# The Gig Economy in Hawaii and the United States: 

# A Baseline of Demographic Information and a Model for Estimating Income in This New Form of Earning a Living 

Edward Y. Uechi<br>Hawaii Workforce Development Council, Department of Labor and Industrial Relations

Final Report
19 September 2020


#### Abstract

This report establishes a baseline of demographic information for the average worker who engages in the gig economy. The baseline covers Hawaii and the United States. This report also introduces a new statistical model to estimate the earnings of a gig worker. While studies have been published to describe the characteristics of gig workers for the U.S. as a whole, there have been few studies on the topic for Hawaii. This report fills a gap in knowledge to describe the profile of gig workers in the state of Hawaii. Recommendations for research and public policy are provided.


## Evidence for Practice

The following points provide key takeaways that policy-makers and practitioners can apply in their work for future planning and implementation:

- The gig economy or gig work can be effectively described and defined, as the U.S. Bureau of Labor Statistics defines it, as "electronically mediated work, jobs or tasks of a short duration that workers find through websites or mobile apps," which are operated by companies that facilitate the connection between workers and customers.
- As much as 25 percent of gig workers both in Hawaii and across the U.S. had been working overtime - some even putting in 51 or more hours per week.
- The profile of gig workers in Hawaii is middle aged (low- to mid-forties), college educated, married or single, and earning, on average, $\$ 807$ per week.
- Instead of in-person work, online work appears to be a better choice for Hawaii workers to increase their income.


## Background

There is a popular belief that most workers who engage in the gig economy are younger adults. In a September 2017 report, the U.S. Government Accountability Office (GAO) had found in two surveys that the highest proportion of workers was 18 to 29 years old and in a third survey with the highest proportion aged 25 to $34 .{ }^{1}$ Although the three surveys had slightly different age ranges, the surveys showed that the second highest proportion of workers was around 30 to 44 years old. The studies, which the GAO reviewed, were published in 2016 and used Web-based surveys and/or bank accounts.

There have been issues in understanding who actually is a "gig worker" and what exactly is "gig work." There is no universal definition for gig work that is widely agreed upon. In the past, similar types of work have been referred to as self-employment, contract work, and freelance work. There is neither an established research methodology nor a standard for capturing people who do the emerging forms of work, which have been driven by the computer technology industry. As a result, organizations have designed a wide variety of methods to survey individuals on the types of work arrangements that they have had.

The U.S. Bureau of Labor Statistics (BLS) has defined the emerging forms of work that
are central to the gig economy. The BLS classifies the new forms of work as "electronically mediated work," which it defines as "short jobs or tasks that workers find through websites or mobile apps that both connect them with customers and arrange payment for the tasks. ${ }^{,{ }^{2}}$ Such jobs do not require workers to be employed by an organization in the traditional meaning of employment. Workers who carry out electronically mediated work are practically free to set their own schedule and use whatever resources they have to complete the tasks at hand.

Because there is no formal employment agreement between an employer and a gig worker, the gig worker can be left in a precarious situation where he has to survive on what income he can earn from completing one discrete task in the moment to finding and completing another discrete task in another moment. The U.S. Bureau of the Census recognizes this dilemma with the concept that it describes as contingent work. The Census Bureau defines contingent work as "the lack of an expectation for continuing employment." ${ }^{3}$ Indeed, this is the situation that a gig worker has to deal with.

Uncertainty in when the next job or task will come raises a host of short-term issues. Stress and worry about their financial situation can affect the mental health of gig workers. Insufficient personal savings can create budgeting problems to pay for rent, food, and living expenses. If a spouse and children are involved, the gig worker has added pressure to find ways to support his family. The head of household may be unable to support the family.
2. U.S. Bureau of Labor Statistics, "Electronically mediated work: new questions in the Contingent Worker Supplement," Monthly Labor Review, September 2018.
3. U.S. Bureau of the Census, Current Population Survey, May 2017: Contingent Work File, Technical Documentation CPS-17 (Washington, DC: Bureau of the Census, 2018), p. 3-1.

## Summary

Based on the collaboration of the Census Bureau and the BLS, data from the Current Population Survey, Contingent Worker Supplement are available to construct a profile of an individual who performs work in the gig economy. A full technical analysis of the data set is described below. This section here summarizes the analysis in easy to understand language to give leaders, policy-makers, and practitioners a broad and quick overview. The section describes key highlights and noteworthy observations.

To begin: an individual could be doing one of two, or both, forms of gig work or electronically mediated work. She could be completing a job by interacting with a customer in person that was introduced to her through a website or a mobile app. This is the in-person work scenario facilitated by a website or mobile app. In the second case, an individual could be completing a job entirely online without any physical contact with another person. This is the online work scenario provided through a website or a mobile app. In either scenario, there is an entity that operates the website or mobile app to register individuals, send job requests, follow up on the requests, and remit payments for completed jobs.

Approximately 2.0 percent to 2.6 percent of total workers did electronically mediated work in May 2017. Hawaii workers did more in-person work and even more online work than the national average. Of those online workers in Hawaii, less than half did online work as their main job. A worker's main job refers to the person's primary source of income. A worker may have a second job.

The majority of workers fell in the age range from 29 years old to 58 years old with the median age in the low- to mid-forties. More men than women engaged in in-person work, but

Hawaii female workers engaged just a little more than their male counterparts in online work. Hawaii workers were either married or single in large proportions. This was in contrast to the national average where there were twice as many married workers than single workers. Hawaii workers are college educated, having either a bachelor's degree or a master's degree. The level of education spans across the entire scale in the U.S. with approximately equal proportions of U.S. workers having either a high school diploma or a bachelor's degree. Most Hawaii workers were spread across six industries: (1) construction, (2) retail trade, (3) professional and technical services, (4) transportation and warehousing, (5) finance, and (6) public administration. The last three industries had far less U.S. workers. Occupations held by Hawaii workers and U.S. workers were in management, sales, and office and administrative support.

Hawaii workers had put in more hours per week - exceeding 50 hours - than the national average. Most U.S. workers had put in 35 to 40 hours or less than 35 hours. The longer hours in in-person work did not produce higher earnings for Hawaii workers. The mean weekly earnings for in-person work was $\$ 807$ for Hawaii workers and $\$ 919$ for U.S. workers. Weekly earnings of most workers could have been as low as $\$ 202$ to as high as $\$ 1,637$.

Income earned for online work appeared to offer a better outcome for Hawaii workers but no difference for U.S. workers. Online work had increased earnings, on average, by 16 percent to $\$ 938$ for Hawaii workers and by 1.5 percent to $\$ 933$ for U.S. workers. When online work was focused as the main job, then U.S. workers fared a little better. The data suggest that online work may provide the better choice for Hawaii workers to increase their income.

Further details and statistics can be read in the technical analysis section below. Specific data on particular characteristics are available in the tables in the appendix. Estimating weekly earnings for gig workers, using a statistical model, is described further below. The research
methodology for how the data set was analyzed and how the statistical model was developed is described in the next section. Recommendations for conducting further research and on supporting gig workers through public assistance and public policy are provided at the end of this report.

## Research Methodology

This report relied on the May 2017 Current Population Survey (CPS), Contingent Worker Supplement (CWS) data set. Sponsored by the BLS, the Census Bureau conducted the CPS/CWS in May 2017. The BLS added four questions specific to electronically mediated work to the CPS to capture individuals who worked in the gig economy. Survey results were recoded by the BLS to correct for false positives. The segmentation of the data set, which is described below, focused on these additional questions.

The CPS/CWS was given to approximately 56,000 households in the United States to understand the types of employment arrangements that workers considered as temporary and alternative to more conventional forms of employment. The CPS/CWS sought to ask individuals whether they expected their current work arrangement to continue.

The entire CPS data set contains 148,623 records for all U.S. states. Each record is a person who may be a member in a household or an individual who lives in a single-member household. The data set contains singles, couples, heads of households, spouses, and children.

A sub set from the full CPS data set was separated to cover only the state of Hawaii. This smaller set contains 2,134 records. The full data set was still used to capture the national average and to provide a reference to compare Hawaii's workers against the United States' workers. In
effect, two data sets representing the United States and Hawaii were analyzed.
Both the unchanged responses and recoded responses of BLS' questions were analyzed. The recoded responses were found to be too small of a sample. Using the recoded responses would have produced far smaller samples of Hawaii's data segments that would not be useful. Thus, it was determined to use the unchanged responses.

The U.S. data set and the Hawaii data set were each divided into four segments. The first segment contains individuals who performed work in person facilitated by a website or a mobile app, regardless of whether or not the workers did the work on a full-time basis. The second segment further narrowed down the first segment to include only those who did in-person work as their main job. The third segment contains individuals who performed work entirely online through a website or a mobile app. Like the first segment, the third segment includes all online workers who did the work full time, part time, and temporary. The fourth segment further narrowed down the third segment to include only those who did online work as their main job.

The sample sizes in the segments were reduced with each data set becoming more specific. Each segment was drawn from a larger data set. The total number of segments is eight, four for the U.S. and four for Hawaii. Table 1 shows the titles and sample sizes of the data segments.

Table 1: Gig Economy Data Sets for Hawaii and the United States (Sub Sets of the CPS)

| Data Set Segment | Hawaii <br> Sample Size (n) | United States <br> Sample Size (n) |
| :--- | :---: | :---: |
| In-person Work Facilitated by <br> a Website or a Mobile App | 49 |  |
| In-person Work as a Person's Main Job, <br> Facilitated by a Website or a Mobile App | 19 | 3,077 |
| Online Work Through <br> a Website or a Mobile App | 55 | 826 |
| Online Work as a Person's Main Job, <br> Through a Website or a Mobile App | 24 | 3,185 |
| Source: Author's analysis of CPS, Contingent Work Supplement data (Census Bureau) |  |  |

It is important to understand the difference between in-person work and online work. People who perform work entirely online do not have any physical contact with another person. They may interact by telephone, e-mail, videoconference system, or some other electronic means of communication. Online workers would be carrying out a job that exclusively uses a computer to complete the task. An example is the creation of a software program. Another example is the development of marketing materials.

People who perform work in person do have physical contact with another person. These workers would use a website or a mobile app to find specific jobs that have been posted or requested by others. Once they get the request, the in-person workers fulfill the job in one of a variety of ways as called for in the website or mobile app. An example is the use of an automobile to pick up a person at her home and drive her to the grocery store or some other destination. Another example is the use of a scooter or another form of private transportation to pick up a ready-made meal at a restaurant and deliver it to a customer at home or some other location. Another example is the use of a house to rent a room to a guest who will stay there for a
weekend or some agreed-upon length of time.
Among the numerous data fields available in the data set, eleven data fields were selected. This set of variables relates to wages earned, hours worked, employment sectors, health insurance, and demographics. The variables were analyzed for each data segment. Summary statistics and proportions were generated.

To create the linear regression model, the U.S. In-person Work data segment was exported and saved as a new data file. Certain data fields were recoded in the new file to make the data suitable for generating a model. The "Sex" data field was turned into a dummy variable wherein the Male and Female values were converted to 1 and 0 , respectively. The "Status of Health Insurance" data field was also turned into a dummy variable wherein the Yes and No values were converted to 1 and 0, respectively. Negative numbers in the Health Insurance Status field were changed to NA. The values in the "Education" data field had codes ranging from 31 to 46 in the CPS data file. To make Education a continuous variable, the Education values were recoded from 0 to 15 , respectively. Because the CPS data file does not store decimal points, the values in the "Wage" data field were reformatted to store amounts to two decimal points. The records containing negative numbers in the Wage and Hours data fields were deleted. Negative numbers refer to respondents who had no response, refused to answer, or did not know an answer. The removal of records reduced the sample size to 1,017 .

