by Occupation

When looking within occupation, men earn more than women on average. Among the 149 occupations examined in our sample, men earned more than women in 74% of these careers. Occupations such as physicians, surgeons, chief executives, and loan officers exhibit some of the largest disparities in earnings, with women in these roles earning substantially less than men. Conversely, roles like paralegals and firefighters show women tend to earn *more* than men.

In the state's top five highest-paying occupations, men outearn women in four out of five fields. The only exception is in the role of software developers, where the median man and woman in the field earn nearly the same. In the remaining top professions, physicians and surgeons experience the largest disparity, with women earning just 45% of what men make. Chief executives also exhibit a large gender pay gap with women earning 60% of a man's pay. While men dominate the highest paying occupations, the landscape is more diverse among the state's lowest-paying occupations. Women outearn men in three out of the five lowest paid professions within the state. The disparity of higher earning women across top occupations and diversity in earnings in low paying occupations could reflect barriers to success in these top paying fields.

Men vs Women's Earnings by Occupation



Men outearn women across 74% of occupations.

Median Earnings for Men and Women Across Highest and Lowest Earning Occupations

Occupation	Median Man's Earnings	Median Woman's Earnings	Women's Earnings As A % of Men's Earnings
Physicians and Surgeons	$423,902	$192,345	45%
Other Physicians	$247,500	$219,928	89%
Chief Executives	$164,724	$99,414	60%
Pharmacists	$152,036	$138,089	91%
Software Developers	$117,640	$118,078	100%
Childcare Workers	$28,816	$14,376	50%
Personal Care Aides	$31,449	$20,625	65%
Dishwashers	$23,788	$30,097	126%
Taxi Drivers and Chauffeurs	$24,758	$34,504	139%
Tour and Travel Guides	$25,159	$26,624	106%

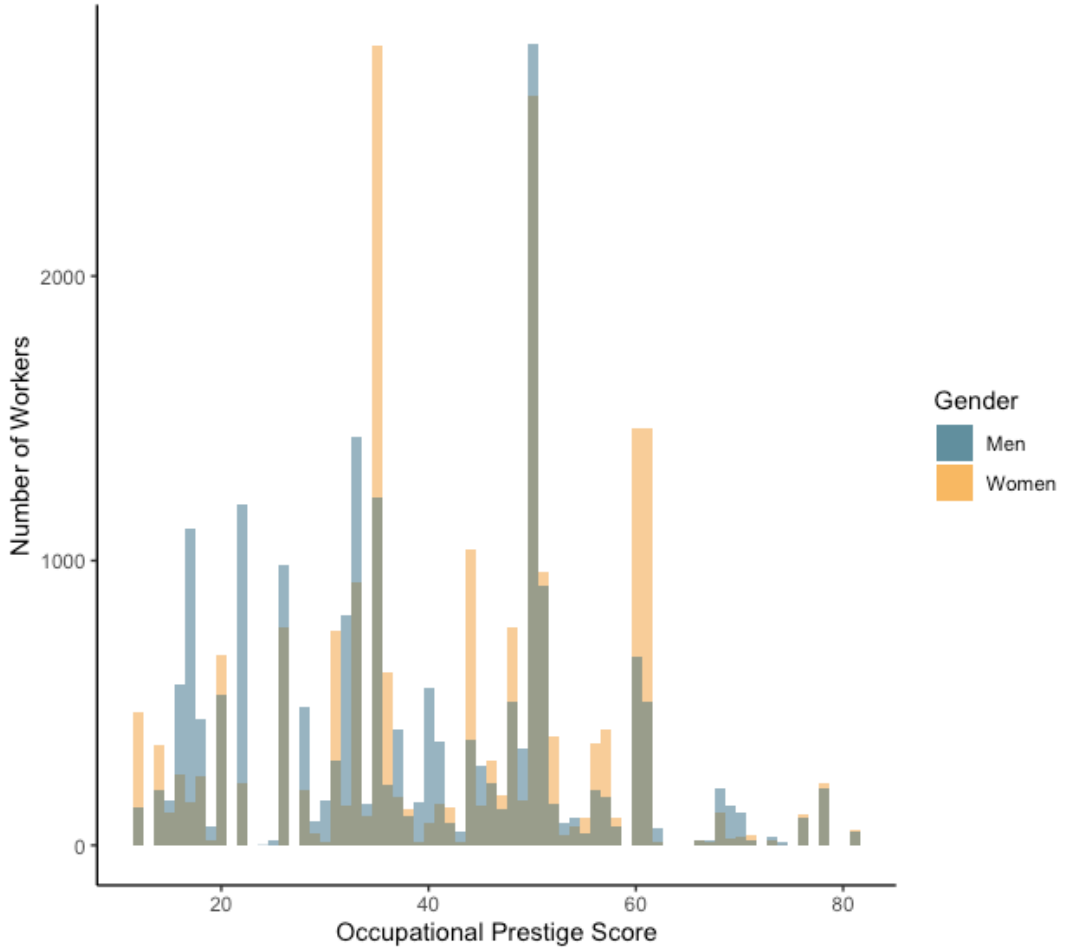
Note: Median earnings are calculated by taking the median earnings of workers who work at least 40 hours per week on average. Women's earnings as a percentage of men's earnings is rounded to the nearest 1%.

