The Impact of Sexual Orientation and Gender Identity (SOGI) and Disability Questions on Response Rates: Initial Results

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The findings and conclusions in this presentation are those of the authors and should not be construed to represent any official USDA or U.S. Government determination or policy.

History of farm producer characteristics

Sex of operator collected for first time

NASS takes over Census of Agriculture

Major Revision to Operator Characteristics

| 1978 | 1997 | 2002 | 2007 | 2012 | 2017 |

- 1800s - 1997
- Demographic data collected on only *one* operator

- 2002 - 2012
- Total # of operators involved in *day-to-day decisions*
- Demographic information on up to 3 operators
- Designated the first operator listed as the "principal operator"

- Women
- Veterans
- New and Beginning Farmers
- Decision-makers

USDA

Agriculture Counts

Motivation for the Study

- *Executive Order on Advancing Racial Equity and Support of Underserved Communities through the Federal Government*
  - January 20, 2021
  - Section 7. Promoting Equitable Delivery of Government Benefits and Equitable Opportunities

- NASS is considering adding new content to the 2027 Census of Agriculture
  - Sexual Orientation and Gender Identity (SOGI)
  - Producers with disabilities

Research Questions

1. Does the presence of disability questions affect either unit or item response rates?

2. Does the presence of sexual orientation and gender identity (SOGI) questions affect either unit or item response rates?

3. If both disability and SOGI questions are present, is the effect on unit response rates additive or is some interaction between the sets of questions present?

Experimental Study Design

1. Randomized sample of 75,262 – Active Farms on Sampling Frame

2. Four (4) treatment groups randomly assigned within each stratum
    - Control – no test questions added (n =~12,500)
    - Only Disability questions (n =~12,500)
    - Only SOGI questions (n =~ 25,000)
    - Both Disability and SOGI questions (n =~ 25,000)

3. SOGI treatment group – Split into two (2) <u>subgroups</u>
    - Subgroup 1 - confirmation question if their recorded sex at birth differed from their present gender identity
    - Subgroup 2 - respondents were not asked the confirmation question

SOGI Test Questions

d. How do you currently describe yourself?

2025
- 1 ☐ Male
- 2 ☐ Female
- 3 ☐ Transgender
- 4 ☐ None of these, specify: 2026 [   ]

e. Was your sex recorded as male or female at birth?

2027
- 1 ☐ Male
- 2 ☐ Female

f. Which of the following best represents how you think of yourself?

2028 ☐ Gay or lesbian

2029 ☐ Straight, that is, not gay or lesbian

2030 ☐ Bisexual

2031 ☐ None of these, specify: 2032 [   ]

2033 ☐ I am not sure yet

2034 ☐ I don't know what this question means

Disability Test Questions

i. Do you have difficulty seeing, even if wearing glasses?

2019
- 1 ☐ No difficulty
- 2 ☐ Some difficulty
- 3 ☐ A lot of difficulty
- 4 ☐ Cannot do at all

j. Do you have difficulty hearing, even if using a hearing aid?

2020
- 1 ☐ No difficulty
- 2 ☐ Some difficulty
- 3 ☐ A lot of difficulty
- 4 ☐ Cannot do at all

k. Do you have difficulty walking or climbing steps?

2021
- 1 ☐ No difficulty
- 2 ☐ Some difficulty
- 3 ☐ A lot of difficulty
- 4 ☐ Cannot do at all

l. Do you have difficulty remembering or concentrating?

2022
- 1 ☐ No difficulty
- 2 ☐ Some difficulty
- 3 ☐ A lot of difficulty
- 4 ☐ Cannot do at all

m. Do you have difficulty with self-care, for example, washing all over or dressing?

2023
- 1 ☐ No difficulty
- 2 ☐ Some difficulty
- 3 ☐ A lot of difficulty
- 4 ☐ Cannot do at all

n. Using your usual (customary) language, do you have difficulty communicating, for example, understanding or being understood?