The Wage variable, which refers to the amount of weekly wages earned, is used as the dependent variable. Various combinations of independent variables with and without the $y$ intercept were analyzed to determine the best-fitting model. It has been determined that Sex, Age, Education, and Hours provide the strongest independent variables in combination to predict Wage - the weekly earnings. It has been determined further to remove the y-intercept term from
the equation, because it decreases the Adjusted R-squared by more than half. The Adjusted Rsquared in the equation without the y-intercept is 0.7312 . The Residual Standard Error is 622.6 on 1,013 Degrees of Freedom. As a caveat, the Age variable may be an issue, since it has a relatively large p-value (0.343), but its standard error is small (1.222). The following equation creates the model to estimate weekly earnings:

$$
\text { Weekly Earnings }=110.053(\text { SexM })-1.159(\text { Age })+31.646(\text { Education })+17.316(\text { Hours })
$$

Where:
SexM = 1 for Male
SexM = 0 for Female
Education $=0$ for Less than $1^{\text {st }}$ Grade Education
Education $=1$ for $1^{\text {st }}, 2^{\text {nd }}, 3^{\text {rd }}$, or $4^{\text {th }}$ Grade Education
Education $=2$ for $5^{\text {th }}$ or $6^{\text {th }}$ Grade Education
Education $=3$ for $7^{\text {th }}$ or $8^{\text {th }}$ Grade Education
Education $=4$ for $9^{\text {th }}$ Grade Education
Education $=5$ for $10^{\text {th }}$ Grade Education
Education $=6$ for $11^{\text {th }}$ Grade Education
Education $=7$ for $12^{\text {th }}$ Grade Education and No Diploma
Education $=8$ for High School Education with Diploma or GED
Education $=9$ for Some College Education
Education $=10$ for Associate's Degree, Occupational/Vocational Education
Education $=11$ for Associate's Degree, Academic Education
Education $=12$ for Bachelor's Degree Education
Education $=13$ for Master's Degree Education
Education = 14 for Professional School Degree Education
Education $=15$ for Doctorate Degree Education

A second model was attempted to add the Status of Health Insurance variable to the above equation. The result, however, showed that such a new model has problems. Thus, simply adding the Status of Health Insurance variable will not work.

An alternative second model was developed, and this one shows to be a stronger model.

In this model, the Hours and Health Insurance Status variables are the only independent variables used. For a similar reason described in the first model, the y-intercept term is removed. The Adjusted R-squared is 0.7105 . The Residual Standard Error is 653.9 on 564 Degrees of Freedom. Note that 451 observations had been deleted by R, due to all the NAs in the Health Insurance Status variable. The following equation creates the second model to measure the effect on income with changes in Hours and the Status of Health Insurance:

Weekly Earnings $=23.301$ (Hours) $+117.250($ Health $)$

Where:
Health $=1$ for Yes, Have Health Insurance
Health $=0$ for No, Don't Have Health Insurance

Table 2 shows how strong each variable is correlated to Wage. Hours has the strongest correlation followed by Education, Sex, and Age. Status of Health Insurance has the weakest correlation to Wage.

Table 2: Correlation of Independent Variables to the Dependent Variable

|  | Sex | Age | Education | Hours | Health |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Wage | 0.191 | 0.150 | 0.289 | 0.466 | 0.096 |

Source: Author's analysis of CPS, Contingent Work Supplement data (Census Bureau)

The computer software program R was used to conduct the analysis and to generate the box plots and scatter plots. The full CPS data file was used to segment the data into a number of sub sets and to generate summary statistics and proportions. Data segmentation was done
programmatically in R. A second data file based on the U.S. In-person Work data segment was created and recoded to generate the linear regression model. R was used to analyze this second data file and to generate the linear regression model. Figures 1 and 2 in this report were exported from R as image files and were not modified in any other computer software program.

Microsoft Excel, a computer software program, was used to recode the second data file. After the equation was determined from the linear regression model, Microsoft Excel was used to calculate the earnings for a number of individual profiles. The equation was analyzed in Microsoft Excel. Figures 3 and 4 in this report were generated from Microsoft Excel and formatted in Adobe Photoshop for printing at a high resolution.

## Technical Analysis

The complete list of characteristics in table format is found in the appendix, establishing a baseline of the average worker who carries out a job, either in-person or online, facilitated by a website or a mobile app. Tables $3,4,5$, and 6 provide a selected list of characteristics. This section provides a more detailed analysis than the above summary section. It is written for analysts and the more technical practitioners.

A small proportion of workers engaged either in "in-person work facilitated by a website or a mobile app" or in "online work through a website or a mobile app" in May 2017. Hawaii workers engaged slightly more than the national average. Less than two-and-a-half percent of Hawaii workers ( 2.30 percent) and slightly more than 2 percent of U.S. workers (2.07 percent) did in-person work. Slightly more than two-and-a-half percent of Hawaii workers ( 2.58 percent) and more than 2 percent of U.S. workers ( 2.14 percent) did online work. Applying these
percentages to the current total labor force would arrive at an estimate of the number of workers who would be engaged in the gig economy.

An even smaller proportion of workers did in-person work or online work as their main job, meaning that the job was the worker's primary source of income. Still more Hawaii workers did the work as their main job than the national average. Less than 1 percent of Hawaii workers ( 0.89 percent) and slightly more than one-half of 1 percent of U.S. workers ( 0.56 percent) did inperson work as their main job. More than 1 percent of Hawaii workers ( 1.12 percent) and more than one-half of 1 percent of U.S. workers ( 0.62 percent) did online work as their main job.

The median age for both Hawaii and the U.S. was in the low- to mid-forties. In in-person work, the median age was 41 for Hawaii and 44 for the U.S. In online work, the median age was 43 for both Hawaii and the U.S. The age range of the majority of workers went from 29 years old to 58 years old. While most workers fell into this range, U.S. workers as young as 16 years old and as old as 85 years old engaged in either in-person work or online work. In Hawaii, the youngest worker was 21 years old and the oldest worker was 66 years old.

More men than women engaged in in-person work by 6 percentage points for Hawaii and by less than 11 percentage points for the U.S. Although the proportions were nearly equal, Hawaii female workers (50.91 percent) engaged just a little more than their male counterparts (49.09 percent) in online work. This did not show in the national average; U.S. male workers engaged more than their female counterparts in online work by less than 7 percentage points. The data suggest that women would choose to do online work over in-person work.

Most workers were either married or single (never married). More than half of U.S. workers were married and more than a quarter of U.S. workers were single for both in-person work and online work. For workers who engaged in in-person work in Hawaii, 42.86 percent
were married and 36.73 percent were single. The percentage of workers who were married increased slightly in online work in Hawaii, but the percentage of workers who were single increased to almost an equal level with the married workers; the increase made by single workers was 5 percentage points.

In the U.S., white workers made up less than 80 percent of workers and black workers made up less than 12 percent of workers for both in-person work and online work. Asian workers made up less than 6 percent of workers in the U.S. for both in-person work and online work. The racial composition in Hawaii reversed with white workers having a considerably smaller proportion at more than a quarter in in-person work and more than one-fifth in online work. Less than 41 percent who did in-person work and half who did online work were Asian workers in Hawaii. Hawaiian/Pacific Islander workers in Hawaii made up 18.37 percent of workers in inperson work and 10.91 percent of workers in online work.

In the U.S., approximately equal proportions of workers (a quarter percent more or less) have either a high school diploma or a bachelor's degree. These U.S. workers would have done either in-person work or online work. In Hawaii, a combined total of 47 percent to 49 percent of workers have a bachelor's degree or a master's degree, and they would have done either inperson work or online work. Twenty-two percent to 23 percent of Hawaii workers have a high school diploma. While educational level is concentrated in Hawaii, the level of education for U.S. workers is spread across the entire scale from those having less than a first grade education to those holding a doctorate degree. Those individuals who stated their educational level at the lowest end of the scale are outliers.

Most workers in Hawaii were spread across six industries: (1) construction, (2) retail trade, (3) transportation and warehousing, (4) finance, (5) professional and technical services,
and (6) public administration. Most workers in the U.S. were spread across four industries: (1) construction, (2) retail trade, (3) professional and technical services, and (4) educational services. Hawaii had larger proportions of workers compared to that of the U.S. in transportation and warehousing, finance, and public administration - double the size in finance and public administration. In Hawaii, the largest proportions of workers who did in-person work were in transportation and warehousing (12.24 percent) and professional and technical services (10.20 percent). In the U.S., the largest proportion of workers who did in-person work was in retail trade (10.98 percent). For online work, both Hawaii workers and U.S. workers in professional and technical services moved their industry to be the largest proportion (16.36 percent and 11.15 percent, respectively).

Hawaii workers and U.S. workers who did either in-person work or online work held occupations in management, sales, and office and administrative support. Workers who held occupations in transportation and material moving did only in-person work.

The amount in earnings that workers made was above minimum wage, on average, but with wide variability. The mean weekly earnings for in-person work was $\$ 807.24$ for Hawaii workers and $\$ 919.46$ for U.S. workers. Earnings could fluctuate from $\$ 223.58$ to $\$ 1,390.90$ for most Hawaii workers. Earnings for most U.S. workers could fluctuate from \$201.94 to \$1,636.98.

Income earned for online work appeared to offer a better outcome for Hawaii workers but no difference for U.S. workers. Online work had increased earnings by 16 percent to $\$ 937.80$ for Hawaii workers and by 1.5 percent to $\$ 932.96$ for U.S. workers.

When workers made in-person work or online work as their main job, the change in earnings was slightly positive for in-person work but better for online work. In-person work as
the main job had increased earnings by 1.1 percent to $\$ 816.03$ for Hawaii workers and by 1.3 percent to $\$ 931.02$ for U.S. workers. Online work continued to show a better outcome for Hawaii workers and a little more positive for U.S. workers. Online work as the main job had increased earnings by 9 percent to $\$ 1,022.01$ for Hawaii workers and by 3 percent to $\$ 961.36$ for U.S. workers.

To achieve weekly earnings goals, a majority of workers would have to work on a fulltime basis, even adding more hours beyond a 40-hour schedule. In Hawaii, 52.63 percent of workers had put in 35 to 40 hours, 15.79 percent of workers had put in 41 to 50 hours, and 10.53 percent of workers had put in 51 or more hours, all to do in-person work. In the U.S., 46.37 percent of workers had put in 35 to 40 hours, 13.20 percent of workers had put in 41 to 50 hours, and 11.38 percent of workers had put in 51 or more hours, all to do in-person work. A quarter more or less of Hawaii workers and U.S. workers were working overtime to do in-person work.

The online work as the main job presents a complicated picture. A larger proportion of Hawaii workers ( 16.67 percent) had put in 51 or more hours to do online work. In contrast, the proportion of U.S. workers who had put in 51 or more hours had decreased to 7.20 percent. Less than 60 percent of U.S. workers had put in 35 to 40 hours to do online work. One-fifth of Hawaii workers had put in less than 35 hours to do online work as their main job - double than that in doing in-person work as their main job. Overtime work increased for Hawaii workers but decreased for U.S. workers.

Whether doing in-person work or online work, an overwhelming majority of workers in most cases had health insurance. An exception was with U.S. workers who did in-person work where 16.22 percent had no health insurance. The workers who had health insurance would have obtained insurance from their spouse if married or had purchased it in the individual market or
on the health exchange.
Statistics related to health insurance in this report must be viewed with caution. The data set contains a significant number of individuals who could not be counted. Reporting health insurance is a sensitive topic. Many individuals refused to answer, had no answer, or did not know as it pertained to health insurance. If all of the individuals had answered, the results might not be the same and could be substantially different. The health insurance related statistics are considered weak.