While income is one determinant of career success, some may place greater value on the social standing or "occupational prestige" of a career rather than on earnings. Furthermore, occupational prestige and earnings are not necessarily directly related. For example, postsecondary teachers (college professors) are ranked within the top 1% of occupational prestige scores, but their mean earnings are well below the top 1% of earners in the state. To cater to this, we assess the percentage of men and women working in careers by level of occupational prestige.[3]

In our sample, occupations with the highest occupational prestige score include physicians, surgeons, and college professors. Occupations with the lowest scores include maids and housekeepers, childcare workers, and tour guides. Interestingly, while there is a clear polarization

in earnings between men and women, there is a much more equal dispersion of men and women across different levels of occupational prestige. Although women constitute a smaller proportion within the top 5% of prestigious careers, their mean occupational prestige score surpasses that of men. Moreover, women are more prominently represented than men in careers ranking within the top 25% of occupational prestige.

Number of workers by occupational prestige score



There is more gender diversity by occupational prestige.

The Gender Pay Gap by Ethnicity

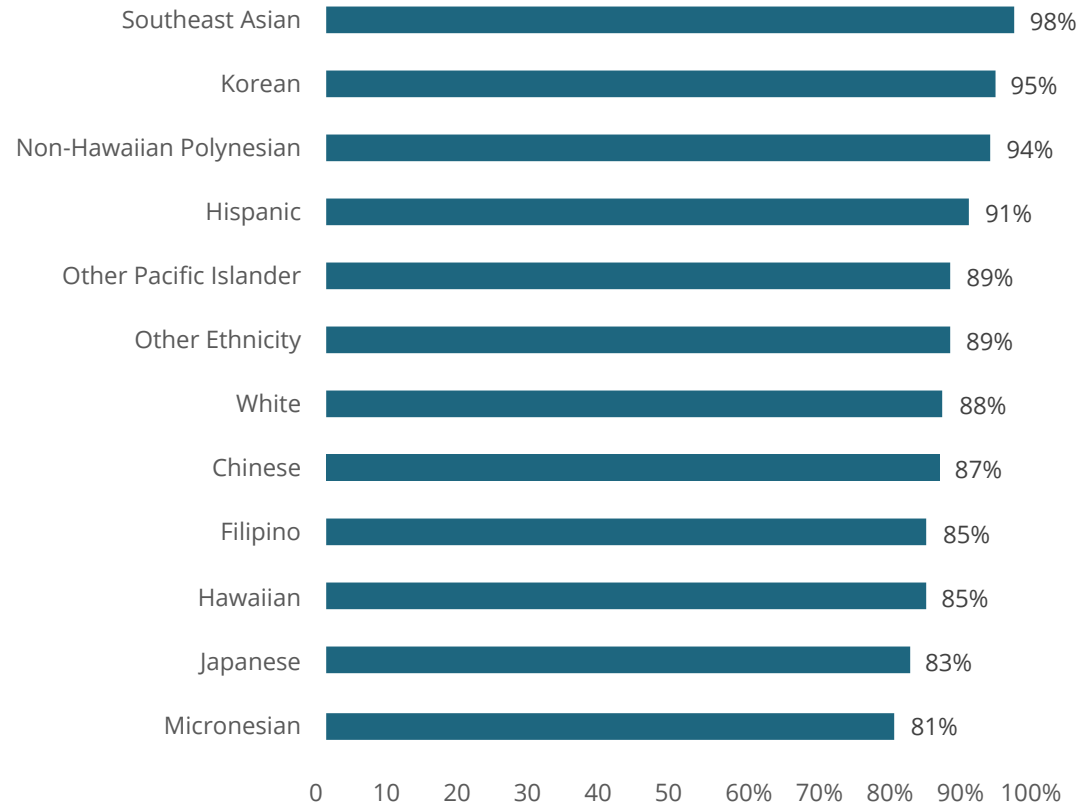
Studies on the gender pay gap at the national level have found substantial variation when looking at various racial and ethnic groups. A study from the Pew Research Center found that the disparity in earnings between men and women is largest among Black and Hispanic workers, with women earning 70% and 65%, respectively, of what their male counterparts make. In contrast, they find that the gender pay gap is narrowest within the Asian community, where women earn 93% of what Asian men earn. For White women, the earnings ratio stands at 83%.