2024
- 1 ☐ No difficulty
- 2 ☐ Some difficulty
- 3 ☐ A lot of difficulty
- 4 ☐ Cannot do at all

Data Collection

1. A four-page questionnaire was used for all treatment groups

2. Survey administered December 20, 2021 – February 25, 2022
    - Mail, on-line, telephone (CATI)

3. Cooperation rate: 45.3% (34,059 returned)

Analysis

- Response: response/no response

- Generalized linear model with a logit link function

- 2^2 Factorial arrangement of treatments (SOGI and Disability Questions)—presence/absence

- Demographic stratum (LGBTQ+, American Indian/Alaskan Native, Asians/Native Hawaiians/Pacific Islanders, Blacks, Hispanics, Females, Others)

- All two- and three-way interactions

- Unweighted analysis—Sample Average Treatment Effects (SATE) estimates

Unit Nonresponse

- Presence disability questions not significant
  - Response rate: 44.5% (±0.3%) when present
  - Response rate: 45.0% (±0.3%) when not present
- Presence of SOGI questions significant
  - Response rate: 43.3% (±0.3%) when present
  - Response rate: 46.3% (±0.3%) when not present
- Demographic stratum significant

Type III Tests of Fixed Effects	
Effect	*p*-value
SOGI	<.0001
Disability	0.2991
Stratum	<.0001
SOGI *stratum	0.4067
disability*stratum	0.4292
SOGI *disability	0.6983
SOGI *disability*stratum	0.7669

Estimated Response Rate for each Treatment-Stratum Combination
Mean ± SEM

Legend: Control, Disability, SOGI, SOGI & Disability

LGBTQ+: 53.5%, 51.3%, 50.1%, 47.7%
American Indians / Alaska Natives: 38.2%, 36.9%, 35.4%, 35.2%
Asians / Native Hawaiians / Pacific Islanders: 43.1%, 46.9%, 42.1%, 42.1%
Blacks: 43.7%, 43.5%, 43.7%, 42.0%
Hispanics: 47.0%, 45.5%, 43.6%, 43.2%
Women: 49.6%, 49.2%, 44.2%, 44.9%
Others: 49.9%, 49.9%, 46.7%, 46.3%
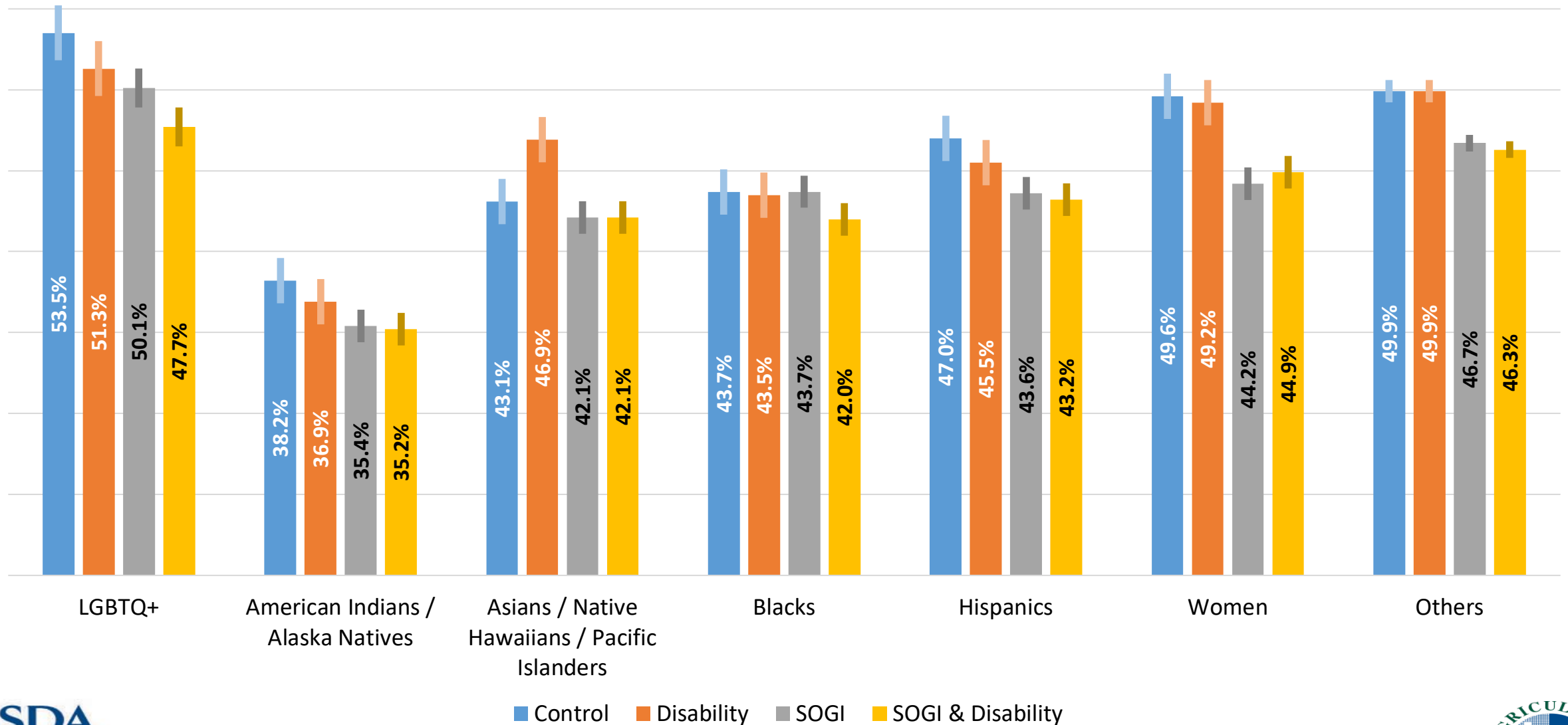
Item Response Rates: SOGI Questions

