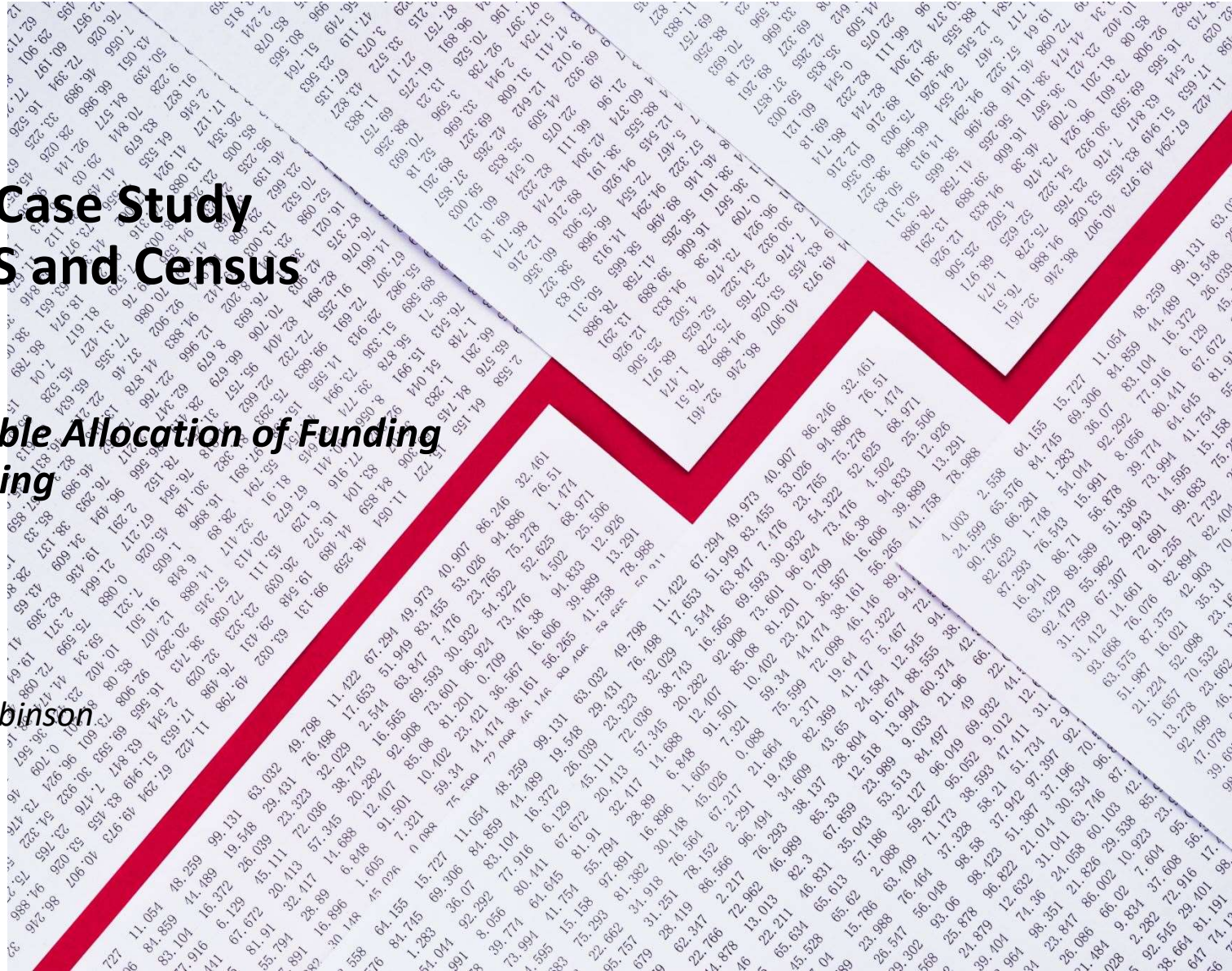# A Fresno County Case Study of Patterns of ACS and Census Response

Implications For Equitable Allocation of Funding and Census 2030 Planning

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Why Local Variations in Census Response Matter

- Lower level of census response has historically been correlated with differential racial/ethnic undercount.