While national studies show variation in the gender pay gap by ethnic groups, Hawai'i's ethnic diversity is not comparable to the rest of the US. By analyzing select ethnic groups within our sample, we've calculated the gender pay gap for full time workers across major ethnic groups in Hawai'i. This gap ranges from women earning 81% of what men do within the Micronesian community to women in the Southeast Asian community earning 98% of what Southeast Asian men make. Koreans and non-Hawaiian Polynesians also exhibit narrower gender pay gaps, with women earning 95% and 94% of what men earn, respectively. On the other hand, Filipino, Native

Hawaiian, Japanese, and Micronesian workers exhibit the lowest ratios, falling below the state average.

Interestingly, the data reveals no straightforward correlation between income levels and the gender pay gap across different ethnicities. For instance, Japanese men and women, who have the *highest* median earnings among all the ethnic groups in our sample, also display the second *lowest* female-to-male earnings ratio. Conversely, Micronesian workers, with the *lowest* median earnings of all ethnic groups, exhibit the lowest female-to-male earnings ratio as well. Several mechanisms may influence variations in the gender pay gap across different ethnic groups, including cultural factors, career choices prevalent among specific ethnicities, age distributions within these groups, among others. However, we are unable to accurately pinpoint which mechanisms are driving these differences.

Women's earnings as a percentage of men's earnings by selected ethnic groups



The gender pay gap varies by ethnic group.

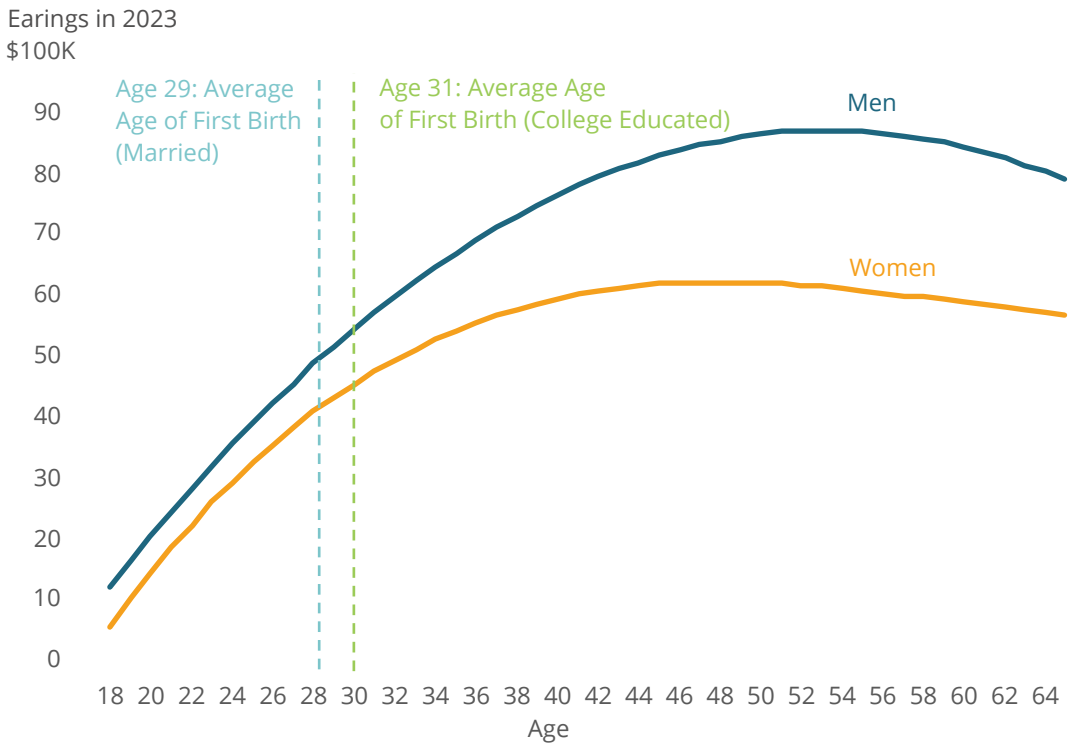
What Drives Hawai'i's Gender Pay Gap?