Control: 95.7%

SOGI

- Gender identity: 95.3%
- Sex recorded at birth: 94.6%
- Sexual orientation: 90.3%

Item Response Rate for the SOGI Questions by Stratum
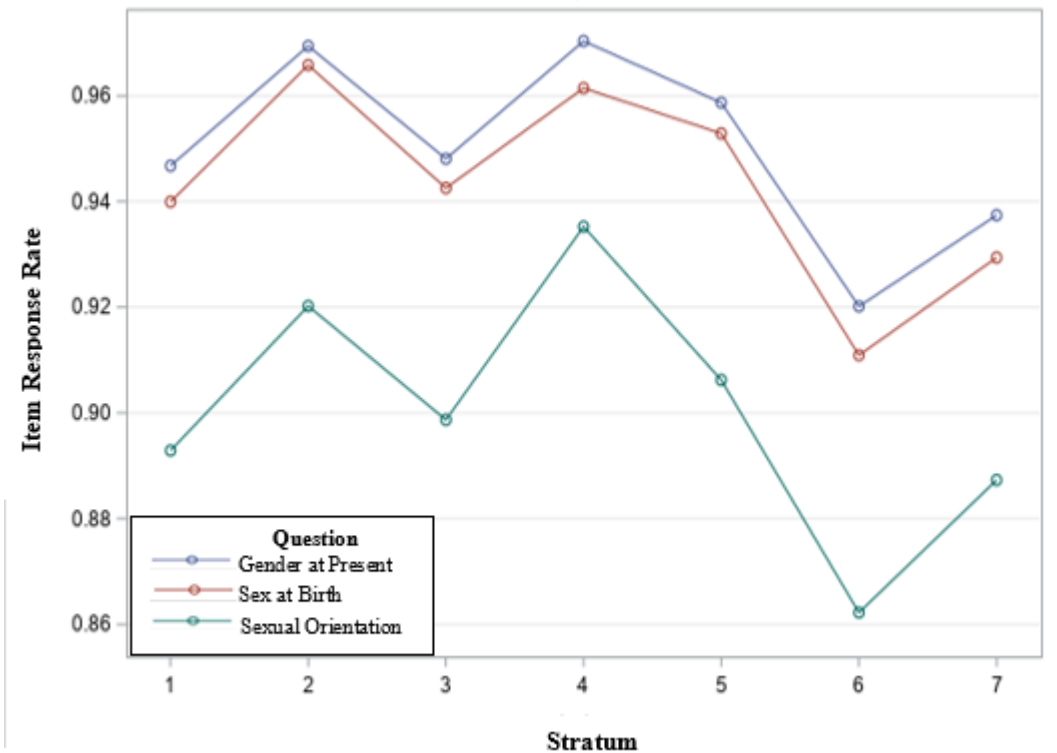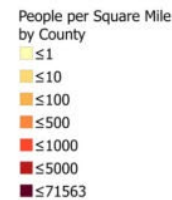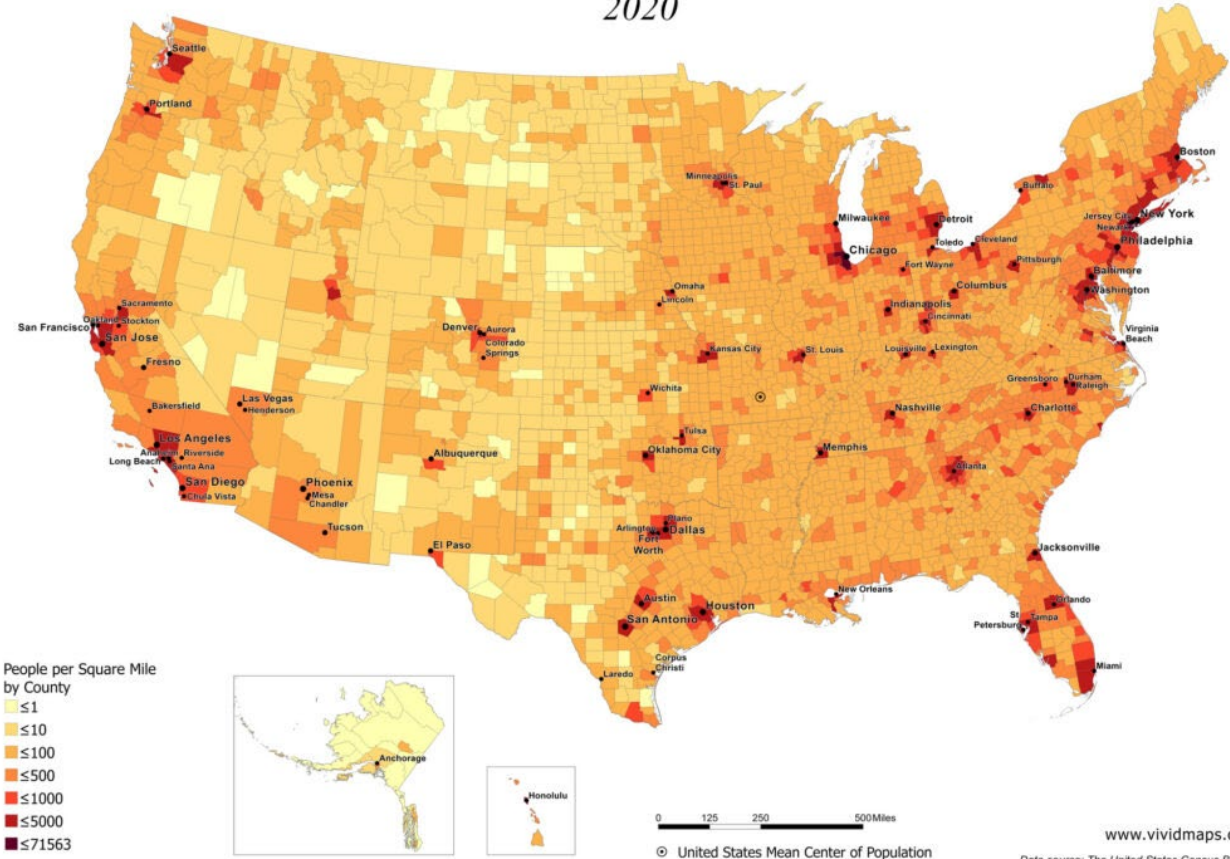
Distribution of Farms vs People