Table 3: In-person Work Facilitated by a Website or a Mobile App (May 2017)

| Characteristic | Hawaii | United States |
| :--- | ---: | ---: |
| Mean Weekly Earnings | $\$ 807.24$ | $\$ 919.46$ |
| Median Age | 41 | 44 |
| Male | $53.06 \%$ | $55.44 \%$ |
| Female | $46.94 \%$ | $44.56 \%$ |
| Married, Spouse Present | $42.86 \%$ | $53.49 \%$ |
| Never Married | $36.73 \%$ | $27.72 \%$ |
| White | $26.53 \%$ | $79.53 \%$ |
| Black | $2.04 \%$ | $11.96 \%$ |
| Asian | $40.82 \%$ | $5.82 \%$ |
| High School Diploma or GED | $22.45 \%$ | $25.58 \%$ |
| Some College | $18.37 \%$ | $17.81 \%$ |
| Bachelor's Degree | $26.53 \%$ | $24.31 \%$ |
| Master's Degree | $20.41 \%$ | $10.27 \%$ |
| Construction Industry | $8.16 \%$ | $8.12 \%$ |
| Retail Trade Industry | $8.16 \%$ | $10.98 \%$ |
| Transportation and Warehousing Industry | $12.24 \%$ | $6.95 \%$ |
| Finance Industry | $6.12 \%$ | $2.99 \%$ |
| Professional and Technical Services Industry | $10.20 \%$ | $8.25 \%$ |
| Educational Services Industry | $6.12 \%$ | $6.66 \%$ |
| Public Administration Industry | $8.16 \%$ | $4.00 \%$ |
| Management Occupations | $14.29 \%$ | $14.14 \%$ |
| Sales and Related Occupations | $16.33 \%$ | $11.76 \%$ |
| Office and Administrative Support Occupations | $10.20 \%$ | $10.07 \%$ |
| Transportation \& Material Moving Occupations | $8.16 \%$ | $8.87 \%$ |
| Source: U.S. Census Bureau, "Current Population Survey, Contingent Work | Supplement," May 2017 |  |
| Note: Hawaii Sample: n = 49; U.S. Sample: n = 3,077 |  |  |

Table 4: Online Work Through a Website or a Mobile App (May 2017)

| Characteristic | Hawaii | United States |
| :--- | ---: | ---: |
| Mean Weekly Earnings | $\$ 937.80$ | $\$ 932.96$ |
| Median Age | 43 | 43 |
| Male | $49.09 \%$ | $53.41 \%$ |
| Female | $50.91 \%$ | $46.59 \%$ |
| Married, Spouse Present | $43.64 \%$ | $53.69 \%$ |
| Never Married | $41.82 \%$ | $28.85 \%$ |
| White | $21.82 \%$ | $79.87 \%$ |
| Black | $1.82 \%$ | $11.59 \%$ |
| Asian | $50.91 \%$ | $5.81 \%$ |
| High School Diploma or GED | $21.82 \%$ | $24.05 \%$ |
| Some College | $18.18 \%$ | $17.68 \%$ |
| Bachelor's Degree | $30.91 \%$ | $25.87 \%$ |
| Master's Degree | $18.18 \%$ | $10.86 \%$ |
| Construction Industry | $7.27 \%$ | $7.69 \%$ |
| Retail Trade Industry | $10.91 \%$ | $10.58 \%$ |
| Transportation and Warehousing Industry | $7.27 \%$ | $4.55 \%$ |
| Finance Industry | $7.27 \%$ | $3.11 \%$ |
| Professional and Technical Services Industry | $16.36 \%$ | $11.15 \%$ |
| Educational Services Industry | $5.45 \%$ | $7.54 \%$ |
| Public Administration Industry | $9.09 \%$ | $4.27 \%$ |
| Management Occupations | $12.73 \%$ | $14.07 \%$ |
| Sales and Related Occupations | $12.73 \%$ | $11.27 \%$ |
| Office and Administrative Support Occupations | $16.36 \%$ | $11.93 \%$ |
| Transportation \& Material Moving Occupations | $3.64 \%$ | $6.06 \%$ |
| Source: U.S. Census Bureau, "Current Population Survey, Contingent Work Supplement," May 2017 |  |  |
| Note: Hawaii Sample: n = 55; U.S. Sample: n = 3,185 |  |  |

Table 5: In-person Work as a Person's Main Job (May 2017)

| Characteristic | Hawaii | United States |
| :--- | ---: | ---: |
| Mean Weekly Earnings | $\$ 816.03$ | $\$ 931.02$ |
| 0 to 34 Hours Worked | $10.53 \%$ | $21.67 \%$ |
| 35 to 40 Hours Worked | $52.63 \%$ | $46.37 \%$ |
| 41 to 50 Hours Worked | $15.79 \%$ | $13.20 \%$ |
| 51 or more Hours Worked | $10.53 \%$ | $11.38 \%$ |
| Have Health Insurance | $94.74 \%$ | $82.20 \%$ |
| Does Not Have Health Insurance | $5.26 \%$ | $16.22 \%$ |
| Spouse's Health Insurance | $21.05 \%$ | $16.34 \%$ |
| Own Insurance including Health Ins. Exchange | $10.53 \%$ | $11.38 \%$ |
| Son |  |  |

Source: U.S. Census Bureau, "Current Population Survey, Contingent Work Supplement," May 2017
Note: Hawaii Sample: $n=19$; U.S. Sample: $n=826$

Table 6: Online Work as a Person's Main Job (May 2017)

| Characteristic | Hawaii | United States |
| :--- | ---: | ---: |
| Mean Weekly Earnings | $\$ 1,022.01$ | $\$ 961.36$ |
| 0 to 34 Hours Worked | $20.83 \%$ | $15.16 \%$ |
| 35 to 40 Hours Worked | $50.00 \%$ | $59.76 \%$ |
| 41 to 50 Hours Worked | $12.50 \%$ | $13.52 \%$ |
| 51 or more Hours Worked | $16.67 \%$ | $7.20 \%$ |
| Have Health Insurance | $95.83 \%$ | $90.51 \%$ |
| Does Not Have Health Insurance | $4.17 \%$ | $7.96 \%$ |
| Spouse's Health Insurance | $16.67 \%$ | $15.16 \%$ |
| Own Insurance including Health Ins. Exchange | $4.17 \%$ | $9.27 \%$ |

Source: U.S. Census Bureau, "Current Population Survey, Contingent Work Supplement," May 2017
Note: Hawaii Sample: $\mathrm{n}=24$; U.S. Sample: $\mathrm{n}=917$

## Estimate of Earnings Model

Based on the data in the U.S. In-person Work data segment, a multi-variable statistical model has been developed to estimate weekly earnings. Analysts and policy-makers will be able to see the effect on earnings (income) with changes in sex, age, education, and hours. A second, although weak, model has also been developed to show the effect on earnings with changes in hours and the status of health insurance. The two models presented here are works in progress, with the second model only to be used for limited purposes. Additional research to collect more data will make the models stronger. For now, the first, principal model provides a good model to estimate earnings for a worker who engages in the gig economy.

The principal model uses the following equation:

Weekly Earnings $=110.053($ SexM $)-1.159($ Age $)+31.646($ Education $)+17.316($ Hours $)$

The equation shows that the starting hourly wage would be $\$ 17.32$. Hours would have a positive effect on earnings. For every 10 hours of additional work that a worker puts in, earnings would increase by $\$ 173.16$. An increase of one hour of work would increase earnings by $\$ 17.32$.

The inclusion of sex, however, places female workers at a disadvantage. A male worker would get an instant raise in his starting hourly wage at $\$ 127.37$. A female worker's starting hourly wage would not change. This creates a difference in earnings by $\$ 110.05$. Such a substantial difference in earnings between men and women would lead to income inequality.

Level of education would have a positive effect on earnings. For every increase in school
grade or advancement in educational degree that a worker attains, earnings would increase by $\$ 31.65$. A high school graduate would earn $\$ 158.23$ more than a worker with a primary school education. A college graduate would earn $\$ 126.58$ more than a high school graduate. Note that the difference in earnings between a college graduate and a high school graduate is smaller than that between a high school graduate and a worker with a primary school education.

Age would have a negative effect on earnings. For every 10 years that a worker ages, earnings would decrease by $\$ 11.59$. An increase in age by one year would decrease earnings by \$1.16.

Figures 1 and 2 provide some indication on why age has a negative effect on earnings. Figure 1 shows that there were older workers who, on average, had put in less than 40 hours per week. This makes sense since it is likely that older workers would work on a part-time basis or a few hours each week to remain active, earn a little extra income, or for another reason. Figure 2 further shows that the age variable approximates a normal curve where older workers and younger workers, on average, had earned less income. Middle-aged workers had earned, on average, the most income compared to their older and younger cohorts. Figure 1 again shows that younger workers had put in less than 40 hours per week. Younger workers would likely have been attending school. The generated model is compensating for the observations in the sample.

Figure 1: Hours Worked with Person's Age (May 2017)


Source: Author's analysis of CPS,
Contingent Work Supplement data (Census Bureau)

Note: Sample: n = 1,017
Modified from the U.S. In-person Work data set segment. Red dots indicate outliers.

Figure 2: Weekly Earnings with Person's Age (May 2017)


Source: Author's analysis of CPS,
Contingent Work Supplement data (Census Bureau)

Note: Sample: n = 1,017
Modified from the U.S. In-person Work data set segment. Red dots indicate outliers.

Figure 3 shows the model with the regression lines of four individual profiles: (1) a 30-year-old male high school graduate, (2) a 30-year-old female high school graduate, (3) a 50-yearold male college graduate (bachelor's), and (4) a 50 -year-old female college graduate (bachelor's). The four profiles overlaid on the chart provide a comparison of how much each person would earn. The 30-year-old female and the 50-year-old female would earn less than their male counterparts. The 50 -year-old female college graduate would earn slightly less than the 30 -year-old male high school graduate.

Note the percentage changes of the four individual profiles. For every one additional hour that a worker puts in, the amount of change gets smaller. The percentage change is large when a worker puts in less than 30 hours of work. The percentage change becomes gradually smaller when a worker puts in more hours beyond full-time work. What this suggests is that at a certain point, a worker would not gain a significant return by working an additional hour. A worker would want to consider whether it is worth her time to work one extra hour or three extra hours of overtime.

As Table 7 shows, the decision to work longer hours would be worth it when a worker increases her time in increments of ten hours. The percentage change is large when hours are increased from 40 to 50 to 60 . If a worker wants to earn more, she would have to put in 50 hours or 60 hours.

Table 7 provides a selected set of individual profiles and the weekly earnings that workers would earn. The full list of individual profiles with estimated weekly earnings is in the appendix. Note that Table 7 and the full list make calculations of hours worked in increments of ten. Figure 3 makes calculations of hours worked in increments of one.

Figure 3: Estimate of Weekly Earnings for Gig Economy Workers (4 Profiles)


Source: Author's Estimate of Earnings Principal Model

Table 7: Estimate of Weekly Earnings for Gig Economy Workers (Selected Profiles)
Source: Author's Estimate of Earnings Principal Model