Several studies reveal that women are more likely to prioritize home activities, often resulting in career sacrifices. For instance, Collins et al (2021) highlighted that women have a higher likelihood of reducing their work hours to care for their children compared to men. To this end, Goldin et al (2010) show that while early career earnings between men and women are nearly identical, the arrival of a woman's first child significantly impacts her income. Unlike men within the same profession, mothers experience a notable decline in earnings that don't rebound at the same pace as men. Instead, mothers are more likely to choose family-friendly jobs that have shorter work hours and fewer career advancement opportunities. Simultaneously, Goldin also finds that not only do women experience a wage penalty upon the arrival of their first child, but men experience a wage *bonus*. She suggests that American societal norms expect men to take on the breadwinner

role while women step back after child birth. Research has also shown that employers are more likely to view fathers as more hardworking and committed than childless men, resulting in a wage premium for fathers (Budig, 2014).

To this end, we project lifetime earnings for men and women in Hawai'i.[4] Throughout their mid to late 20s, the earnings gap between men and women remains relatively narrow. However, a noticeable divergence in earnings emerges in their early 30s, with men experiencing significantly faster wage growth than women. Although the data does not explicitly attribute this divergence to childbirth, it aligns with the average age at which women in Hawai'i have their first child—suggesting a probable connection. According to research by economist Caitlin Myers for the *New York Times*, the average age of first-time mothers is 30 on Kaua`i and Maui county and 29 on O`ahu and Hawai'i Island. These observations are consistent with Claudia Goldin's findings, which attribute a significant portion of the gender pay gap to the impact of child-rearing responsibilities. To this end, sociologists have found employers are more likely to perceive mothers as less committed to work and offer lower starting salaries compared to childless women (Correll et al., 2007).

Lifetime earnings for men and women



The gender pay gap widens following the average age of first birth.

In analyzing the gender pay gap, we observe significant differences between parents and childless workers. Childless women earn 99% of what men make, and those under 40 even outearn their male counterparts. This indicates that the gender pay gap is predominantly driven by the earnings of women with children. In our sample, mothers earn only 74% of what fathers earn.

Conclusion

Analyzing data from the ACS reveals a clear gender pay gap in Hawai‘i. Specifically, between 2015 and 2022, the median woman earned 86 cents for every dollar earned by a man. Although this gap is slightly smaller than the national average, its existence is notable given that Hawai‘i has less overall income inequality compared to other states.[5] Even within the same occupations, men outearn women in 74% of jobs in Hawai‘i. While historical approaches to narrowing the gender pay gap focused on increasing women's college enrollment, addressing today's gap requires a more nuanced strategy. Recent shifts show women attending college at higher rates than men and obtaining comparable qualifications for high-paying roles, yet the gender pay gap persists. Closing the gap goes beyond ensuring equal human capital.