- The ratio (gap) of national-level <u>PES-detected undercount</u> of Hispanics to <u>response rate of occupied Hispanic HH's</u> (mail return rate) has been:

  - ➢ 3.0% undercount/10% response gap in 1990

  - ➢ 1.3% undercount/10% response gap in 2000

  - ➢ 1.6% undercount/10% response gap in 2010

  - ➢ 5.4%/10% response gap in 2020[*]

- Tract-level self-response has always varied but is consistently linked to eventual level of differential undercount. Our focus here, similar to that in census litigation, is to discern geographic patterns of undercount

- This is important, practically speaking, speaking since no community is completely homogeneous and a good deal of social program funding is distributed geographically to service providers, not directly to recipients.

This provisional estimate of 2020 of overall Hispanic undercount/census response rate is computed with adjustment to include only occupied HU's based on PES estimates of coverage of Hispanic renter-occupied HHs. Similar ratios can be computed for other race/ethnic groups

2020 HH Omission By Tract-level Self-Response Rate

National Ratio of overall HH omission in lowest-response as compared to highest-response decile of tracts=3.24

*Specific factors leading to HH omission are discussed subsequently

** Local prevalence of vacant HU's and quality of <u>vacancy-delete</u> operations in 2020 may slightly modify this analysis

***<u>Unduplication</u> procedures may also affect the PES-based estimate of net undercount in high-response vs. low-response tracts
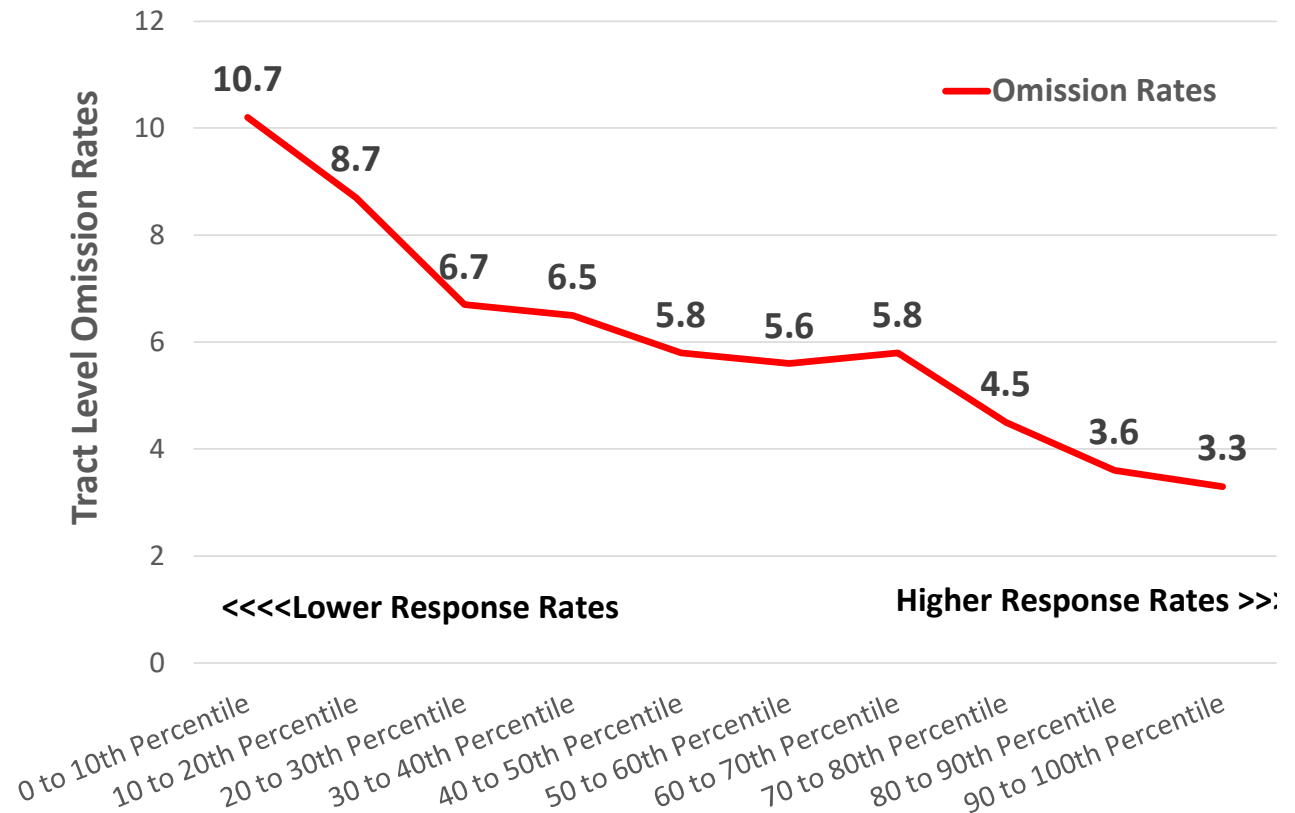
Source: U.S. Census Bureau Decennial Statistics Division, "2020 Post-Enumeration Survey" (May 2022 release)