| Individual Profile | Weekly <br> Earnings | Amount <br> Difference | Percentage <br> Change |
| :--- | ---: | ---: | ---: |
| Male, Age 30, 7th/8th Grade Edu., 10 Hours | $\$ 343.38$ | $\$ 173.16$ | $101.73 \%$ |
| Male, Age 30, 7th/8th Grade Edu., 20 Hours | $\$ 516.54$ | $\$ 173.16$ | $50.43 \%$ |
| Male, Age 30, 7th/8th Grade Edu., 30 Hours | $\$ 689.70$ | $\$ 173.16$ | $33.52 \%$ |
| Male, Age 30, 7th/8th Grade Edu., 40 Hours | $\$ 862.86$ | $\$ 173.16$ | $25.11 \%$ |
| Male, Age 30, 7th/8th Grade Edu., 50 Hours | $\$ 1,036.02$ | $\$ 173.16$ | $20.07 \%$ |
| Male, Age 30, 7th/8th Grade Edu., 60 Hours | $\$ 1,209.18$ | $\$ 173.16$ | $16.71 \%$ |
| Female, Age 30, 7th/8th Grade Edu., 10 Hours | $\$ 233.33$ | $\$ 173.16$ | $287.79 \%$ |
| Female, Age 30, 7th/8th Grade Edu., 20 Hours | $\$ 406.49$ | $\$ 173.16$ | $74.21 \%$ |
| Female, Age 30, 7th/8th Grade Edu., 30 Hours | $\$ 579.65$ | $\$ 173.16$ | $42.60 \%$ |
| Female, Age 30, 7th/8th Grade Edu., 40 Hours | $\$ 752.81$ | $\$ 173.16$ | $29.87 \%$ |
| Female, Age 30, 7th/8th Grade Edu., 50 Hours | $\$ 925.97$ | $\$ 173.16$ | $23.00 \%$ |
| Female, Age 30, 7th/8th Grade Edu., 60 Hours | $\$ 1,099.13$ | $\$ 173.16$ | $18.70 \%$ |
| Male, Age 30, High School Diploma, 10 Hours | $\$ 501.61$ | $\$ 173.16$ | $52.72 \%$ |
| Male, Age 30, High School Diploma, 20 Hours | $\$ 674.77$ | $\$ 173.16$ | $34.52 \%$ |
| Male, Age 30, High School Diploma, 30 Hours | $\$ 847.93$ | $\$ 173.16$ | $25.66 \%$ |
| Male, Age 30, High School Diploma, 40 Hours | $\$ 1,021.09$ | $\$ 173.16$ | $20.42 \%$ |
| Male, Age 30, High School Diploma, 50 Hours | $\$ 1,194.25$ | $\$ 173.16$ | $16.96 \%$ |
| Male, Age 30, High School Diploma, 60 Hours | $\$ 1,367.41$ | $\$ 173.16$ | $14.50 \%$ |
| Female, Age 30, High School Diploma, 10 Hours | $\$ 391.56$ | $\$ 173.16$ | $79.29 \%$ |
| Female, Age 30, High School Diploma, 20 Hours | $\$ 564.72$ | $\$ 173.16$ | $44.22 \%$ |
| Female, Age 30, High School Diploma, 30 Hours | $\$ 737.88$ | $\$ 173.16$ | $30.66 \%$ |
| Female, Age 30, High School Diploma, 40 Hours | $\$ 911.04$ | $\$ 173.16$ | $23.47 \%$ |
| Female, Age 30, High School Diploma, 50 Hours | $\$ 1,084.20$ | $\$ 173.16$ | $19.01 \%$ |
| Female, Age 30, High School Diploma, 60 Hours | $\$ 1,257.36$ | $\$ 173.16$ | $15.97 \%$ |
| Male, Age 50, High School Diploma, 10 Hours | $\$ 478.43$ | $\$ 173.16$ | $56.72 \%$ |
| Male, Age 50, High School Diploma, 20 Hours | $\$ 651.59$ | $\$ 173.16$ | $36.19 \%$ |
| Male, Age 50, High School Diploma, 30 Hours | $\$ 824.75$ | $\$ 173.16$ | $26.57 \%$ |
| Male, Age 50, High School Diploma, 40 Hours | $\$ 997.91$ | $\$ 173.16$ | $21.00 \%$ |
| Male, Age 50, High School Diploma, 50 Hours | $\$ 1,171.07$ | $\$ 173.16$ | $17.35 \%$ |
| Male, Age 50, High School Diploma, 60 Hours | $\$ 1,344.23$ | $\$ 173.16$ | $14.79 \%$ |


| Individual Profile | Weekly <br> Earnings | Amount <br> Difference | Percentage <br> Change |
| :--- | ---: | ---: | ---: |
| Female, Age 50, High School Diploma, 10 Hours | $\$ 368.38$ | $\$ 173.16$ | $88.70 \%$ |
| Female, Age 50, High School Diploma, 20 Hours | $\$ 541.54$ | $\$ 173.16$ | $47.01 \%$ |
| Female, Age 50, High School Diploma, 30 Hours | $\$ 714.70$ | $\$ 173.16$ | $31.98 \%$ |
| Female, Age 50, High School Diploma, 40 Hours | $\$ 887.86$ | $\$ 173.16$ | $24.23 \%$ |
| Female, Age 50, High School Diploma, 50 Hours | $\$ 1,061.02$ | $\$ 173.16$ | $19.50 \%$ |
| Female, Age 50, High School Diploma, 60 Hours | $\$ 1,234.18$ | $\$ 173.16$ | $16.32 \%$ |
| Male, Age 30, Bachelor's Degree, 10 Hours | $\$ 628.20$ | $\$ 173.16$ | $38.05 \%$ |
| Male, Age 30, Bachelor's Degree, 20 Hours | $\$ 801.36$ | $\$ 173.16$ | $27.56 \%$ |
| Male, Age 30, Bachelor's Degree, 30 Hours | $\$ 974.52$ | $\$ 173.16$ | $21.61 \%$ |
| Male, Age 30, Bachelor's Degree, 40 Hours | $\$ 1,147.68$ | $\$ 173.16$ | $17.77 \%$ |
| Male, Age 30, Bachelor's Degree, 50 Hours | $\$ 1,320.84$ | $\$ 173.16$ | $15.09 \%$ |
| Male, Age 30, Bachelor's Degree, 60 Hours | $\$ 1,494.00$ | $\$ 173.16$ | $13.11 \%$ |
| Female, Age 30, Bachelor's Degree, 10 Hours | $\$ 518.14$ | $\$ 173.16$ | $50.19 \%$ |
| Female, Age 30, Bachelor's Degree, 20 Hours | $\$ 691.30$ | $\$ 173.16$ | $33.42 \%$ |
| Female, Age 30, Bachelor's Degree, 30 Hours | $\$ 864.46$ | $\$ 173.16$ | $25.05 \%$ |
| Female, Age 30, Bachelor's Degree, 40 Hours | $\$ 1,037.62$ | $\$ 173.16$ | $20.03 \%$ |
| Female, Age 30, Bachelor's Degree, 50 Hours | $\$ 1,210.78$ | $\$ 173.16$ | $16.69 \%$ |
| Female, Age 30, Bachelor's Degree, 60 Hours | $\$ 1,383.94$ | $\$ 173.16$ | $14.30 \%$ |
| Male, Age 50, Bachelor's Degree, 10 Hours | $\$ 605.02$ | $\$ 173.16$ | $40.10 \%$ |
| Male, Age 50, Bachelor's Degree, 20 Hours | $\$ 778.18$ | $\$ 173.16$ | $28.62 \%$ |
| Male, Age 50, Bachelor's Degree, 30 Hours | $\$ 951.34$ | $\$ 173.16$ | $22.25 \%$ |
| Male, Age 50, Bachelor's Degree, 40 Hours | $\$ 1,124.50$ | $\$ 173.16$ | $18.20 \%$ |
| Male, Age 50, Bachelor's Degree, 50 Hours | $\$ 1,297.66$ | $\$ 173.16$ | $15.40 \%$ |
| Male, Age 50, Bachelor's Degree, 60 Hours | $\$ 1,470.82$ | $\$ 173.16$ | $13.34 \%$ |
| Female, Age 50, Bachelor's Degree, 10 Hours | $\$ 494.96$ | $\$ 173.16$ | $53.81 \%$ |
| Female, Age 50, Bachelor's Degree, 20 Hours | $\$ 668.12$ | $\$ 173.16$ | $34.98 \%$ |
| Female, Age 50, Bachelor's Degree, 30 Hours | $\$ 841.28$ | $\$ 173.16$ | $25.92 \%$ |
| Female, Age 50, Bachelor's Degree, 40 Hours | $\$ 1,014.44$ | $\$ 173.16$ | $20.58 \%$ |
| Female, Age 50, Bachelor's Degree, 50 Hours | $\$ 1,187.60$ | $\$ 173.16$ | $17.07 \%$ |
| Female, Age 50, Bachelor's Degree, 60 Hours | $\$ 1,360.76$ | $\$ 173.16$ | $14.58 \%$ |
|  |  |  |  |

The second model measures the effect on earnings with changes in hours and the status of health insurance. The second model uses the following equation:

$$
\text { Weekly Earnings }=23.301(\text { Hours })+117.250(\text { Health })
$$

The equation shows that the starting hourly wage would be $\$ 23.30$. Just like in the principal model, hours would have a positive effect on earnings. An increase of one hour of work would increase earnings by $\$ 23.30$. The status of health insurance would also have a positive effect on earnings. If a worker has health insurance, then her starting hourly wage would rise to $\$ 140.55$. If another worker does not have health insurance, then his starting hourly wage would remain at $\$ 23.30$. A worker without health insurance would have to work additional hours to make up the difference and earn an equal amount of earnings with that of a worker who has health insurance.

Figure 4 shows the regression lines for (1) a worker who has health insurance and (2) a worker who does not have health insurance. The chart shows that a worker with health insurance would earn more by $\$ 117.25$. The line associated with the worker with health insurance completely shifts upward. The line moves up by $\$ 117.25$.

At full-time status (40 hours), a worker with health insurance would earn \$1,049.29. For a worker without health insurance, the worker would have to put in an additional six hours for a total of 46 hours to earn an amount equal to the worker who has health insurance.

Figure 4: Effect on Earnings with Changes in Hours and Status of Health Insurance


Source: Author's Estimate of Earnings Second Model with Status of Health Insurance

As explained above regarding percentage change, a worker would only have to work so many hours until she sees little difference in an increase in earnings with another increase in hours. For a worker with health insurance, that point would be 47 hours where the worker would earn $\$ 1,212.40$. The worker could earn more by working overtime, but the percentage change with each additional hour beyond 47 hours would be small. For a worker without health insurance, the worker would have to work until he reaches 52 hours before he sees a small percentage change. At 52 hours of work, the worker would earn $\$ 1,211.65$, an amount just shy of the earnings of the worker who has health insurance. Without health insurance, a worker has to
work longer to match the earnings of a worker who has health insurance.

## Recommendations

Based on the analysis, this report provides five recommendations. The fifth recommendation will require new federal legislation. The fourth recommendation will require state legislation and technical guidance in accordance with federal regulation. The first three recommendations can be accepted and adopted by public and private organizations without the requirement of any governmental action. Recommendation 1 provides a definition of the gig economy. Recommendations 2 and 3 provide guidance on future research in this area.

Recommendation 4 finds a way for a State government agency to provide assistance to gig workers. Recommendation 5 proposes a new public policy that would afford overtime pay to gig workers and that could be a compromise that gig work operators may be willing to accept.

## Recommendation 1:

The definition of the gig economy as a whole can be the U.S. Bureau of Labor Statistic's definition of gig work. Electronically mediated work effectively describes the new forms of work that are driving the gig economy. This definition sets it apart from self-employment and contract work to be specific and focused. Self-employment and contract work are broader categories that can include workers who do not use websites or mobile apps to find jobs. Within the universe of workers who identify themselves as self-employed, there is a group of workers who identify themselves more specifically as gig workers. Clearly setting gig workers apart from the general self-employed population will lead to more focused studies that can better understand the needs
of gig workers and their particular situation. This, in turn, can lead to the development of practicable solutions.

## Figure 5: Identification of Gig Workers from Self-Employed Workers



## Recommendation 2:

The U.S. Bureau of Labor Statistic's definition of gig work can form the foundation to design future research studies on the gig economy. Electronically mediated work splits into two branches (in-person work and online work) that can be measured. Survey questions can be designed to ask respondents specific jobs, length of time, and earnings, among other topics for each branch. For example, an in-person work question would ask to select the types of jobs performed such as ride-sharing, room rental, food delivery, and house repair. It might be better to use company names like Uber and Airbnb since such names will be easily recognizable, but the
selection list could be long. An abstract term like ride-sharing could capture all workers who did ride-sharing jobs from any company that facilitates that type of work, but the abstract term might not be understood by most respondents. There can be a survey that asks respondents about both in-person work and online work or one of the two branches of electronically mediated work.

Figure 6: Branches of Electronically Mediated Work (Areas of Study)


## Recommendation 3:

Further research studies need to be done on online electronically mediated work and to compare online workers against in-person workers. It will be valuable to learn what specific jobs are being done entirely online. Given the various industries and occupations captured in the data, there could be a wide range of online jobs. It will be interesting to learn if there is a personal safety concern among workers - female workers in particular - to prefer online work instead of in-person work. It will be worthwhile to evaluate whether online work is a better choice in terms of safety, earnings, and satisfaction over in-person work.

## Recommendation 4:

A State government agency can assist gig workers if they enroll in the Workforce Innovation and Opportunity Act (WIOA) Title I Dislocated Worker Program. Based on the data of who is a gig worker, on average, gig workers generally would not be eligible to enter the WIOA Title I Adult Program. In the event of an economic recession, gig workers who are selfemployed individuals could qualify as dislocated workers. ${ }^{4}$ Another scenario is in the case of a gig worker who is a displaced homemaker, which is an employment barrier. ${ }^{5}$ A married spouse could be out of the labor force for a considerable length of time to care for a child or another family member. The spouse could be doing gig work as a way to transition back into conventional employment. In these two cases where a gig worker is self-employed or a displaced homeworker, the dislocated gig worker could be eligible for career services, training services, and needs-related payments as stipulated in current federal law.

