

Quarterly Workforce Indicators (QWI)

2023 LED Partnership Virtual Workshop

Presented by: Earlene K.P. Dowell

March 30, 2023

US Census Bureau





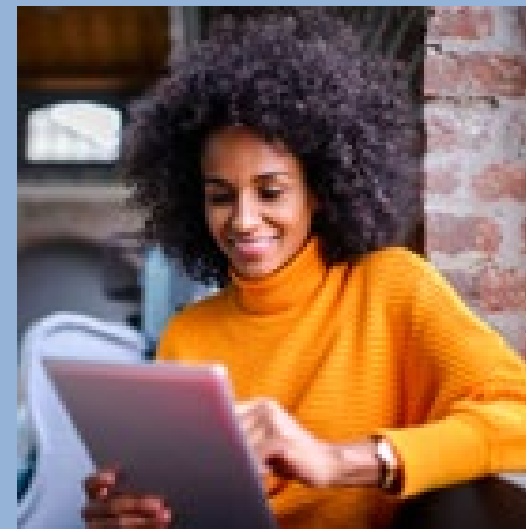
LEHD
Program

Outline

- I. LEHD Program and LED Partnership
- II. LEHD Data Products and Tools
- III. QWI 101
- IV. LED Extraction Tool and QWI
- V. QWI Explorer
- VI. Census Business Builder

LEHD.CES.Census.Gov

- [LED Webinar Series](#)
- Find stories on how LEHD data is being used on our [LED in Action](#) tab.



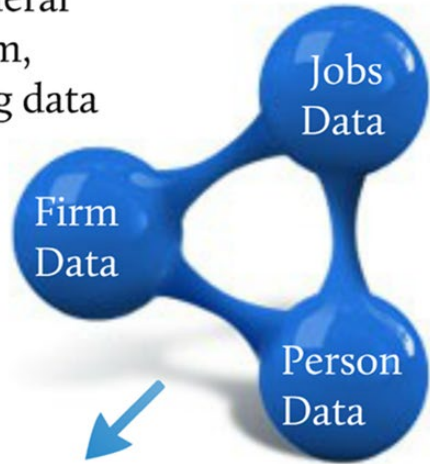
LEHD Program and LED Partnership





LEHD Program

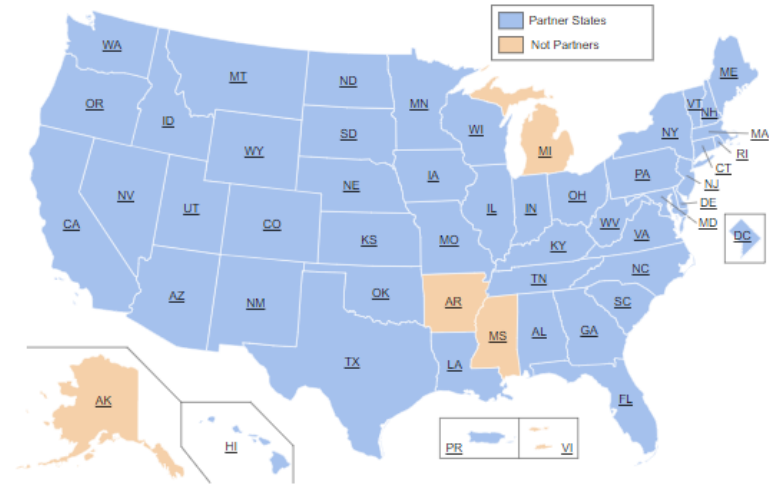
An innovative federal statistical program, collecting existing data and ...



New linked national jobs data for the U.S.

Program and Partnership

..linking it together to provide new information sources at low cost



- | | | | |
|--------------------------------------|-------------------------------|--------------------------------|--------------------------------|
| Alabama | Illinois | Montana | Rhode Island |
| Alaska | Indiana | Nebraska | South Carolina |
| Arizona | Iowa | Nevada | South Dakota |
| Arkansas | Kansas | New Hampshire | Tennessee |
| California | Kentucky | New Jersey | Texas |
| Colorado | Louisiana | New Mexico | Utah |
| Connecticut | Maine | New York | Vermont |
| District of Columbia | Maryland | North Carolina | Virginia |
| Delaware | Massachusetts | North Dakota | Washington |
| Florida | Michigan | Ohio | West Virginia |
| Georgia | Minnesota | Oklahoma | Wisconsin |
| Hawaii | Mississippi | Oregon | Wyoming |
| Idaho | Missouri | Pennsylvania | Puerto Rico |
| | | | Virgin Islands |