Census and ACS Response: "Structural" Factors Matter, Not Just Race/Ethnic Patterns

- Policy discussion has focused on race as the primary correlate of census undercount but the racial/ethnic composition of a tract or neighborhood does not adequately explain variations in census and ACS response at the local level in Fresno County or other California counties.

- For example, the difference in Census 2020 self-response between <u>easy-to-count</u> (ETC) vs. <u>hard-to-count</u> (HTC) ***Hispanic-majority tracts*** in California was 17.5%.

- Despite California's GOTC efforts to promote survey response in hard-to-count tracts, disparities continue to be evident in marginalized neighborhoods and communities

- The variation in Census 2020 self-response between the hardest-to-count and easiest-to-count quintiles of tracts **<u>within</u> California** was 19.6%--comparable to the national level of **state-to-state <u>variation</u>** in self-response of 20.4% (Alaska to Minnesota).

- Fine-grained geographic resolution is crucial as a tool to assess and respond to inequities arising from varying level of self-response and overall efficacy of operations that affect final enumeration accuracy.

- Tabulations of state-level census response and estimated undercount obscure the real-world jagged landscape of varying response in diverse neighborhoods and local communities.

Despite California's "Get Out The Count" Campaign Local Response Level Continued To Mirror Societal Disadvantage

- The California hard-to-count (HTC) index relies on 15 ACS-derived factors of social disadvantage associated with difficulty of enumeration. It was used in targeting California's vigorous efforts to promote census participation to the most challenging neighborhoods.

- But, in 2020, planned door-to-door canvassing was constrained by COVID-19 and Internet connectivity limited the reach of social media. The outreach modestly improved overall response ts in Fresno County HTC tracts but longstanding patterns of low response persisted.

- This reminds us that respondent motivation is not the only factor impeding response.

- One factor associated with low census response that was mitigated (in 2020 as well as 2010) was the language barrier faced by limited-English Spanish-speaking respondents. But the in-language option was not available in tracts with <20% linguistically-isolated Spanish-speaking HHs.

- And serious language barriers remained for households of Hmong (3%), Punjabi Sikhs (2%), indigenous Mexican immigrants (10%), and other language minorities in Fresno County.

A Streamlined Regression Model Identifying Factors Affecting Local Level of Census 2020 Response in Fresno County

- Our streamlined regression model does well at predicting self-response, with an adjusted R-square=.713, p<.001 Key factors predicting Census 2020 self-response level are:

  - ➤ % below poverty (standardized B=-.293)
  - ➤ % of renter HH's (standardized B= -.388)
  - ➤ % of non-citizens in the tract (standardized B= -. 153)
  - ➤ % population in rural area (standardized B=-.413)
  - ➤ % population in urbanized area (standardized B=-.129)

- Race is correlated with Fresno County tract-level response but race/ethnic composition of a tract is less predictive than structural analysis in explaining self-response (R-square=.364. p<.001).

- If reliable tract-level data on Census 2020 housing units and vacancy rates become available, the association between structural variables and response from occupied housing units (the equivalent of mail return rates) may differ slightly from the current analysis.

- But questions remain about <u>exact</u> tract-level response and undercount due to uncertainties about quality of address listing, about response from complex HHs, vacancy/delete, and unduplication.

Modeling Tract-Level Self-Response Rate: Broader Implications

- <u>Systemic</u> factors related to mode of data collection (e.g. broadband connectivity in rural vs. urban and affluent vs. poor neighborhoods) are powerfully correlated with self-response rate.

- So are <u>Socioeconomic</u> factors (e.g. % of renters, % of HH's in poverty. % w/ severe rent burden)

- So are <u>Sociopolitical</u> factors (e.g. citizenship/legal status)

- Because multiple indicators of societal marginality are co-variant, alternative regression models relying on indicators such as % of HH's headed by a person without a high-school education, % of mobile homes also provide useful insights into the dynamics of census and ACS response.