A question arises as to what triggers a gig worker to be unemployed. WIOA Section $3(15)(\mathrm{C})$ states that unemployment can be caused by "general economic conditions in the community." But what does general economic conditions mean?

Federal regulation 20 CFR § 680.130(b)(2) authorizes states and local workforce development boards to establish policies and procedures that define the economic conditions that will result in unemployment for self-employed individuals. Thus, it is recommended that states
4. Section 3(15)(C) of the Workforce Innovation and Opportunity Act (WIOA) defines a selfemployed individual as a dislocated worker as, "An individual who was self-employed (including employment as a farmer, a rancher, or a fisherman) but is unemployed as a result of general economic conditions in the community in which the individual resides or because of natural disasters."
5. WIOA Section 3(15)(D) creates another category for "An individual who is a displaced homemaker." WIOA Section 3(16) further defines a displaced homemaker.
(1) issue technical guidance on the economic conditions that will result in unemployment for self-employed individuals and (2) define additional eligibility criteria for enrollment in the Dislocated Worker Program. ${ }^{6}$ New state legislation will be required to implement this recommendation. Technical guidance from the state workforce development board will also be required to put the new state law into effect.

## Recommendation 5:

Gig workers who put in more than 40 hours per week should be given at least overtime pay. This could be a compromise that gig work operators may be willing to accept. The alternative would be to mandate gig work operators that they classify gig workers as full-time employees, which will afford gig workers all the benefits that full-time employment can provide. Instead of classifying gig workers as full-time employees, gig work operators would still classify their workers as contractors but they must provide overtime pay. If a gig worker has to work more than 40 hours, he or she will have an assurance that there will be extra money earned that can be used to cover expenses or to pay for other benefits. This overtime-only benefit would necessitate the creation of a new employment classification that distinguishes a gig worker from a W-2 employee and a 1099 contractor. Such a new classification might be a specific type of a 1099 contractor that is specially designed for a gig worker. The new employment classification will document the number of hours worked per week, the hourly wage, and overtime pay. New federal legislation will be required to implement this recommendation.
6. 20 CFR § 680.130(b) stipulates that "Governors and Local Workforce Development Boards (WDBs) may establish policies and procedures for one-stop centers to use in determining an individual's eligibility as a dislocated worker, consistent with the definition at WIOA section 3(15)."

## Appendix

The following pages contain the complete summary data and the estimate of weekly earnings for numerous individual profiles.

## In-person Work Facilitated by a Website or a Mobile App (May 2017)

| Sample Size | $n=49$ | $n=3,077$ |
| :--- | ---: | ---: |
| Characteristic | Hawaii | United States |
| Percentage of Workers | $2.30 \%$ | $2.07 \%$ |
| Median Weekly Earnings | $\$ 827.50$ | $\$ 700.00$ |
| Mean Weekly Earnings | $\$ 807.24$ | $\$ 919.46$ |
| Standard Deviation Weekly Earnings | 583.66 | $\$ 717.52$ |
| Median Age | 41.00 | 44.00 |
| Mean Age | 42.06 | 44.33 |
| Standard Deviation Age | 12.01 | 14.23 |
| Sex | $100.00 \%$ | $100.00 \%$ |
| Male | $53.06 \%$ | $5.44 \%$ |
| Female | $46.94 \%$ | $44.56 \%$ |
| Marital Status | $100.00 \%$ | $100.00 \%$ |
| Married, Spouse Present | $42.86 \%$ | $53.49 \%$ |
| Married, Spouse Absent | $4.08 \%$ | $1.49 \%$ |
| Widowed | $2.04 \%$ | $2.11 \%$ |
| Divorced | $12.24 \%$ | $13.06 \%$ |
| Separated | $2.04 \%$ | $2.11 \%$ |
| Never Married | $36.73 \%$ | $27.72 \%$ |
| Race | $87.76 \%$ | $98.86 \%$ |
| White | $26.53 \%$ | $79.53 \%$ |
| Black | $2.04 \%$ | $11.96 \%$ |
| American Indian, Alaskan Native | $0.00 \%$ | $0.97 \%$ |
| Asian | $40.82 \%$ | $5.82 \%$ |
| Hawaiian/Pacific Islander | $18.37 \%$ | $0.58 \%$ |

Note: Race doesn't add up to $100 \%$, because individuals identified as having two or more racial classifications, and this group is not included in the summary.

| Education | $100.00 \%$ | $100.00 \%$ |
| :--- | ---: | ---: |
| Less than 1st Grade | $0.00 \%$ | $0.19 \%$ |
| 1st, 2nd, 3rd, or 4th Grade | $0.00 \%$ | $0.49 \%$ |
| 5th or 6th Grade | $0.00 \%$ | $0.81 \%$ |
| 7th or 8th Grade | $0.00 \%$ | $0.94 \%$ |
| 9th Grade | $0.00 \%$ | $1.33 \%$ |
| 10th Grade | $0.00 \%$ | $1.36 \%$ |
| 11th Grade | $0.00 \%$ | $1.79 \%$ |
| 12th Grade No Diploma | $0.00 \%$ | $1.23 \%$ |
| High School Diploma or GED | $22.45 \%$ | $25.58 \%$ |
| Some College | $18.37 \%$ | $17.81 \%$ |
| Associate's Degree, Occupational/Vocational | $4.08 \%$ | $3.83 \%$ |
| Associate's Degree, Academic | $8.16 \%$ | $6.24 \%$ |
| Bachelor's Degree | $26.53 \%$ | $24.31 \%$ |
| Master's Degree | $20.41 \%$ | $10.27 \%$ |
| Professional School Degree | $0.00 \%$ | $1.66 \%$ |
| Doctorate Degree | $0.00 \%$ | $2.14 \%$ |
| Industry | $100.00 \%$ | $100.00 \%$ |
| Agriculture | $2.04 \%$ | $1.53 \%$ |
| Forestry, Logging, Fishing, Hunting, and Trapping | $2.04 \%$ | $0.10 \%$ |
| Mining | $0.00 \%$ | $0.71 \%$ |
| Construction | $8.16 \%$ | $8.12 \%$ |


| Sample Size | $n=49$ | $n=3,077$ |
| :---: | :---: | :---: |
| Characteristic | Hawaii | United States |
| Nonmetallic Mineral Product Manufacturing | 2.04\% | 0.19\% |
| Primary Metals and Fabricated Metal Products | 2.04\% | 1.04\% |
| Machinery Manufacturing | 0.00\% | 0.65\% |
| Computer and Electronic Product Manufacturing | 0.00\% | 0.45\% |
| Electrical Equipment, Appliance Manufacturing | 0.00\% | 0.29\% |
| Transportation Equipment Manufacturing | 0.00\% | 0.55\% |
| Wood Products | 0.00\% | 0.16\% |
| Furniture and Fixtures Manufacturing | 0.00\% | 0.13\% |
| Miscellaneous and Not Specific Manufacturing | 0.00\% | 1.33\% |
| Food Manufacturing | 0.00\% | 0.65\% |
| Beverage and Tobacco Products | 0.00\% | 0.13\% |
| Textile, Apparel, and Leather Manufacturing | 0.00\% | 0.26\% |
| Paper and Printing | 0.00\% | 0.42\% |
| Petroleum and Coal Products Manufacturing | 0.00\% | 0.13\% |
| Chemical Manufacturing | 0.00\% | 0.65\% |
| Plastics and Rubber Products | 0.00\% | 0.26\% |
| Wholesale Trade | 2.04\% | 2.27\% |
| Retail Trade | 8.16\% | 10.98\% |
| Transportation and Warehousing | 12.24\% | 6.95\% |
| Utilities | 0.00\% | 0.91\% |
| Publishing (Except Internet) | 2.04\% | 0.58\% |
| Motion Pictures and Sound Recording | 2.04\% | 0.42\% |
| Broadcasting (Except Internet) | 0.00\% | 0.26\% |
| Internet Publishing and Broadcasting | 0.00\% | 0.06\% |
| Telecommunications | 0.00\% | 0.36\% |
| Internet Service Providers and Data Processing Services | 0.00\% | 0.00\% |
| Other Information Services | 0.00\% | 0.13\% |
| Finance | 6.12\% | 2.99\% |
| Insurance | 2.04\% | 1.98\% |
| Real Estate | 4.08\% | 3.28\% |
| Rental and Leasing Services | 0.00\% | 0.23\% |
| Professional and Technical Services | 10.20\% | 8.25\% |
| Management of Companies and Enterprises | 0.00\% | 0.03\% |
| Administrative and Support Services | 6.12\% | 4.35\% |
| Waste Management and Remediation Services | 0.00\% | 0.49\% |
| Educational Services | 6.12\% | 6.66\% |
| Hospitals | 2.04\% | 3.15\% |
| Health Care Services, Except Hospitals | 4.08\% | 6.66\% |
| Social Assistance | 2.04\% | 2.63\% |
| Arts, Entertainment, and Recreation | 2.04\% | 2.14\% |
| Accommodation | 2.04\% | 0.75\% |
| Food Services and Drinking Places | 2.04\% | 5.91\% |
| Repair and Maintenance | 0.00\% | 1.30\% |
| Personal and Laundry Services | 0.00\% | 2.11\% |
| Membership Associations and Organizations | 0.00\% | 1.72\% |
| Private Households | 0.00\% | 0.62\% |
| Public Administration | 8.16\% | 4.00\% |
| Armed Forces | 0.00\% | 0.00\% |

In-person Work Facilitated by a Website or a Mobile App (May 2017)

| Sample Size | $n=49$ | $n=3,077$ |
| :--- | ---: | ---: |
| Characteristic | Hawaii | United States |
| Occupation | $100.00 \%$ | $100.00 \%$ |
| Management Occupations | $14.29 \%$ | $14.14 \%$ |
| Business and Financial Operations Occupations | $4.08 \%$ | $5.04 \%$ |
| Computer and Mathematical Science Occupations | $2.04 \%$ | $2.73 \%$ |
| Architecture and Engineering Occupations | $2.04 \%$ | $2.11 \%$ |
| Life, Physical, and Social Science Occupations | $2.04 \%$ | $0.84 \%$ |
| Community and Social Service Occupations | $4.08 \%$ | $2.05 \%$ |
| Legal Occupations | $0.00 \%$ | $1.27 \%$ |
| Education, Training, and Library Occupations | $6.12 \%$ | $4.55 \%$ |
| Arts, Design, Entertain., Sports, and Media Occupations | $6.12 \%$ | $2.60 \%$ |
| Health-care Practitioner and Technical Occupations | $2.04 \%$ | $4.81 \%$ |
| Health-care Support Occupations | $2.04 \%$ | $2.70 \%$ |
| Protective Service Occupations | $4.08 \%$ | $1.36 \%$ |
| Food Preparation and Serving Related Occupations | $2.04 \%$ | $4.48 \%$ |
| Building and Grounds Clean. and Maint. Occupations | $0.00 \%$ | $3.54 \%$ |
| Personal Care and Service Occupations | $2.04 \%$ | $4.35 \%$ |
| Sales and Related Occupations | $16.33 \%$ | $11.76 \%$ |
| Office and Administrative Support Occupations | $10.20 \%$ | $10.07 \%$ |
| Farming, Fishing, and Forestry Occupations | $0.00 \%$ | $0.62 \%$ |
| Construction and Extraction Occupations | $6.12 \%$ | $5.46 \%$ |
| Installation, Maintenance, and Repair Occupations | $2.04 \%$ | $2.76 \%$ |
| Production Occupations | $4.08 \%$ | $3.87 \%$ |
| Transportation and Material Moving Occupations | $8.16 \%$ | $8.87 \%$ |

In-person Work as a Person's Main Job (May 2017)

| Sample Size | $n=19$ | $n=826$ |
| :---: | :---: | :---: |
| Characteristic | Hawaii | United States |
| Percentage of Workers | 0.89\% | 0.56\% |
| Median Weekly Earnings | \$1,000.00 | \$693.96 |
| Mean Weekly Earnings | \$816.03 | \$931.02 |
| Standard Deviation Weekly Earnings | \$587.34 | \$739.87 |
| Hours Per Week | 100.00\% | 100.00\% |
| Hours Vary | 10.53\% | 7.38\% |
| 0 to 34 Hours | 10.53\% | 21.67\% |
| 35 to 40 Hours | 52.63\% | 46.37\% |
| 41 to 50 Hours | 15.79\% | 13.20\% |
| 51 Hours or more | 10.53\% | 11.38\% |
| Health Insurance | 100.00\% | 98.43\% |
| Yes | 94.74\% | 82.20\% |
| No | 5.26\% | 16.22\% |
| Source of Health Insurance | 57.89\% | 48.18\% |
| Through Company/Work | 0.00\% | 2.54\% |
| Spouse's Health Insurance | 21.05\% | 16.34\% |
| Other Family Member's Insurance | 5.26\% | 4.60\% |
| Through Other Job | 5.26\% | 0.36\% |
| Through Previous Job | 0.00\% | 1.45\% |
| Own Insurance including Health Insurance Exchange | 10.53\% | 11.38\% |
| Medicare | 5.26\% | 4.60\% |
| Medicaid | 5.26\% | 3.39\% |
| Labor Union | 0.00\% | 0.24\% |
| Association or Club | 0.00\% | 0.24\% |
| School or University | 0.00\% | 0.00\% |
| Other | 5.26\% | 3.03\% |

Note: Health insurance categories don't add up to $100 \%$, because many individuals refused to answer, had no answer, or did not know as it pertained to health insurance.