Following research by Claudia Goldin, the gender pay gap in today's climate is not driven by educational and career attainment, but is instead likely tied to motherhood and household gender dynamics. Despite strides towards gender equality in education and workforce participation, traditional gender roles still heavily influence the division of labor within households (Hideg et al., 2018; Knop, 2019, Collins et al., 2021). Women often bear the brunt of caregiving duties, including childrearing and eldercare, which can result in interruptions to their careers and hinder their advancement opportunities. In an interview with CNBC, Claudia Goldin pointed out that allocating more government funding towards child care can help narrow the gender pay gap. Aside from public policy, closing the gender pay gap requires a multifaceted approach that involves a shift towards a more equitable distribution of caregiving responsibilities between genders, as well as the adoption of more flexible work arrangements by employers, among other measures. By addressing these barriers for women in the workforce, Hawai‘i can strive towards a future where men and women have equal opportunities to prosper financially in the labor market.

Technical Appendix

To project earnings over an individual's lifetime by level of education, we implement the following model:

$$Y_{it}=\alpha+Age_{it}\bullet Age_{it}^{2}\bullet Educ_{it}+\varepsilon_{it}$$

in which we fully interact Age_{it}, Age_{it}^{2}, and $Educ_{it}$. The outcome variable Y_{it} is real earnings (in 2023 dollars) for individual i in year t. The term $Educ_{it}$ is the individual's highest completed level of education. The terms Age_{it} and Age_{it}^{2} are the individual's age and squared age. These terms capture how earnings change as the individual ages. Finally, ε_{it} is the error term. We estimate these regressions separately by gender. We then predict earnings by gender for each level of education and age using our regression coefficients.

To project lifetime earnings for men and women, we estimate the following model:

$$Y_{it}=\alpha+Age_{it}\bullet Age_{it}^{2}\bullet Female_{it}+\varepsilon_{it}$$

The terms Age_{it}, Age_{it}^{2}, and $Female_{it}$ are fully interacted. The outcome variable Y_{it} is individual i's real earnings (in 2023 dollars) in year t. The terms Age_{it} and Age_{it}^{2} are the individual's age and squared age. The term $Female_{it}$ is a dummy variable equal to one if the individual identifies as a woman and zero if they identify as a man. Finally, ε_{it} is the error term. Using the regression coefficients, we predict earnings at each age for men and women.

References

Bertrand, M. (2017). *The glass ceiling*. Becker Friedman Institute for Research in Economics Working Paper No. 2018-38.

Bertrand, M., Goldin, C., & Katz, L. F. (2010). Dynamics of the gender gap for young professionals in the financial and corporate sectors. American economic journal: applied economics, 2(3), 228-255.

Budig, M. J. (2014, September 2). The Fatherhood Bonus and The Motherhood Penalty: Parenthood and the Gender Gap in Pay. Third Way. https://www.thirdway.org/report/the-fatherhood-bonus-and-the-motherhood-penalty-parenthood-and-the-gender-gap-in-pay?tpcc=nlbroadsheet

Buser, T., Niederle, M., & Oosterbeek, H. (2021). *Can competitiveness predict education and labor market outcomes? Evidence from incentivized choice and survey measures* (No. w28916). National Bureau of Economic Research.

Collins, C., Landivar, L. C., Ruppanner, L., & Scarborough, W. J. (2021). COVID-19 and the gender gap in work hours. *Gender, Work & Organization*, 28, 101-112.

Correll, S. J., Benard, S., & Paik, I. (2007). Getting a Job: Is There a Motherhood Penalty? *American Journal of Sociology*, *112*(5), 1297–1338. https://doi.org/10.1086/511799

Farber, H. S., Herbst, D., Kuziemko, I., & Naidu, S. (2021). Unions and inequality over the twentieth century: New evidence from survey data. *The Quarterly Journal of Economics*, 136(3), 1325-1385.

Greitemeyer, T. (2007). What do men and women want in a partner? Are educated partners always more desirable?. *Journal of Experimental Social Psychology*, 43(2), 180-194.

Hideg, I., Krstic, A., Trau, R., & Zarina, T. (2018). Do longer maternity leaves hurt women's careers?.

Holman, L., Stuart-Fox, D., & Hauser, C. E. (2018). The gender gap in science: How long until women are equally represented?. *PLoS biology*, *16*(4), e2004956.