- Based on our comparison of response patterns in Los Angeles and in Fresno counties it is likely that the optimal algorithm for predicting response level varies from area to area but that a core set of factors in the HTC index are always in play.

- A national-level algorithm may not be the best tool for planning to overcome low response. A "family" of HTC/LRS indices tailored to reflect distinctive factors affecting response in diverse local communities may be more useful.

ACS Response In Fresno County Is Lower
And Varies Even More Than Decennial Census Self-Response

- Initial design estimates of expected ACS response were probably too optimistic. Unit non-response is increasing and item non-response continues to be a problem.

- The average 2013-2017 level of ACS response in Fresno County was only 46.4%. It was slightly lower in the 2015-2019 ACS 46.0%

- More problematically, there is a differential of 34.2% in ACS response between the easiest-to-count quintile of tracts and hardest-to-count that is even greater than the variation of 19.4% in census self-response along the HTC continuum.

Fresno County Tracts Sorted on HTC Quintiles: ACS Response and Census 2020 Self-Response
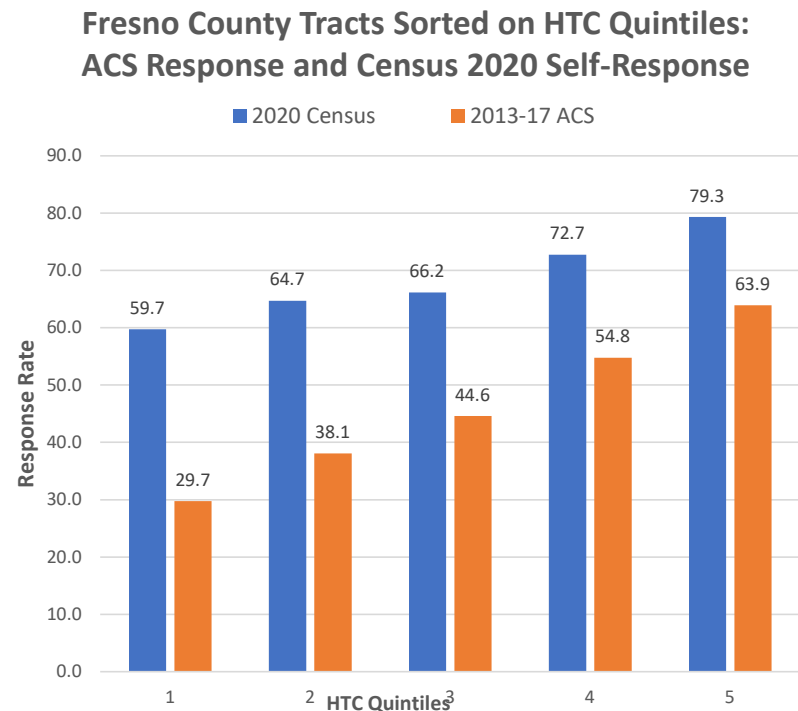
Dynamics of Varying Levels Of ACS Response: Factors Similar To Those In Census Self-Response

- ACS response patterns provide clues about potential ACS sample bias suggesting that weighting may not fully compensate in areas with concentrations of Mexican and Central American immigrants such as Fresno County.

- A regression model similar to the one we use to explain census self-response highlights key factors related to ACS response in Fresno County: Adjusted R square=.814, p<.001

- Key factors significantly correlated with ACS response level are (in descending order of importance):

  - ➤ % of HH's in poverty (standardized B= -.301),
  - ➤ % renter HH's (standardized B= -.195)
  - ➤ % adults 25+ in tract without HS education: (standardized B= -.436)
  - ➤ % limited-English Spanish-speaking HHs (standardized B= -.116)

- The 44-question ACS instrument is more burdensome than the 9-question census. About half of the Mexican immigrants in low-income neighborhoods of Fresno County have only an elementary education and are likely to have substantial difficulty responding to the ACS

Fresno County Rural Westside: Potential Impact of Census and ACS Response Gap: ESEA Title I, Part A Funding Allocation

- <u>Count</u> (Census) and <u>target population characteristics</u> (ACS) both drive federal and state funding allocation for key programs.

- Example: ESEA Title I, Part A-- based on # of children 5-17 in poverty and concentration of children in poverty. FY 21-22 funding: nationally $16.5 billion, $1.86 billion for California, $112 million for Fresno County, $7.6 million for the 11 school districts in the Westside area.