LEHD Products and Data Tool





Longitudinal Employer-Household Dynamics (LEHD)

**LEHD
Program**

Data Product	Explore the data, answer questions, or get visualizations	Bulk data for use in analysis process/software	Live queries for building web applications
QWI	QWI Explorer	LED Extraction Tool and Raw data download	Census Bureau API
LODES	OnTheMap OnTheMap for Emergency Management	Raw data download coming in the LED Extraction Tool in 2023	Future development
J2J	J2J Explorer	LED Extraction Tool and Raw data download	Future Development
PSEO	PSEO Explorer	Raw data download	Census Bureau API
VEO	VEO Explorer	Raw data download	Future Development

QWI 101





QWI Measures

- 32 indicators on:
 - Employment
 - Counts of jobs (Individual)
 - Hiring and Separation counts and rates (Individual)
 - Job Creation and Destruction (Firm)
 - Earnings
 - Average monthly earnings
- Files and applications organized by state

LEHD
Program



LEHD
Program

Primary Unit of Analysis: *Job*

- Association of: *Worker–Employer–Year–Quarter*
- Workers can have multiple jobs within a quarter
 - “Primary Job” (greatest earnings) - not defined separately in QWI, but is in LODES/OnTheMap
- In contrast, most other surveys and censuses are:
 - Household-based (ACS, CPS, Decennial), or
 - Employer-based (QCEW, Current Employment Statistics)
- Advantage of job-based frame – can produce tabulations by both worker **and** firm characteristics



LEHD
Program

Core Data Input: *UI Earnings Records*

- UI = Unemployment Insurance
- Record of individual earnings for covered jobs
 - Administrative wage records, not UI claims data
- Collected for operation of state UI program
 - UI benefits are based on historical earnings
- Includes:
 - **Total** quarterly earnings for each job
 - Firm identifier = State UI account number (SEIN)
 - Worker identifier = Protected Identification Key (PIK)
 - Census identifier based on SSN



LEHD
Program

Job Coverage in UI Earnings Data

- Most private sector jobs covered
 - For-profit and not-for-profit classified together (as per QCEW standard)
- State and local government also in system, though some reporting inconsistencies
- Federal worker data from Office of Personnel Management (OPM) not yet available in QWI (have been incorporated into LODES/OnTheMap)
- Self-employed not available



Additional Data Inputs

- UI wage records are linked to a variety of other data sources
- Sources of establishment information:
 - Quarterly Census of Employment and Wages (QCEW)
 - Longitudinal Business Database (LBD)
- Sources of demographic information:
 - Decennial Census
 - Federal Tax Records
 - Social Security Administration Records
 - Other census and administrative records
- This additional information enables tabulations by detailed worker and firm characteristics

LEHD
Program

LED Extraction Tool





America Counts Stories Behind the Numbers

LEHD Program



Initial Impact of COVID-19 on Travel, Tourism, Outdoor Recreation Varied Widely Across States

f
t
in

Tourism and Related Industries Declined Sharply in Northeastern States in Spring 2020, Women and Young Workers More Affected Nationwide

MATTHEW GRAHAM, HEATH HAYWARD, HUBERT JANICKI, ERIKA MCENTARFER AND LEE TUCKER
JUNE 23, 2021

Early outbreaks of COVID-19 affected large populations in New York and New Jersey in the spring of 2020, leading the Centers for Disease Control and Prevention (CDC) to issue a domestic travel advisory for those states.



BUSINESS AND ECONOMY

Not All Industries Experienced Declines During the Pandemic

Estimates from the Census Bureau's Quarterly Services Survey show that some industries grew despite the pandemic while others saw declining revenue.