Online Work Through a Website or a Mobile App (May 2017)

| Sample Size | $n=55$ | $n=3,185$ |
| :--- | ---: | ---: |
| Characteristic | Hawaii | United States |
| Percentage of Workers | $2.58 \%$ | $2.14 \%$ |
| Median Weekly Earnings | $\$ 90.00$ | $\$ 750.00$ |
| Mean Weekly Earnings | $\$ 937.80$ | $\$ 932.96$ |
| Standard Deviation Weekly Earnings | $\$ 723.40$ | $\$ 702.32$ |
| Median Age | 43.00 | 43.00 |
| Mean Age | 42.22 | 43.92 |
| Standard Deviation Age | 12.85 | 14.29 |
| Sex | $100.00 \%$ | $100.00 \%$ |
| Male | $49.09 \%$ | $53.41 \%$ |
| Female | $50.91 \%$ | $46.59 \%$ |
| Marital Status | $100.00 \%$ | $100.00 \%$ |
| Married, Spouse Present | $43.64 \%$ | $53.69 \%$ |
| Married, Spouse Absent | $1.82 \%$ | $1.38 \%$ |
| Widowed | $1.82 \%$ | $1.85 \%$ |
| Divorced | $9.09 \%$ | $12.37 \%$ |
| Separated | $1.82 \%$ | $1.85 \%$ |
| Never Married | $41.82 \%$ | $28.85 \%$ |
| Race | $85.45 \%$ | $98.81 \%$ |
| White | $21.82 \%$ | $79.87 \%$ |
| Black | $1.82 \%$ | $11.59 \%$ |
| American Indian, Alaskan Native | $0.00 \%$ | $0.97 \%$ |
| Asian | $50.91 \%$ | $5.81 \%$ |
| Hawaiian/Pacific Islander | $10.91 \%$ | $0.57 \%$ |

Note: Race doesn't add up to 100\%, because individuals identified as having two or more racial classifications, and this group is not included in the summary.

| Education | $100.00 \%$ | $100.00 \%$ |
| :--- | ---: | ---: |
| Less than 1st Grade | $0.00 \%$ | $0.22 \%$ |
| 1st, 2nd, 3rd, or 4th Grade | $0.00 \%$ | $0.50 \%$ |
| 5th or 6th Grade | $0.00 \%$ | $0.72 \%$ |
| 7th or 8th Grade | $0.00 \%$ | $0.72 \%$ |
| 9th Grade | $0.00 \%$ | $1.00 \%$ |
| 10th Grade | $0.00 \%$ | $1.22 \%$ |
| 11th Grade | $0.00 \%$ | $1.73 \%$ |
| 12th Grade No Diploma | $0.00 \%$ | $1.29 \%$ |
| High School Diploma or GED | $21.82 \%$ | $24.05 \%$ |
| Some College | $18.18 \%$ | $17.68 \%$ |
| Associate's Degree, Occupational/Vocational | $1.82 \%$ | $3.99 \%$ |
| Associate's Degree, Academic | $9.09 \%$ | $6.34 \%$ |
| Bachelor's Degree | $30.91 \%$ | $25.87 \%$ |
| Master's Degree | $18.18 \%$ | $10.86 \%$ |
| Professional School Degree | $0.00 \%$ | $1.48 \%$ |
| Doctorate Degree | $0.00 \%$ | $2.32 \%$ |
| Industry | $100.00 \%$ | $100.00 \%$ |
| Agriculture | $0.00 \%$ | $1.41 \%$ |
| Forestry, Logging, Fishing, Hunting, and Trapping | $1.82 \%$ | $0.13 \%$ |
| Mining | $0.00 \%$ | $0.75 \%$ |
| Construction | $7.27 \%$ | $7.69 \%$ |

Online Work Through a Website or a Mobile App (May 2017)

| Sample Size | $n=55$ | $n=3,185$ |
| :--- | ---: | ---: |
| Characteristic | Hawaii | United States |
| Nonmetallic Mineral Product Manufacturing | $0.00 \%$ | $0.16 \%$ |
| Primary Metals and Fabricated Metal Products | $1.82 \%$ | $0.97 \%$ |
| Machinery Manufacturing | $0.00 \%$ | $0.66 \%$ |
| Computer and Electronic Product Manufacturing | $0.00 \%$ | $0.63 \%$ |
| Electrical Equipment, Appliance Manufacturing | $0.00 \%$ | $0.31 \%$ |
| Transportation Equipment Manufacturing | $0.00 \%$ | $0.82 \%$ |
| Wood Products | $0.00 \%$ | $0.16 \%$ |
| Furniture and Fixtures Manufacturing | $0.00 \%$ | $0.13 \%$ |
| Miscellaneous and Not Specific Manufacturing | $0.00 \%$ | $1.29 \%$ |
| Food Manufacturing | $0.00 \%$ | $0.69 \%$ |
| Beverage and Tobacco Products | $0.00 \%$ | $0.13 \%$ |
| Textile, Apparel, and Leather Manufacturing | $0.00 \%$ | $0.28 \%$ |
| Paper and Printing | $0.00 \%$ | $0.50 \%$ |
| Petroleum and Coal Products Manufacturing | $0.00 \%$ | $0.09 \%$ |
| Chemical Manufacturing | $0.00 \%$ | $0.82 \%$ |
| Plastics and Rubber Products | $0.00 \%$ | $0.28 \%$ |
| Wholesale Trade | $3.64 \%$ | $1.98 \%$ |
| Retail Trade | $10.91 \%$ | $10.58 \%$ |
| Transportation and Warehousing | $7.27 \%$ | $4.55 \%$ |
| Utilities | $0.00 \%$ | $1.00 \%$ |
| Publishing (Except Internet) | $1.82 \%$ | $0.91 \%$ |
| Motion Pictures and Sound Recording | $0.00 \%$ | $0.44 \%$ |
| Broadcasting (Except Internet) | $0.00 \%$ | $0.25 \%$ |
| Internet Publishing and Broadcasting | $0.00 \%$ | $0.09 \%$ |
| Telecommunications | $0.00 \%$ | $0.50 \%$ |
| Internet Service Providers and Data Processing Services | $0.00 \%$ | $0.03 \%$ |
| Other Information Services | $0.00 \%$ | $0.22 \%$ |
| Finance | $7.27 \%$ | $3.11 \%$ |
| Insurance | $3.64 \%$ | $2.57 \%$ |
| Real Estate | $1.82 \%$ | $2.57 \%$ |
| Rental and Leasing Services | $0.00 \%$ | $0.16 \%$ |
| Professional and Technical Services | $16.36 \%$ | $11.15 \%$ |
| Management of Companies and Enterprises | $0.00 \%$ | $0.00 \%$ |
| Administrative and Support Services | $5.45 \%$ | $3.99 \%$ |
| Waste Management and Remediation Services | $0.00 \%$ | $0.44 \%$ |
| Educational Services | $5.45 \%$ | $7.54 \%$ |
| Hospitals | $1.82 \%$ | $3.64 \%$ |
| Health Care Services, Except Hospitals | $1.82 \%$ | $6.28 \%$ |
| Social Assistance | $0.00 \%$ | $2.07 \%$ |
| Arts, Entertainment, and Recreation | $3.84 \%$ | $2.29 \%$ |
| Accommodation | $0.82 \%$ | $0.75 \%$ |
| Food Services and Drinking Places | $0.00 \%$ | $5.34 \%$ |
| Repair and Maintenance | $0.00 \%$ | $1.16 \%$ |
| Personal and Laundry Services | $1.98 \%$ |  |
| Membership Associations and Organizations | $1.82 \%$ | $1.82 \%$ |
| Private Households | $0.41 \%$ |  |
| Public Administration | $4.27 \%$ |  |
| Armed Forces | $0.00 \%$ |  |

Online Work Through a Website or a Mobile App (May 2017)

| Sample Size | $n=55$ | $n=3,185$ |
| :--- | ---: | ---: |
| Characteristic | Hawaii | United States |
| Occupation | $100.00 \%$ | $100.00 \%$ |
| Management Occupations | $12.73 \%$ | $14.07 \%$ |
| Business and Financial Operations Occupations | $7.27 \%$ | $6.50 \%$ |
| Computer and Mathematical Science Occupations | $5.45 \%$ | $3.99 \%$ |
| Architecture and Engineering Occupations | $1.82 \%$ | $2.64 \%$ |
| Life, Physical, and Social Science Occupations | $1.82 \%$ | $0.82 \%$ |
| Community and Social Service Occupations | $7.27 \%$ | $1.85 \%$ |
| Legal Occupations | $0.00 \%$ | $1.19 \%$ |
| Education, Training, and Library Occupations | $5.45 \%$ | $5.12 \%$ |
| Arts, Design, Entertain., Sports, and Media Occupations | $3.64 \%$ | $3.23 \%$ |
| Health-care Practitioner and Technical Occupations | $1.82 \%$ | $5.12 \%$ |
| Health-care Support Occupations | $1.82 \%$ | $2.45 \%$ |
| Protective Service Occupations | $3.64 \%$ | $1.26 \%$ |
| Food Preparation and Serving Related Occupations | $1.82 \%$ | $4.27 \%$ |
| Building and Grounds Clean. and Maint. Occupations | $1.82 \%$ | $2.98 \%$ |
| Personal Care and Service Occupations | $1.82 \%$ | $3.42 \%$ |
| Sales and Related Occupations | $12.73 \%$ | $11.27 \%$ |
| Office and Administrative Support Occupations | $16.36 \%$ | $11.93 \%$ |
| Farming, Fishing, and Forestry Occupations | $0.00 \%$ | $0.60 \%$ |
| Construction and Extraction Occupations | $5.45 \%$ | $5.18 \%$ |
| Installation, Maintenance, and Repair Occupations | $1.82 \%$ | $2.48 \%$ |
| Production Occupations | $1.82 \%$ | $3.58 \%$ |
| Transportation and Material Moving Occupations | $3.64 \%$ | $6.06 \%$ |