Percent of Land Area in Farms by County
2017

Percent
- Less than 10
- 10 - 29
- 30 - 49
- 50 - 69
- 70 - 89
- 90 or more
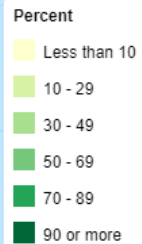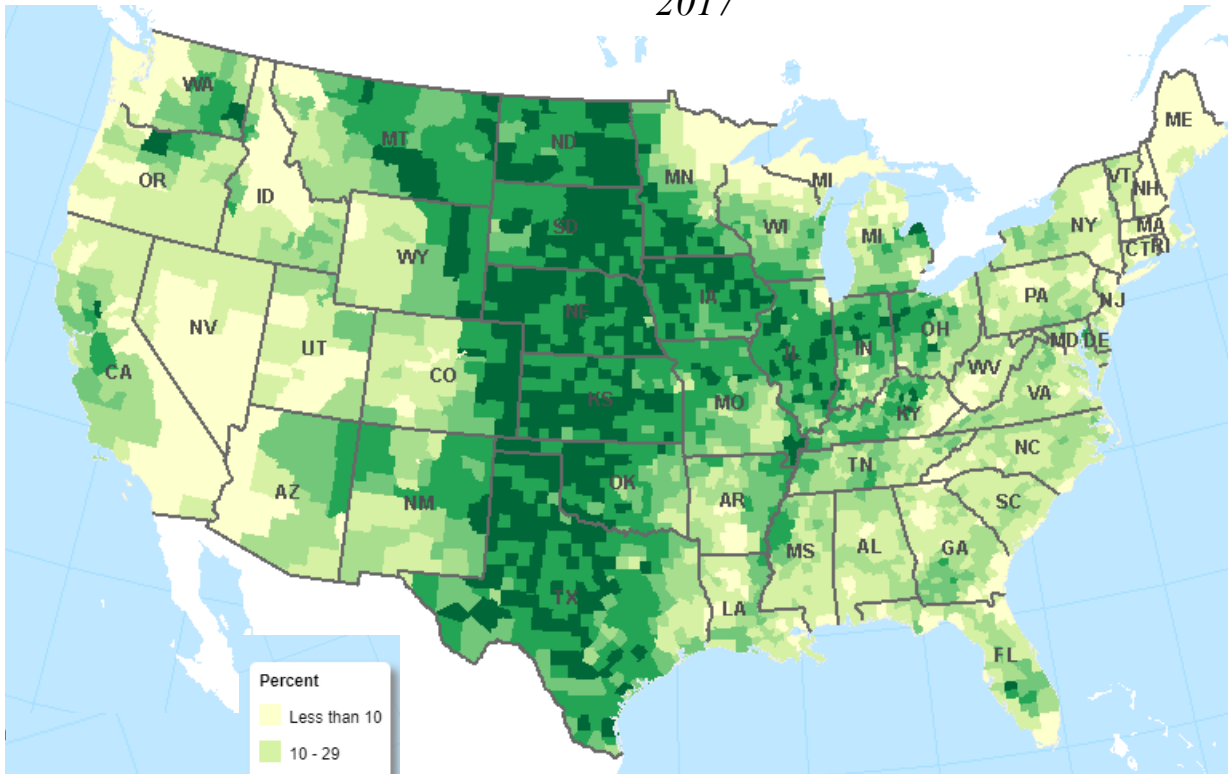
U.S. value: 39.8