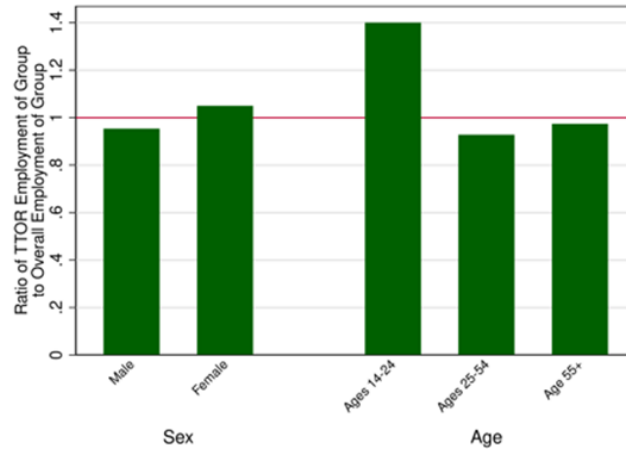
Over/Under Representation of Groups in Travel, Tourism, and Outdoor Recreation

- Sex and Age

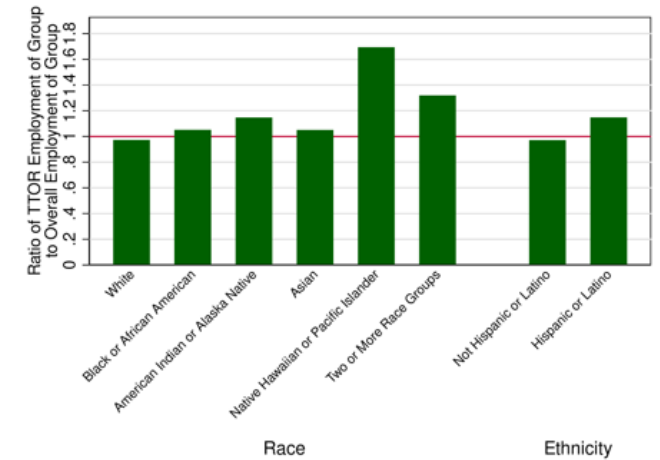
- Race and Ethnicity

LEHD
Program

Who Works in Travel, Tourism, and Outdoor Recreation: Employment by Sex and Age



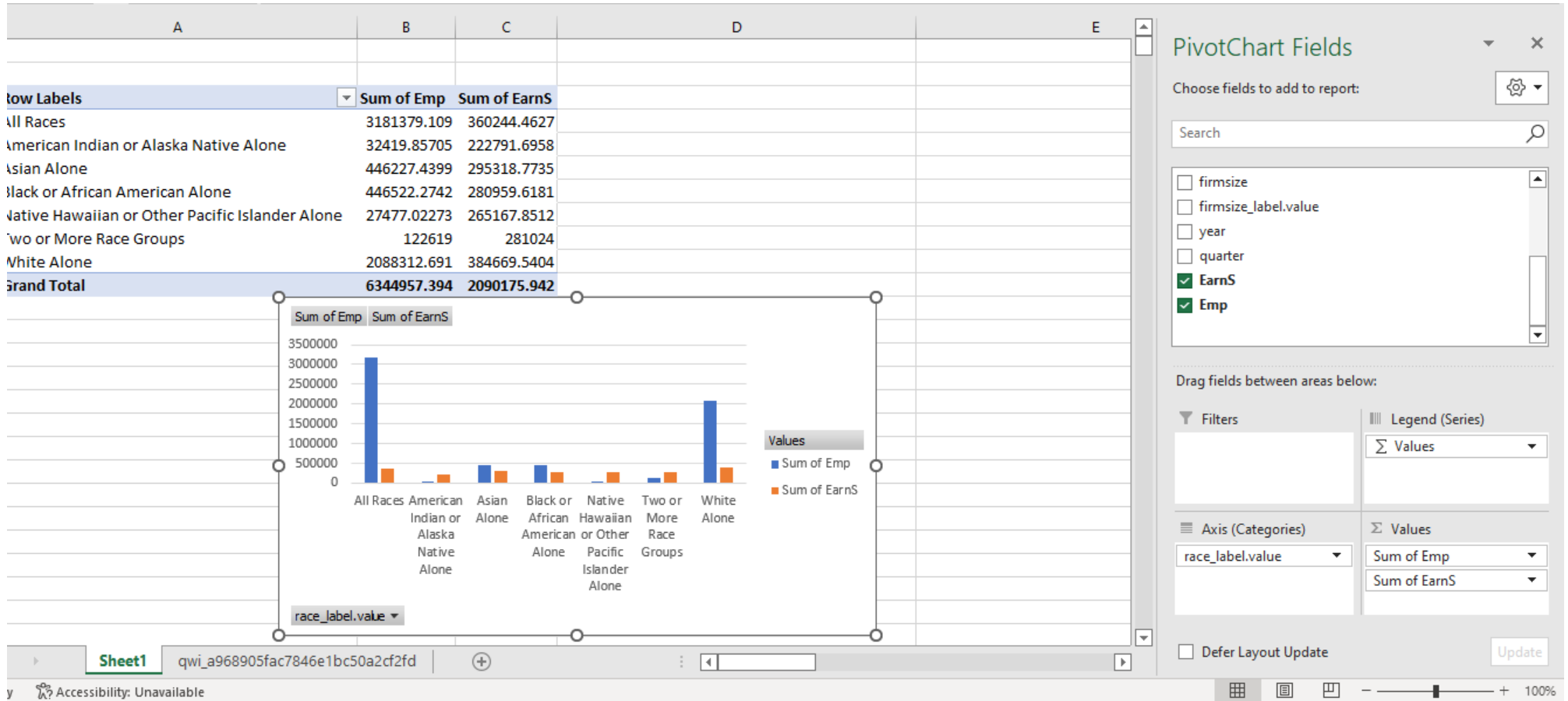
Who Works in Travel, Tourism, and Outdoor Recreation: Employment by Race and Ethnicity