Online Work as a Person's Main Job (May 2017)

| Sample Size | $n=24$ | Hawaii |
| :--- | ---: | ---: |
| Characteristic | United States |  |
| Percentage of Workers | $\$ .12 \%$ | $0.62 \%$ |
| Median Weekly Earnings | $\$ 1,07.70$ | $\$ 769.12$ |
| Mean Weekly Earnings | $\$ 789.09$ | $\$ 961.36$ |
| Standard Deviation Weekly Earnings | $100.00 \%$ | $\$ 690.25$ |
| Hours Per Week | $0.00 \%$ | $100.00 \%$ |
| Hours Vary | $20.83 \%$ | $1.36 \%$ |
| 0 to 34 Hours | $50.00 \%$ | $59.16 \%$ |
| 35 to 40 Hours | $12.50 \%$ | $13.76 \%$ |
| 41 to 50 Hours | $16.67 \%$ | $7.20 \%$ |
| 51 Hours or more | $100.00 \%$ | $98.47 \%$ |
| Health Insurance | $95.83 \%$ | $90.51 \%$ |
| Yes | $4.17 \%$ | $7.96 \%$ |
| No | $41.67 \%$ | $39.48 \%$ |
| Source of Health Insurance | $4.17 \%$ | $2.40 \%$ |
| Through Company/Work | $16.67 \%$ | $15.16 \%$ |
| Spouse's Health Insurance | $4.17 \%$ | $4.91 \%$ |
| Other Family Member's Insurance | $4.17 \%$ | $0.22 \%$ |
| Through Other Job | $0.00 \%$ | $0.65 \%$ |
| Through Previous Job | $4.17 \%$ | $9.27 \%$ |
| Own Insurance including Health Insurance Exchange | $0.00 \%$ | $3.27 \%$ |
| Medicare | $0.00 \%$ | $1.64 \%$ |
| Medicaid | $0.00 \%$ | $0.00 \%$ |
| Labor Union | $0.00 \%$ | $0.22 \%$ |
| Association or Club | $4.17 \%$ | $0.11 \%$ |
| School or University | $4.17 \%$ | $1.64 \%$ |
| Other |  |  |

Note: Health insurance categories don't add up to $100 \%$, because many individuals refused to answer, had no answer, or did not know as it pertained to health insurance.

| Individual Profile | Weekly Earnings | Amount Difference | Percentage Change |
| :---: | :---: | :---: | :---: |
| Male, Age 20, 7th/8th Grade Edu., 0 Hours | \$181.81 |  |  |
| Male, Age 20, 7th/8th Grade Edu., 10 Hours | \$354.97 | \$173.16 | 95.24\% |
| Male, Age 20, 7th/8th Grade Edu., 20 Hours | \$528.13 | \$173.16 | 48.78\% |
| Male, Age 20, 7th/8th Grade Edu., 30 Hours | \$701.29 | \$173.16 | 32.79\% |
| Male, Age 20, 7th/8th Grade Edu., 40 Hours | \$874.45 | \$173.16 | 24.69\% |
| Male, Age 20, 7th/8th Grade Edu., 50 Hours | \$1,047.61 | \$173.16 | 19.80\% |
| Male, Age 20, 7th/8th Grade Edu., 60 Hours | \$1,220.77 | \$173.16 | 16.53\% |
|  | \$71.76 |  |  |
| Female, Age 20, 7th/8th Grade Edu., 10 Hours | \$244.92 | \$173.16 | 241.31\% |
| Female, Age 20, 7th/8th Grade Edu., 20 Hours | \$418.08 | \$173.16 | 70.70\% |
| Female, Age 20, 7th/8th Grade Edu., 30 Hours | \$591.24 | \$173.16 | 41.42\% |
| Female, Age 20, 7th/8th Grade Edu., 40 Hours | \$764.40 | \$173.16 | 29.29\% |
| Female, Age 20, 7th/8th Grade Edu., 50 Hours | \$937.56 | \$173.16 | 22.65\% |
| Female, Age 20, 7th/8th Grade Edu., 60 Hours | \$1,110.72 | \$173.16 | 18.47\% |
| Male, Age 30, 7th/8th Grade Edu., 0 Hours | \$170.22 |  |  |
| Male, Age 30, 7th/8th Grade Edu., 10 Hours | \$343.38 | \$173.16 | 101.73\% |
| Male, Age 30, 7th/8th Grade Edu., 20 Hours | \$516.54 | \$173.16 | 50.43\% |
| Male, Age 30, 7th/8th Grade Edu., 30 Hours | \$689.70 | \$173.16 | 33.52\% |
| Male, Age 30, 7th/8th Grade Edu., 40 Hours | \$862.86 | \$173.16 | 25.11\% |
| Male, Age 30, 7th/8th Grade Edu., 50 Hours | \$1,036.02 | \$173.16 | 20.07\% |
| Male, Age 30, 7th/8th Grade Edu., 60 Hours | \$1,209.18 | \$173.16 | 16.71\% |
| Female, Age 30, 7 th/ 8 th Grade Edu., 0 Hours | \$60.17 |  |  |
| Female, Age 30, 7th/8th Grade Edu., 10 Hours | \$233.33 | \$173.16 | 287.79\% |
| Female, Age 30, 7th/8th Grade Edu., 20 Hours | \$406.49 | \$173.16 | 74.21\% |
| Female, Age 30, 7th/8th Grade Edu., 30 Hours | \$579.65 | \$173.16 | 42.60\% |
| Female, Age 30, 7th/8th Grade Edu., 40 Hours | \$752.81 | \$173.16 | 29.87\% |
| Female, Age 30, 7th/8th Grade Edu., 50 Hours | \$925.97 | \$173.16 | 23.00\% |
| Female, Age 30, 7th/8th Grade Edu., 60 Hours | \$1,099.13 | \$173.16 | 18.70\% |
| Male, Age 40, 7th/8th Grade Edu., 0 Hours | \$158.63 |  |  |
| Male, Age 40, 7th/8th Grade Edu., 10 Hours | \$331.79 | \$173.16 | 109.16\% |
| Male, Age 40, 7th/8th Grade Edu., 20 Hours | \$504.95 | \$173.16 | 52.19\% |
| Male, Age 40, 7th/8th Grade Edu., 30 Hours | \$678.11 | \$173.16 | 34.29\% |
| Male, Age 40, 7th/8th Grade Edu., 40 Hours | \$851.27 | \$173.16 | 25.54\% |
| Male, Age 40, 7th/8th Grade Edu., 50 Hours | \$1,024.43 | \$173.16 | 20.34\% |
| Male, Age 40, 7th/8th Grade Edu., 60 Hours | \$1,197.59 | \$173.16 | 16.90\% |
| Female, Age 40, 7 th/8th Grade Edu., 0 Hours | \$48.58 |  |  |
| Female, Age 40, 7th/8th Grade Edu., 10 Hours | \$221.74 | \$173.16 | 356.46\% |
| Female, Age 40, 7th/8th Grade Edu., 20 Hours | \$394.90 | \$173.16 | 78.09\% |
| Female, Age 40, 7th/8th Grade Edu., 30 Hours | \$568.06 | \$173.16 | 43.85\% |
| Female, Age 40, 7th/8th Grade Edu., 40 Hours | \$741.22 | \$173.16 | 30.48\% |
| Female, Age 40, 7th/8th Grade Edu., 50 Hours | \$914.38 | \$173.16 | 23.36\% |
| Female, Age 40, 7th/8th Grade Edu., 60 Hours | \$1,087.54 | \$173.16 | 18.94\% |
| Male, Age 50, 7th/8th Grade Edu., 0 Hours | \$147.04 |  |  |
| Male, Age 50, 7th/8th Grade Edu., 10 Hours | \$320.20 | \$173.16 | 117.76\% |
| Male, Age 50, 7th/8th Grade Edu., 20 Hours | \$493.36 | \$173.16 | 54.08\% |
| Male, Age 50, 7th/8th Grade Edu., 30 Hours | \$666.52 | \$173.16 | 35.10\% |
| Male, Age 50, 7th/8th Grade Edu., 40 Hours | \$839.68 | \$173.16 | 25.98\% |
| Male, Age 50, 7th/8th Grade Edu., 50 Hours | \$1,012.84 | \$173.16 | 20.62\% |
| Male, Age 50, 7th/8th Grade Edu., 60 Hours | \$1,186.00 | \$173.16 | 17.10\% |


| Individual Profile | Weekly Earnings | Amount Difference | Percentage Change |
| :---: | :---: | :---: | :---: |
| Female, Age 50, 7th/8th Grade Edu., 0 Hours | \$36.99 |  |  |
| Female, Age 50, 7th/8th Grade Edu., 10 Hours | \$210.15 | \$173.16 | 468.15\% |
| Female, Age 50, 7th/8th Grade Edu., 20 Hours | \$383.31 | \$173.16 | 82.40\% |
| Female, Age 50, 7th/8th Grade Edu., 30 Hours | \$556.47 | \$173.16 | 45.18\% |
| Female, Age 50, 7th/8th Grade Edu., 40 Hours | \$729.63 | \$173.16 | 31.12\% |
| Female, Age 50, 7th/8th Grade Edu., 50 Hours | \$902.79 | \$173.16 | 23.73\% |
| Female, Age 50, 7th/8th Grade Edu., 60 Hours | \$1,075.95 | \$173.16 | 19.18\% |
| Male, Age 60, 7th/8th Grade Edu., 0 Hours | \$135.45 |  |  |
| Male, Age 60, 7th/8th Grade Edu., 10 Hours | \$308.61 | \$173.16 | 127.84\% |
| Male, Age 60, 7th/8th Grade Edu., 20 Hours | \$481.77 | \$173.16 | 56.11\% |
| Male, Age 60, 7th/8th Grade Edu., 30 Hours | \$654.93 | \$173.16 | 35.94\% |
| Male, Age 60, 7th/8th Grade Edu., 40 Hours | \$828.09 | \$173.16 | 26.44\% |
| Male, Age 60, 7th/8th Grade Edu., 50 Hours | \$1,001.25 | \$173.16 | 20.91\% |
| Male, Age 60, 7th/8th Grade Edu., 60 Hours | \$1,174.41 | \$173.16 | 17.29\% |
| Female, Age 60, $7 \mathrm{th} / 8$ th Grade Edu., 0 Hours | \$25.40 |  |  |
| Female, Age 60, 7th/8th Grade Edu., 10 Hours | \$198.56 | \$173.16 | 681.79\% |
| Female, Age 60, 7th/8th Grade Edu., 20 Hours | \$371.72 | \$173.16 | 87.21\% |
| Female, Age 60, 7th/8th Grade Edu., 30 Hours | \$544.88 | \$173.16 | 46.58\% |
| Female, Age 60, 7th/8th Grade Edu., 40 Hours | \$718.04 | \$173.16 | 31.78\% |
| Female, Age 60, 7th/8th Grade Edu., 50 Hours | \$891.20 | \$173.16 | 24.12\% |
| Female, Age 60, 7th/8th Grade Edu., 60 Hours | \$1,064.36 | \$173.16 | 19.43\% |
| Male, Age 20, High School Diploma, 0 Hours | \$340.04 |  |  |
| Male, Age 20, High School Diploma, 10 Hours | \$513.20 | \$173.16 | 50.92\% |
| Male, Age 20, High School Diploma, 20 Hours | \$686.36 | \$173.16 | 33.74\% |
| Male, Age 20, High School Diploma, 30 Hours | \$859.52 | \$173.16 | 25.23\% |
| Male, Age 20, High School Diploma, 40 Hours | \$1,032.68 | \$173.16 | 20.15\% |
| Male, Age 20, High School Diploma, 50 Hours | \$1,205.84 | \$173.16 | 16.77\% |
| Male, Age 20, High School Diploma, 60 Hours | \$1,379.00 | \$173.16 | 14.36\% |
| F'̈male, Age 20, H igh School Diploma, 0 Hours | \$229.99 |  |  |
| Female, Age 20, High School Diploma, 10 Hours | \$403.15 | \$173.16 | 75.29\% |
| Female, Age 20, High School Diploma, 20 Hours | \$576.31 | \$173.16 | 42.95\% |
| Female, Age 20, High School Diploma, 30 Hours | \$749.47 | \$173.16 | 30.05\% |
| Female, Age 20, High School Diploma, 40 Hours | \$922.63 | \$173.16 | 23.10\% |
| Female, Age 20, High School Diploma, 50 Hours | \$1,095.79 | \$173.16 | 18.77\% |
| Female, Age 20, High School Diploma, 60 Hours | \$1,268.95 | \$173.16 | 15.80\% |
| Male, Age 30, High School Diploma, 0 Hours | \$328.45 |  |  |
| Male, Age 30, High School Diploma, 10 Hours | \$501.61 | \$173.16 | 52.72\% |
| Male, Age 30, High School Diploma, 20 Hours | \$674.77 | \$173.16 | 34.52\% |
| Male, Age 30, High School Diploma, 30 Hours | \$847.93 | \$173.16 | 25.66\% |
| Male, Age 30, High School Diploma, 40 Hours | \$1,021.09 | \$173.16 | 20.42\% |
| Male, Age 30, High School Diploma, 50 Hours | \$1,194.25 | \$173.16 | 16.96\% |
| Male, Age 30, High School Diploma, 60 Hours | \$1,367.41 | \$173.16 | 14.50\% |
|  | \$218.40 |  |  |
| Female, Age 30, High School Diploma, 10 Hours | \$391.56 | \$173.16 | 79.29\% |
| Female, Age 30, High School Diploma, 20 Hours | \$564.72 | \$173.16 | 44.22\% |
| Female, Age 30, High School Diploma, 30 Hours | \$737.88 | \$173.16 | 30.66\% |
| Female, Age 30, High School Diploma, 40 Hours | \$911.04 | \$173.16 | 23.47\% |
| Female, Age 30, High School Diploma, 50 Hours | \$1,084.20 | \$173.16 | 19.01\% |
| Female, Age 30, High School Diploma, 60 Hours | \$1,257.36 | \$173.16 | 15.97\% |