U.S. Population Density by County
2020

People per Square Mile
by County
- ≤1
- ≤10
- ≤100
- ≤500
- ≤1000
- ≤5000
- ≤71563

⊙ United States Mean Center of Population
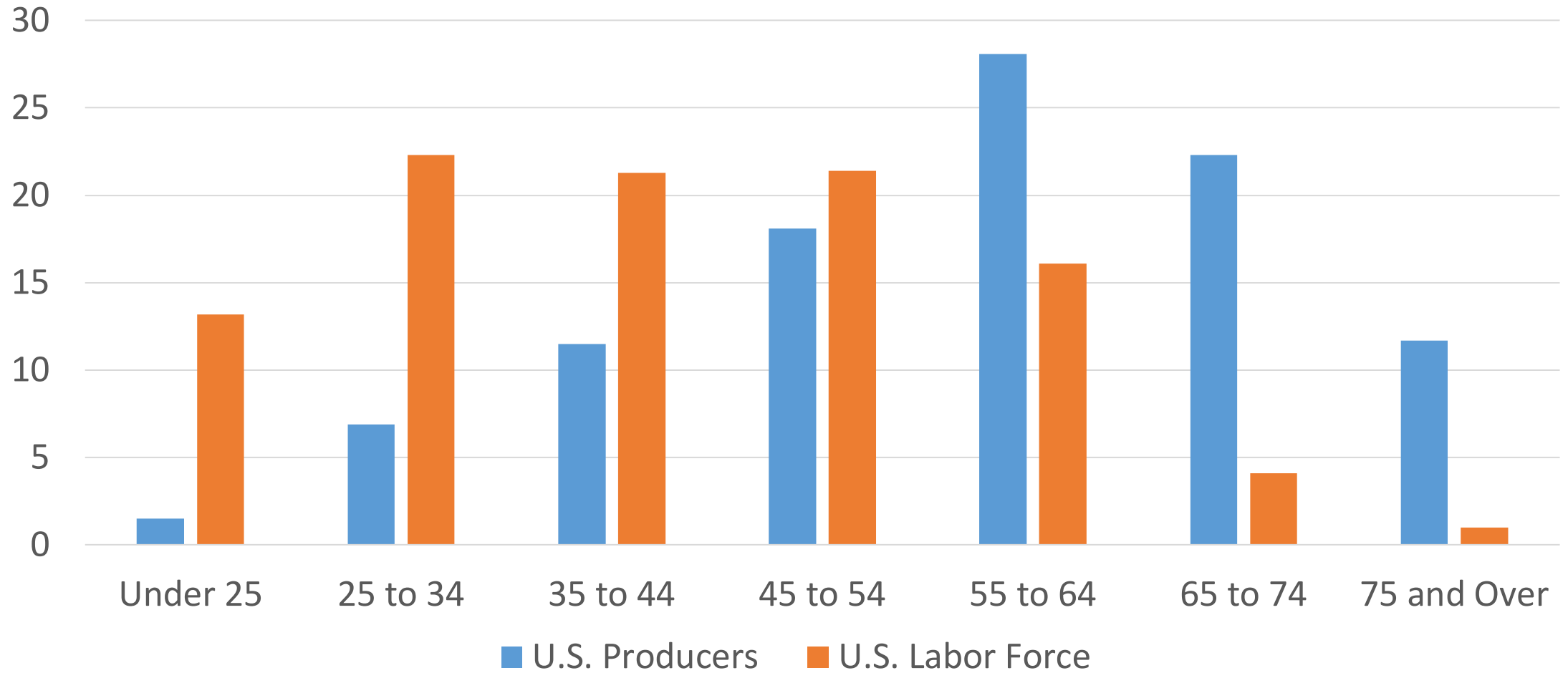
0   125   250   500Miles