CSVs, Pivot Tables, and Charts

LEHD
Program



Live Demo



QWI Explorer





LEHD
Program

America Counts Stories Behind the Numbers

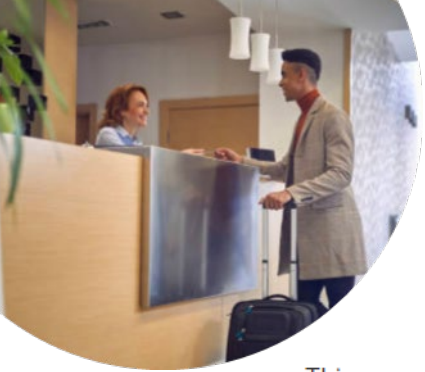
Youngest and Oldest Workers Drove Job Recovery After Hurricane Maria



English

// [Census.gov](https://www.census.gov) / America Counts: Stories Behind the Numbers / Youngest and Oldest Workers Drove Job Recovery After Hurricane Maria

First Quarterly Workforce Indicators for Puerto Rico Provide Demographic Portrait of Island's Employment Trends



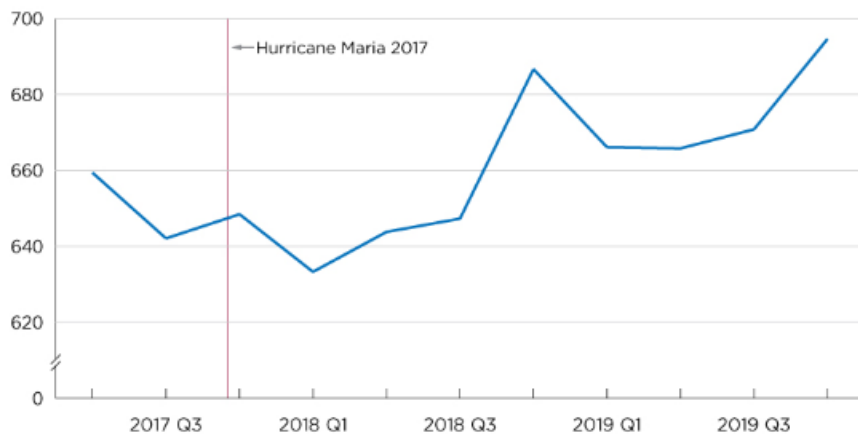
Workforce Post Hurricane Maria

LEHD Program

This research looks at the recovery through 2019, before the COVID-19 pandemic affected employment across the nation.