| Individual Profile | Weekly <br> Earnings | Amount Difference | Percentage Change |
| :---: | :---: | :---: | :---: |
| Male, Age 40, High School Diploma, 0 Hours | \$316.86 |  |  |
| Male, Age 40, High School Diploma, 10 Hours | \$490.02 | \$173.16 | 54.65\% |
| Male, Age 40, High School Diploma, 20 Hours | \$663.18 | \$173.16 | 35.34\% |
| Male, Age 40, High School Diploma, 30 Hours | \$836.34 | \$173.16 | 26.11\% |
| Male, Age 40, High School Diploma, 40 Hours | \$1,009.50 | \$173.16 | 20.70\% |
| Male, Age 40, High School Diploma, 50 Hours | \$1,182.66 | \$173.16 | 17.15\% |
| Male, Age 40, High School Diploma, 60 Hours | \$1,355.82 | \$173.16 | 14.64\% |
|  | \$206.81 |  |  |
| Female, Age 40, High School Diploma, 10 Hours | \$379.97 | \$173.16 | 83.73\% |
| Female, Age 40, High School Diploma, 20 Hours | \$553.13 | \$173.16 | 45.57\% |
| Female, Age 40, High School Diploma, 30 Hours | \$726.29 | \$173.16 | 31.31\% |
| Female, Age 40, High School Diploma, 40 Hours | \$899.45 | \$173.16 | 23.84\% |
| Female, Age 40, High School Diploma, 50 Hours | \$1,072.61 | \$173.16 | 19.25\% |
| Female, Age 40, High School Diploma, 60 Hours | \$1,245.77 | \$173.16 | 16.14\% |
| Male, Age 50, High School Diploma, 0 Hours | \$305.27 |  |  |
| Male, Age 50, High School Diploma, 10 Hours | \$478.43 | \$173.16 | 56.72\% |
| Male, Age 50, High School Diploma, 20 Hours | \$651.59 | \$173.16 | 36.19\% |
| Male, Age 50, High School Diploma, 30 Hours | \$824.75 | \$173.16 | 26.57\% |
| Male, Age 50, High School Diploma, 40 Hours | \$997.91 | \$173.16 | 21.00\% |
| Male, Age 50, High School Diploma, 50 Hours | \$1,171.07 | \$173.16 | 17.35\% |
| Male, Age 50, High School Diploma, 60 Hours | \$1,344.23 | \$173.16 | 14.79\% |
| Female, Age 50, High S̄chool Diploma, 0 Hours | \$195.22 |  |  |
| Female, Age 50, High School Diploma, 10 Hours | \$368.38 | \$173.16 | 88.70\% |
| Female, Age 50, High School Diploma, 20 Hours | \$541.54 | \$173.16 | 47.01\% |
| Female, Age 50, High School Diploma, 30 Hours | \$714.70 | \$173.16 | 31.98\% |
| Female, Age 50, High School Diploma, 40 Hours | \$887.86 | \$173.16 | 24.23\% |
| Female, Age 50, High School Diploma, 50 Hours | \$1,061.02 | \$173.16 | 19.50\% |
| Female, Age 50, High School Diploma, 60 Hours | \$1,234.18 | \$173.16 | 16.32\% |
| Male, Age 60, High School Diploma, 0 Hours | \$293.68 |  |  |
| Male, Age 60, High School Diploma, 10 Hours | \$466.84 | \$173.16 | 58.96\% |
| Male, Age 60, High School Diploma, 20 Hours | \$640.00 | \$173.16 | 37.09\% |
| Male, Age 60, High School Diploma, 30 Hours | \$813.16 | \$173.16 | 27.06\% |
| Male, Age 60, High School Diploma, 40 Hours | \$986.32 | \$173.16 | 21.29\% |
| Male, Age 60, High School Diploma, 50 Hours | \$1,159.48 | \$173.16 | 17.56\% |
| Male, Age 60, High School Diploma, 60 Hours | \$1,332.64 | \$173.16 | 14.93\% |
| Fēmale, Age $\overline{\text { 60, }}$ High So school Diploma, 0 Hours | \$183.63 |  |  |
| Female, Age 60, High School Diploma, 10 Hours | \$356.79 | \$173.16 | 94.30\% |
| Female, Age 60, High School Diploma, 20 Hours | \$529.95 | \$173.16 | 48.53\% |
| Female, Age 60, High School Diploma, 30 Hours | \$703.11 | \$173.16 | 32.67\% |
| Female, Age 60, High School Diploma, 40 Hours | \$876.27 | \$173.16 | 24.63\% |
| Female, Age 60, High School Diploma, 50 Hours | \$1,049.43 | \$173.16 | 19.76\% |
| Female, Age 60, High School Diploma, 60 Hours | \$1,222.59 | \$173.16 | 16.50\% |
| Male, Age 30, Bachelor's Degree, 0 Hours | \$455.04 |  |  |
| Male, Age 30, Bachelor's Degree, 10 Hours | \$628.20 | \$173.16 | 38.05\% |
| Male, Age 30, Bachelor's Degree, 20 Hours | \$801.36 | \$173.16 | 27.56\% |
| Male, Age 30, Bachelor's Degree, 30 Hours | \$974.52 | \$173.16 | 21.61\% |
| Male, Age 30, Bachelor's Degree, 40 Hours | \$1,147.68 | \$173.16 | 17.77\% |
| Male, Age 30, Bachelor's Degree, 50 Hours | \$1,320.84 | \$173.16 | 15.09\% |
| Male, Age 30, Bachelor's Degree, 60 Hours | \$1,494.00 | \$173.16 | 13.11\% |


| Individual Profile | Weekly Earnings | Amount Difference | Percentage Change |
| :---: | :---: | :---: | :---: |
| Female, Age 30, Bachelor's Degree, 0 Hours | \$344.98 |  |  |
| Female, Age 30, Bachelor's Degree, 10 Hours | \$518.14 | \$173.16 | 50.19\% |
| Female, Age 30, Bachelor's Degree, 20 Hours | \$691.30 | \$173.16 | 33.42\% |
| Female, Age 30, Bachelor's Degree, 30 Hours | \$864.46 | \$173.16 | 25.05\% |
| Female, Age 30, Bachelor's Degree, 40 Hours | \$1,037.62 | \$173.16 | 20.03\% |
| Female, Age 30, Bachelor's Degree, 50 Hours | \$1,210.78 | \$173.16 | 16.69\% |
| Female, Age 30, Bachelor's Degree, 60 Hours | \$1,383.94 | \$173.16 | 14.30\% |
| Male, Age 40, Bachelor's Degree, 0 Hours | \$443.45 |  |  |
| Male, Age 40, Bachelor's Degree, 10 Hours | \$616.61 | \$173.16 | 39.05\% |
| Male, Age 40, Bachelor's Degree, 20 Hours | \$789.77 | \$173.16 | 28.08\% |
| Male, Age 40, Bachelor's Degree, 30 Hours | \$962.93 | \$173.16 | 21.93\% |
| Male, Age 40, Bachelor's Degree, 40 Hours | \$1,136.09 | \$173.16 | 17.98\% |
| Male, Age 40, Bachelor's Degree, 50 Hours | \$1,309.25 | \$173.16 | 15.24\% |
| Male, Age 40, Bachelor's Degree, 60 Hours | \$1,482.41 | \$173.16 | 13.23\% |
| Fémale, Age 40, Bachelor's Degree, 0 Hours | \$333.39 |  |  |
| Female, Age 40, Bachelor's Degree, 10 Hours | \$506.55 | \$173.16 | 51.94\% |
| Female, Age 40, Bachelor's Degree, 20 Hours | \$679.71 | \$173.16 | 34.18\% |
| Female, Age 40, Bachelor's Degree, 30 Hours | \$852.87 | \$173.16 | 25.48\% |
| Female, Age 40, Bachelor's Degree, 40 Hours | \$1,026.03 | \$173.16 | 20.30\% |
| Female, Age 40, Bachelor's Degree, 50 Hours | \$1,199.19 | \$173.16 | 16.88\% |
| Female, Age 40, Bachelor's Degree, 60 Hours | \$1,372.35 | \$173.16 | 14.44\% |
| Male, Age 50, Bachelor's Degree, 0 Hours | \$431.86 |  |  |
| Male, Age 50, Bachelor's Degree, 10 Hours | \$605.02 | \$173.16 | 40.10\% |
| Male, Age 50, Bachelor's Degree, 20 Hours | \$778.18 | \$173.16 | 28.62\% |
| Male, Age 50, Bachelor's Degree, 30 Hours | \$951.34 | \$173.16 | 22.25\% |
| Male, Age 50, Bachelor's Degree, 40 Hours | \$1,124.50 | \$173.16 | 18.20\% |
| Male, Age 50, Bachelor's Degree, 50 Hours | \$1,297.66 | \$173.16 | 15.40\% |
| Male, Age 50, Bachelor's Degree, 60 Hours | \$1,470.82 | \$173.16 | 13.34\% |
| Fémale, Age 50, Bachèor's Degree, 0 Hours | \$321.80 |  |  |
| Female, Age 50, Bachelor's Degree, 10 Hours | \$494.96 | \$173.16 | 53.81\% |
| Female, Age 50, Bachelor's Degree, 20 Hours | \$668.12 | \$173.16 | 34.98\% |
| Female, Age 50, Bachelor's Degree, 30 Hours | \$841.28 | \$173.16 | 25.92\% |
| Female, Age 50, Bachelor's Degree, 40 Hours | \$1,014.44 | \$173.16 | 20.58\% |
| Female, Age 50, Bachelor's Degree, 50 Hours | \$1,187.60 | \$173.16 | 17.07\% |
| Female, Age 50, Bachelor's Degree, 60 Hours | \$1,360.76 | \$173.16 | 14.58\% |
| Male, Age 60, Bachelor's Degree, 0 Hours | \$420.27 |  |  |
| Male, Age 60, Bachelor's Degree, 10 Hours | \$593.43 | \$173.16 | 41.20\% |
| Male, Age 60, Bachelor's Degree, 20 Hours | \$766.59 | \$173.16 | 29.18\% |
| Male, Age 60, Bachelor's Degree, 30 Hours | \$939.75 | \$173.16 | 22.59\% |
| Male, Age 60, Bachelor's Degree, 40 Hours | \$1,112.91 | \$173.16 | 18.43\% |
| Male, Age 60, Bachelor's Degree, 50 Hours | \$1,286.07 | \$173.16 | 15.56\% |
| Male, Age 60, Bachelor's Degree, 60 Hours | \$1,459.23 | \$173.16 | 13.46\% |
| F'èmale, Age 60, Bachèlor's Degree, 0 Hours | \$310.21 |  |  |
| Female, Age 60, Bachelor's Degree, 10 Hours | \$483.37 | \$173.16 | 55.82\% |
| Female, Age 60, Bachelor's Degree, 20 Hours | \$656.53 | \$173.16 | 35.82\% |
| Female, Age 60, Bachelor's Degree, 30 Hours | \$829.69 | \$173.16 | 26.37\% |
| Female, Age 60, Bachelor's Degree, 40 Hours | \$1,002.85 | \$173.16 | 20.87\% |
| Female, Age 60, Bachelor's Degree, 50 Hours | \$1,176.01 | \$173.16 | 17.27\% |
| Female, Age 60, Bachelor's Degree, 60 Hours | \$1,349.17 | \$173.16 | 14.72\% |