- Community characteristics linked to lower response in Fresno Westside sub-county area of rural communities with a population of about 53,000: 57% of HH's with income <150% of poverty, 56% with <High School education, 33% non-citizens.

- 40% lack broadband access. Low-income Latino households in the San Joaquin Valley about 37% have only mobile phone connectivity.

- Average Westside response rate: 54% vs. 67.9% Fresno County overall--a 13.9% gap.

Did NRFU "Cure" Low Census Response In The Westside?

- Probably not!

- 15.2% of the non-responding HH's in the Westside area were resolved via proxy interview. This is consistent with our San Joaquin Valley Census Research Project survey data where only 18% of low-income Latino respondents surveyed were willing to participate in a proxy interview

- A quarter of those willing to participate in a proxy interview said they didn't know enough about neighboring HHs to estimate HH size.

- MAF omissions are also likely to be a major factor in undercounting, especially in areas with "irregular" housing: "back houses", backyard trailers, converted sheds and garages

- MAF omissions can be but are not often recorded in NRFU. There were likely to have been few in-field MAF "adds" from enumerators (since self-response was low and workload high).

- It is also unlikely that HH interviews in NRFU successfully elicited information on "extra people" (secondary families or solo migrant workers) living in doubled-up/complex HHs.

Breaking the Vicious Circle:
Undercount→Educational Disadvantage →Undercount

- ***Was uneven response in Census 2020 an anomaly?--in some respects it was not.***

- The demographic and socioeconomic factors that contributed to low self-response in 2020 have not changed much since 2010. Census 2020 self-response in HTC tracts was lower than in 2010 the past and is correlated with 2010 mail return rate (Pearson correlation= +.710, p<.01)

- Lower educational attainment-- indicated by % of adults 25+ without a high school education-- is correlated with tract-level Census 2020 response and with ACS response. We estimate that about half of low-income Mexican and Central American immigrants have only an elementary school education (NAWS data on California farmworkers, SJVCRP Fresno Co. survey).

- Internet connectivity is also correlated with response (Pearson correlation for % HHs in a tract with broadband access and ACS response= .733 and for Census response= .657)

- Patterns of 2020 Census and ACS response highlight the need for community-wide collaboration in initiatives to increase digital literacy linked to current investments in improving broadband connectivity in low-income, less-educated immigrant HH's, especially in rural areas.

Summary Conclusions: Implications for Equitable Allocation of Funding Driven by Decennial Census and ACS Data Tabulations

- Andrew Reamer has provided a thorough analyses of the complexities about how decennial census and ACS data drive funding allocation. Anomalies persist for at least a decade.

- If ESEA Title IA funding were adjusted based on census undercount and sample bias stemming from low ACS response in disadvantaged areas, there would be additional funding for local schools in the Westside area and a fairer share of funding in similar communities across the U.S.

- Other less direct use-cases need to be considered too!

- For example, several indices of community well-being used extensively in public health (most notably the CDC's community-level Social Vulnerability Index (SVI) and the Public Health Alliance of Southern California's Health Places Index (HPI) rely heavily on ACS data and were widely used to allocate resources in the COVID-19 pandemic where high precision was required.

- By focusing on specific use case for census-driven data, and local context, the "curated data enterprise proposed by the experts at the UVA Biocomplexity Institute", has great promise to generate more reliable information for program planning and funding allocation.

Implications for Improved Census Bureau Data Collection, Analysis, and Action

- Assessing decennial census data quality requires more fine-grained analysis than is provided by currently-available national-level PES-based analyses. Further analysis of the relationship between local community characteristics affecting response and undercount should be a priority.

- Correlation between level of both census and ACS response in small areas <u>within</u> counties deserves much more attention in order to enhance data quality and eventual equity. Better harmonization of ACS and decennial census planning and procedures may enhance data quality of both.

- Previous Census Bureau ethnographic research has provided key insights about response dynamics. But communities continue to change. In-field research is affordable, yields actionable insights for operational improvements. More is needed-even though budget limitations are ever-present

- Our analysis of "structural" community-level factors affecting census response shows that non-response cannot be remedied by focusing primarily on respondent motivation. Census Bureau operational procedures and instrument design play just as important a role.

- Census Bureau collaboration in broad community alliances to build digital literacy throughout the decade will almost certainly pay off by by smoothing out variations in online response in 2030.

Questions, Comments, More Information....

Copies of the full paper summarized in this presentation are available on request from Ed Kissam edkissam@me.com