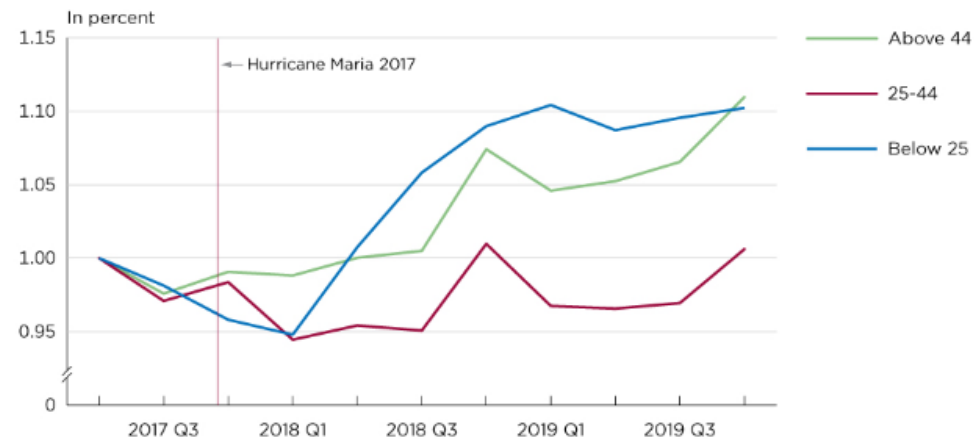
By the end of 2019, employment for workers ages 24 and younger, and those ages 45 and up, more than recovered from pre-Maria levels, increasing 10% (Figure 2).

Figure 1.
Puerto Rico Employment Post-Hurricane Maria
(In thousands)



Source: U.S. Census Bureau, Quarterly Workforce Indicators R2022Q3, Beginning of Quarter Employment (Not seasonally adjusted).

Figure 2.
Puerto Rico Employment by Age
(Indexed to Pre-Hurricane Maria employment)