Knop, B. (2019, August 19). *Among Recent Moms, More Educated Most Likely to Work*. Census.gov. https://www.census.gov/library/stories/2019/08/are-women-really-opting-out-of-work-after-they-have-babies.html#:~:text=Among%20women%20with%20a%20bachelor%27s

Kochhar, R. (2023, March 1). *The enduring grip of the gender pay gap*. Pew Research Center's Social & Demographic Trends Project. https://www.pewresearch.org/social-trends/2023/03/01/the-enduring-grip-of-the-gender-pay-gap/#:~:text=The%20gender%20pay%20gap%20%E2%80%93%20the,every%20dollar%20earned%20by%20men.

Mas, A., & Pallais, A. (2017). Valuing alternative work arrangements. *American Economic Review*, 107(12), 3722-3759.

Quadlin, N. (2020). From major preferences to major choices: Gender and logics of major choice. *Sociology of Education*, 93(2), 91-109.

Endnotes

1 Because the ACS does not collect data on non-binary and genderqueer identities, this analysis only includes data on those who identify as male and female in the ACS.

2 he gender pay gap is calculated by taking the median earnings of women who work at least 40 hours per week and dividing it by the median earnings of men who work a minimum of 40 hours per week.

3 Occupational prestige is based on surveys conducted by the National Opinion Research Center in which survey respondents were asked to evaluate the social standing of various occupations. For more on this, see P.M. Siegel, "Prestige in the American Occupational Structure," Ph.D. dissertation, University of Chicago, 1971.

4 See the technical appendix to see our methodology for lifetime earnings projections.

5 See our UHERO blog to learn more on income inequality in Hawai`i compared to the US.

UHERO

THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAIʻI

UHERO THANKS THE FOLLOWING SUPPORTERS:

KA WĒKIU - THE TOPMOST SUMMIT

Bank of Hawaii
DGM Group
First Hawaiian Bank
Hawaii Business Roundtable
Hawaii Community Foundation
HMSA
Kamehameha Schools
Queen's Health Systems

KILOHANA - A LOOKOUT, HIGH POINT

American Savings Bank
Benjamin Godsey
Castle Foundation
Central Pacific Bank
D.R. Horton
First Insurance Company of Hawaii, Ltd.
Hawaii Pacific Health
Hawaiian Airlines
Hawaiian Electric Industries
Matson
Tradewind Group

KUAHIWI - A HIGH HILL, MOUNTAIN

Alexander & Baldwin
Better Homes and Gardens Real Estate Advantage Realty
Castle & Cooke Hawaii
Chamber of Commerce
Halekulani Corporation
Hawaii Gas
Hawaii Hotel Alliance
Hawaii State AFL-CIO
Hawaiian Dredging Construction Company
HGEA
Honolulu Board of Water Supply
The Howard Hughes Corporation
HPM Building Supply
Kaiser Permanente Hawaii
Kyo-ya Hotels & Resots, LP
Nordic PCL Construction
Servco Pacific, Inc.
Stanford Carr Development

ADDITIONAL SUPPORTERS

Architects Hawaii, Ltd.
Charles Wathen Company (Pier Investments)
Chartwell Financial Advisory
Finance Factors
Foodland Super Market, Ltd.
The Hawaii Laborers & Employers Cooperation and Education Trust Fund
Hawaii National Bank
Hawaii Tourism Authority
HC&D, LLC
Honolulu Board of Realtors
The Natural Energy Laboratory of Hawaii Authority
Pacific Cost Engineering
The Pacific Resource Partnership
Trinity Investments

Kūlia i ka nuʻu (literally "Strive for the summit") is the value of achievement, those who pursue personal excellence. This was the motto of Hawaii's Queen Kapiolani. Supporters help UHERO to continually reach for excellence as the premier organization dedicated to rigorous, independent economic and policy research on issues that are both central to Hawaiʻi and globally relevant.

Over its more than twenty year history, UHERO research has informed decision making on some of the most important issues facing our community, including the ever-changing economic outlook, challenges to our environment, and policies affecting water, housing, energy, and many other areas.

Contributions from generous supporters like you make it possible for UHERO to fulfill this mission. Your financial commitment also allows us to distribute UHERO forecast reports to all Hawaii stakeholders.