www.vividmaps.com
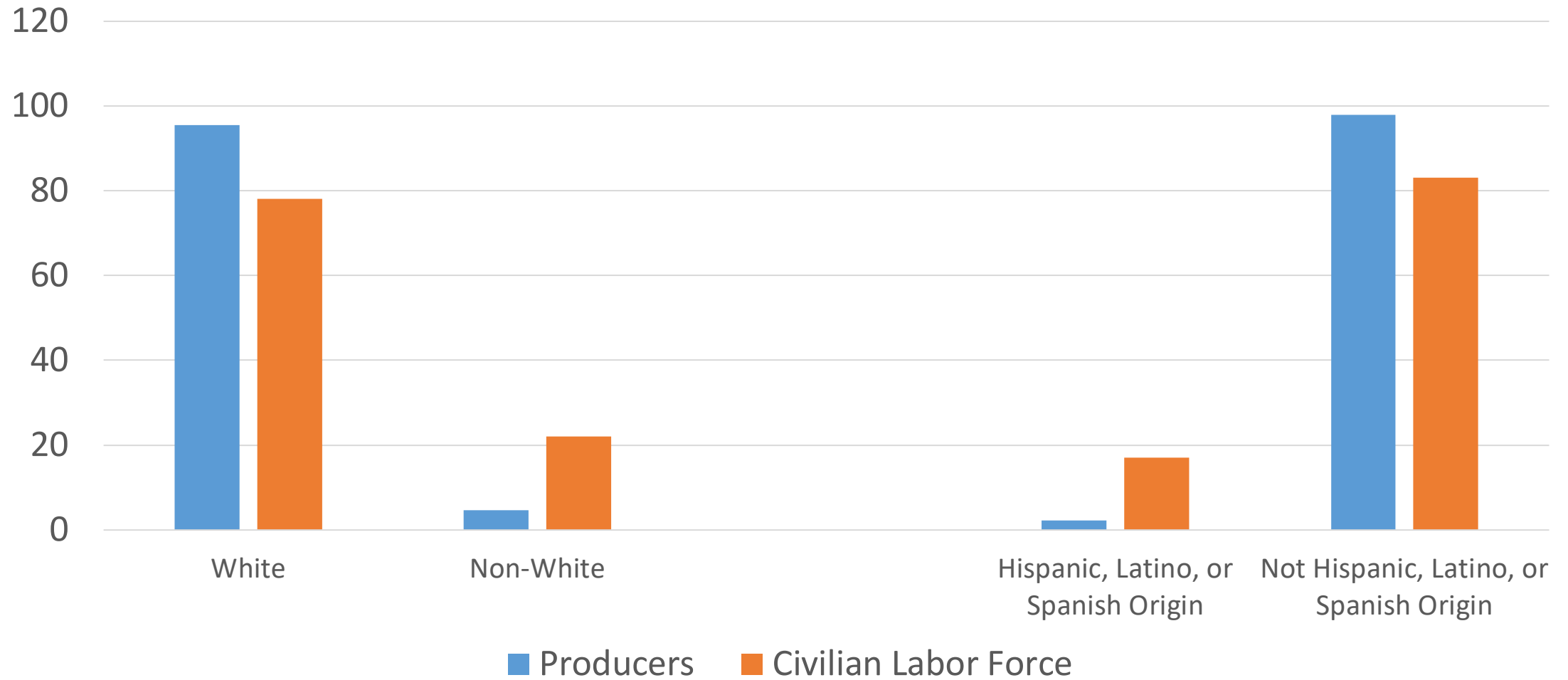Data source: The United States Census Bureau
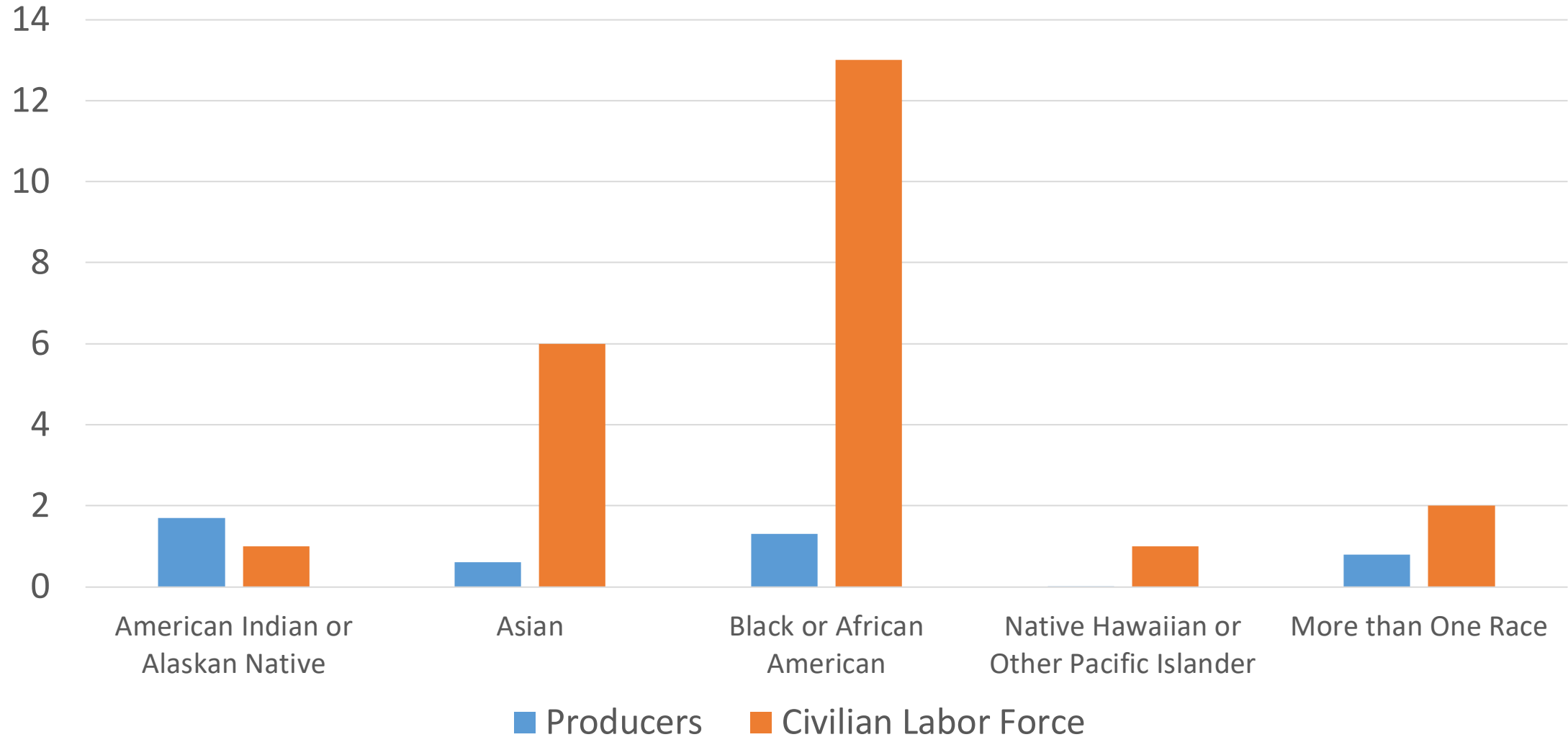
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Rate of Participation by Sex
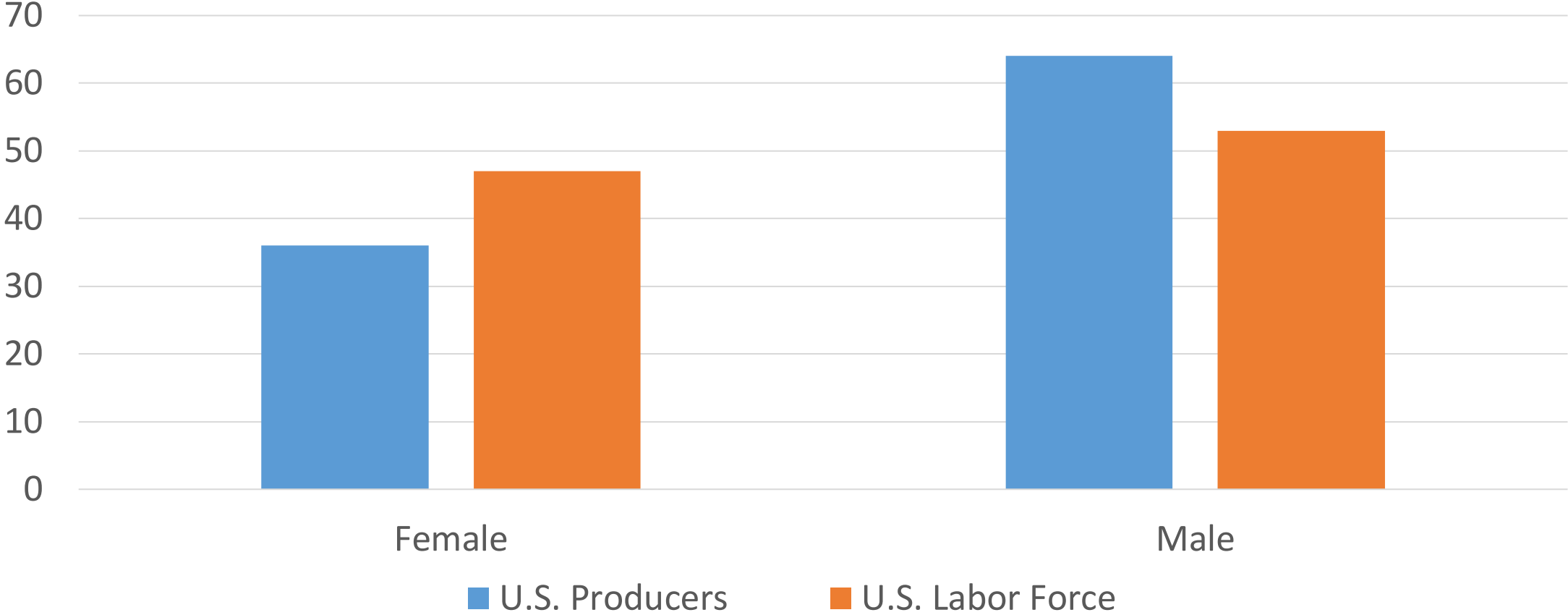
Rate of Participation by Age

Rate of Participation by Race and Ethnicity

Rate of Participation by Race

Discussion

- Unit response rate
  - Presence of SOGI questions negatively impacted response rates
  - Impact greater within some strata
    - LGBTQ+ stratum: decreased 5.8% when both SOGI and disability questions added
    - Women stratum: decreased 5.3% when SOGI questions added

- Item response rate: SOGI
  - Gender identity question: 95.3%
  - Sexual orientation question: 90.3%
  - Would asking gender identity and sex reported at birth meet the information need?

- Insufficient data for accurate measurement error assessment

- Only respondent reported—what about proxy reporting?

- Strength of the use case for collecting SOGI data?

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Thank You!

More details about the upcoming 2022 U.S. Census of Agriculture can be found at

[USDA - National Agricultural Statistics Service - Census of Agriculture](#)