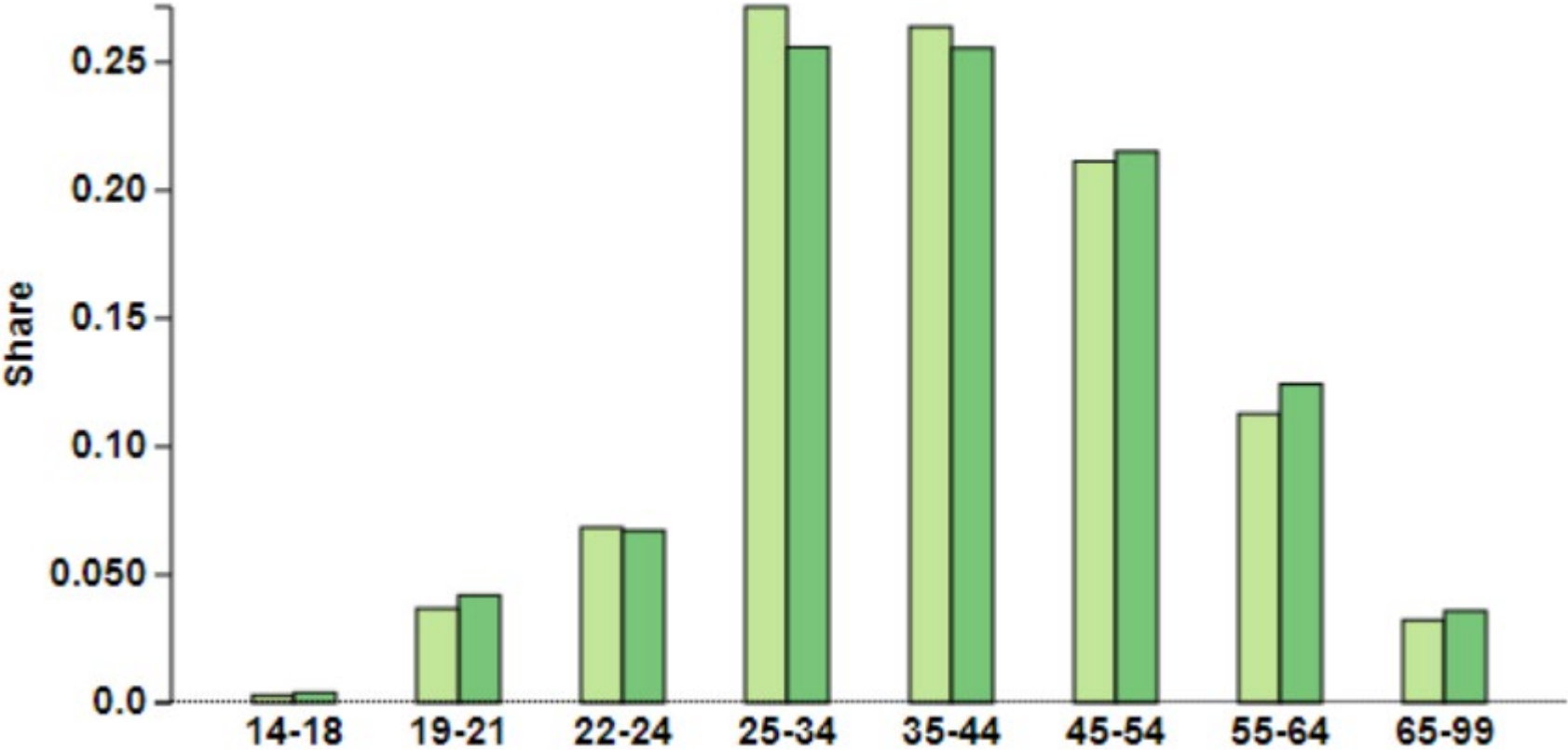


Source: U.S. Census Bureau, Quarterly Workforce Indicators R2022Q3, Beginning of Quarter Employment (Not seasonally adjusted).



Age Distribution 2017Q2 vs 2019Q4

LEHD Program





Employment Count by Age for Puerto Rico 2017Q2-2019Q4

United States Census Bureau **QWI Explorer**

LEHD Program

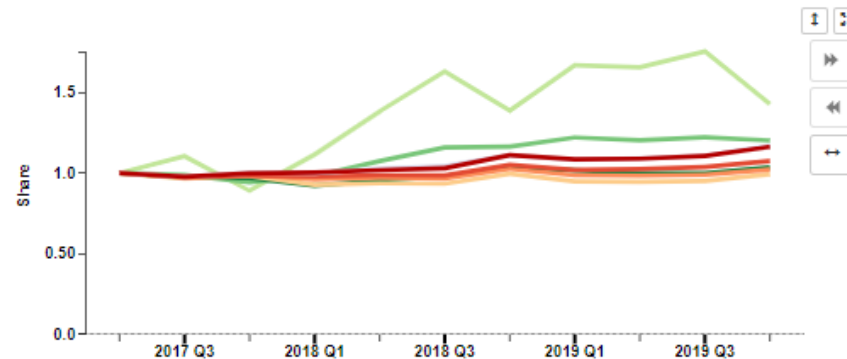
Geography Level ⌵
 Puerto Rico ⌵

Indicator ⌵
 Emp - Beginning of Quarter Employment: Cour ⌵

Get Data Share Get Report

Filters/Aggregations ⌵ ⌵

Time: X-Axis
 Geography: [None](#)
 Industries: [None](#)
 Firm Ownership: [All Private Ownership](#)
 Firm Age/Size: [None](#)
 Worker Characteristic: [None](#)



X-Axis ⌵
 Quarters ⌵
 11 Quarters Selected

Group ⌵
 Age ⌵
 Eight Age Groups Selected

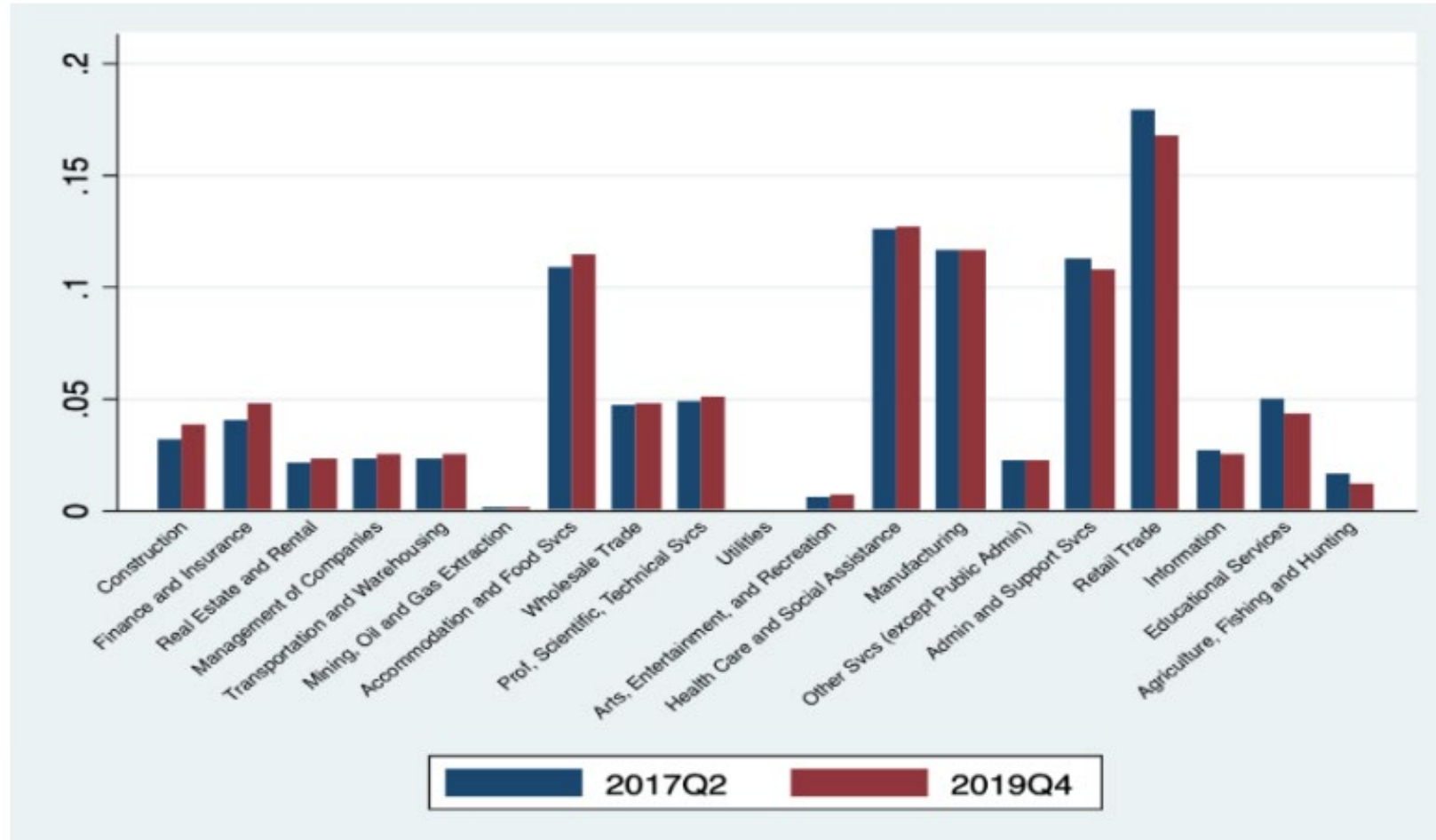
Normalize on X-Axis ⌵ Normalize on Group ⌵

	14-18	19-21	22-24	25-34	35-44	45-54	55-64	65-99
2017 Q2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017 Q3	1.104	0.987	0.972	0.967	0.974	0.974	0.978	0.978
2017 Q4	0.891	0.942	0.970	0.981	0.987	0.988	0.998	1.001
2018 Q1	1.115	0.981	0.923	0.928	0.962	0.979	1.003	0.999
2018 Q2	1.382	1.074	0.955	0.937	0.971	0.986	1.018	1.026
2018 Q3	1.830	1.158	0.979	0.934	0.967	0.985	1.030	1.043
2018 Q4	1.387	1.184	1.038	0.995	1.028	1.050	1.110	1.112
2019 Q1	1.888	1.220	1.017	0.948	0.987	1.019	1.085	1.081
2019 Q2	1.655	1.203	0.999	0.946	0.984	1.025	1.089	1.089
2019 Q3	1.753	1.222	0.999	0.951	0.989	1.037	1.106	1.107
2019 Q4	1.428	1.202	1.038	0.993	1.021	1.074	1.182	1.171



LEHD
Program

Industry composition 2017Q2 vs 2019Q4



Live Demo



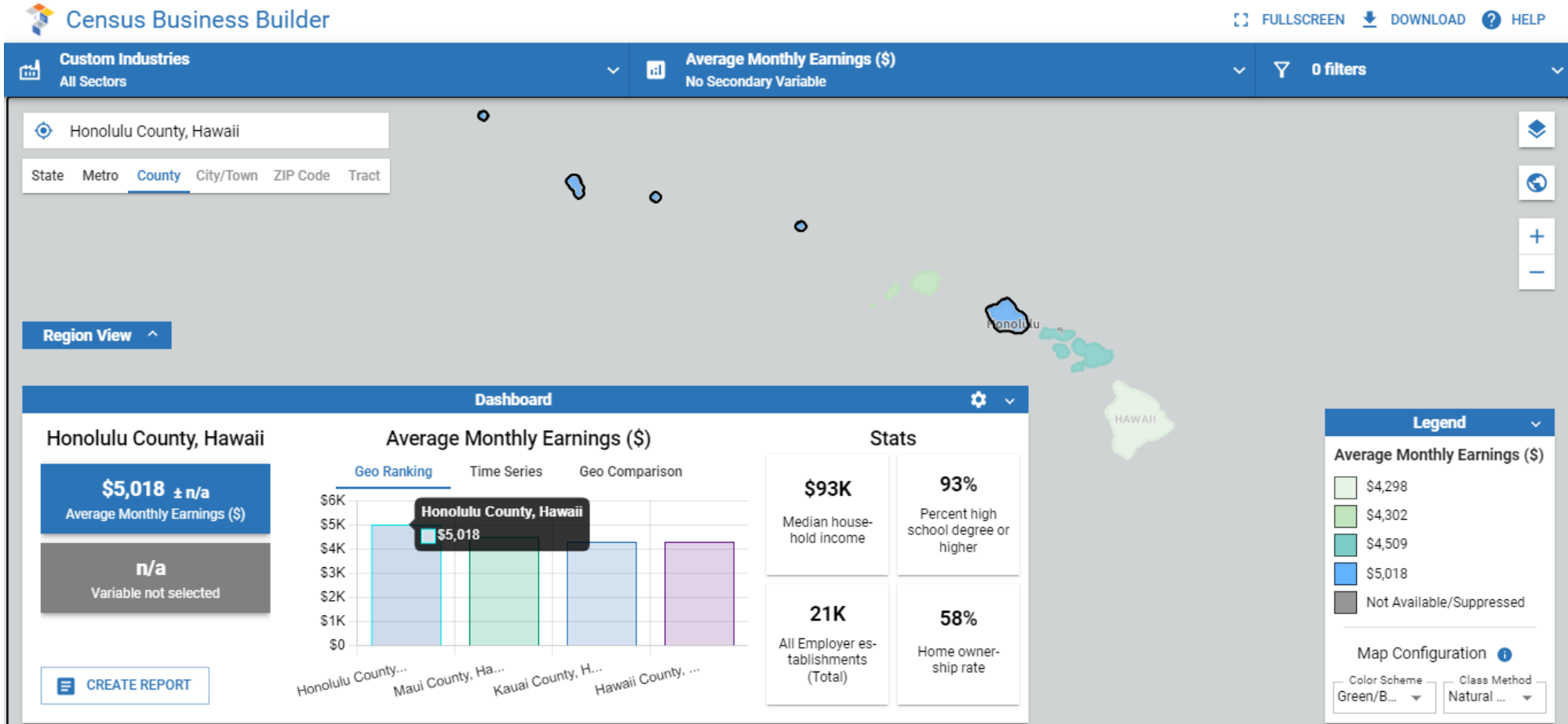
Census Business Builder





Average Monthly Earnings for Hawaii

LEHD Program





Summary and Resources

Help and Documentation

LEHD
Program

LED Extraction Tool

lehd.ces.census.gov/applications/help/led_extraction_tool.html#!what_is_the_led_extraction_tool

Quarterly Workforce Indicator

lehd.ces.census.gov/applications/help/qwi_explorer.html

Q & A and Thank You!

Contact Information:

Earlene K.P. Dowell

Earlene.KP.Dowell@Census.Gov

For detailed questions concerning the 2020 Decennial, contact:

301-763-INFO or 800-923-8282

To schedule additional training with a Census Data Dissemination Specialist in your area, please call **844-ASK-DATA**

Or email us at: **census.askdata@census.gov**