UNITED STATES DISTRICT COURT
DISTRICT OF COLUMBIA

COMMON CAUSE, et al. Plaintiffs, v. DONALD J. TRUMP, et al. Defendants.	No. 1:20-cv-02023-CRC

EXPERT DECLARATION OF DR. D. SUNSHINE HILLYGUS

I. QUALIFICATIONS

1. I am a Professor of Political Science and Public Policy at Duke University. I earned a Ph.D. in political science from Stanford University in 2003. From 2003-2009, I was a faculty member at Harvard University in the Department of Government. In 2009, I joined the faculty at Duke University as an associate professor and was promoted to full professor in 2015.

2. I have more than 20 years of experience in survey design, implementation, and analysis. Of relevance to this report, I have published research on the topics of census participation, survey methodology, survey non-response, and data quality. This work has been funded by the National Science Foundation and published in respected academic journals including *Public Opinion Quarterly*, *Journal of Survey Statistics and Methodology*, *Statistical Science*, *Political Analysis*, and *Annals of Applied Statistics*. I am co-author of *The Hard Count: The Political and Social Challenges of Census Mobilization*.[1]

3. My other experience of relevance includes serving as associate principal investigator of the American National Election Study, on the editorial boards of several academic journals, and as director of the Initiative on Survey Methodology at Duke University. I was also founding director of the Program on Survey Research at Harvard University. From 2012-2018, I served as a member of the Census Scientific Advisory Committee (CSAC), a committee that advises the director of the U.S. Census Bureau (Census Bureau) on the uses of scientific developments in statistical data collection, survey methodology, geospatial and statistical analysis, econometrics, cognitive psychology, business operations, and computer science as they pertain to the full range of Census Bureau programs and activities, including census tests, policies, and operations.

[1] Hillygus, D.S., Nie, N.H., Prewitt, K. & Pals, H. (2006). *The hard count: The political and social challenges of census mobilization*, Russell Sage Foundation, New York.

4. I have previously served as an expert witness in *League of Women Voters of North Carolina, et al. v. North Carolina, et al*., No. 1:13-CV-00660-TDS-JEP (M.D.N.C.); *State of New York, et al., v. United States Department of Commerce, et al*., No. 18-CV-2921-JMF (S.D.N.Y.); *NAACP, et al. v. Bureau of the Census*, No. 18-CV-891-PWG (D. Md.); and *State of Alabama, et al., v. United States Department of Commerce, et al*., No. 2:18-cv-00772-RDP (N.D. Ala.). A copy of my curriculum vitae is attached.

II. RETAINER INFORMATION AND SUMMARY OF OPINIONS

5. I have been retained to evaluate the feasibility of excluding from the 2020 apportionment count residents who are "not in a lawful immigration status under the Immigration and Nationality Act."[2] My compensation in this case is $350 per hour. My compensation is not contingent upon my findings or on the result of this proceeding. My work in this matter is ongoing, and I reserve the right to revise or augment the opinions set forth in this declaration should additional relevant information become available to me, or as I perform further analysis.

6. To formulate an expert opinion in this case, I reviewed a variety of materials from academic, governmental, legal, and media sources. *See* References.[3] I have also relied on my own experiences and familiarity with survey practices and standards and Census Bureau programs and activities. Based on the knowledge I have amassed over my education, training, and experience, as well as a detailed review of government and academic research, data, and reports, I have reached the opinion that there is no feasible way to produce an accurate and

[2] Presidential Memorandum on Excluding Illegal Aliens From the Apportionment Base Following the 2020 Census, July 21, 2020 (the "Memorandum").

[3] Among the documents I have reviewed is the expert declaration of Dr. Chris Warshaw. I find his analysis to be a compelling prediction of the likely impact of the excluding undocumented immigrants from apportionment counts. *See infra*.

reliable 2020 apportionment count that excludes undocumented immigrants by the apportionment deadline.[4] More specifically, it is my opinion that:

1) The 2020 Census will not provide an actual enumeration of undocumented immigrants that can be excluded from the apportionment count.

2) Existing estimates of undocumented immigrants are inadequate for use in adjusting the apportionment count because they are not actual enumerations, they rely on sampling, and they are inaccurate.

3) Without an actual enumeration, there is no known method of excluding undocumented immigrants from the 2020 census count for purposes of apportionment, including the use of administrative records, that does not rely on statistical sampling.

4) The use of administrative records to estimate numbers of undocumented immigrants would differ in kind and degree from count imputation methods or the current use of administrative records in household enumeration.

5) The use of administrative records to exclude undocumented immigrants from the 2020 apportionment count would result in a less accurate and more biased decennial census count and apportionment.

III. RELEVANT BACKGROUND

A. The Census Bureau Production of Decennial Apportionment Numbers

7. The Constitutional basis for conducting the decennial census is to reapportion the U.S. House of Representatives. Article 1, Section 2 of the U.S. Constitution requires that an "actual enumeration" of the population be taken every 10 years for the purpose of apportioning seats in the House among the states, with the provision that each state must have at least one Representative. The 14th Amendment states that "Representatives shall be apportioned among the several States according to their respective numbers, counting the whole number of persons in each State."

[4] For the purposes of this report, I use the term "undocumented immigrant" to include foreign-born non-citizens that reside in the U.S., but do not have formal legal status. The Memorandum refers to this group as "illegal aliens," while others use the term "unauthorized immigrants." I use the term "legal status" to encompass determinations of whether individuals are immigrants with formal legal status, or immigrants without formal legal status.

8. The U.S. Census Bureau counts all people (citizens and foreign-born immigrants) who are living in the state at the time of the decennial census.[5] This total resident population, along with the overseas federal employees and their dependents, makes up the apportionment population count for each state. The apportionment population is used to allocate the number of Representatives among the states using the Equal Proportions Method—after each state is assigned the one seat it is entitled to receive, the remaining 385 seats are assigned sequentially, on the basis of a list of descending "priority values" that are calculated based on each state's share of the total U.S. population.[6] The Census Bureau must submit the apportionment count to the President within nine months of the census date (April 1)—December 31, 2020 for the current count. Given delays in census operations related to the COVID-19 pandemic, the Census Bureau requested that Congress extend the deadline for turning in apportionment numbers until April 30, 2021; as of this writing, however, Congress has not granted the requested extension and the Census Bureau now plans to reduce planned time on census operations and data processing to meet the statutory deadline of December 31, 2020.

9. The decennial count is a massive and complex undertaking—the largest peacetime mobilization in the country—and it requires years of preparation, research, and testing. Planning for the next census starts well before the last count even gets underway. The enumeration process itself proceeds with the following general steps:

1) Creation of the Master Address File (MAF)—a database containing every known housing unit in the country.

2) A request to every household in the MAF to self-respond with information about their household.

---

[5] Immigrants, called "foreign-born" by the Census Bureau, include naturalized U.S. citizens, lawful permanent residents, temporary migrants (such as foreign students), refugees and asylees, and undocumented immigrants.

[6] This method ensures that no additional transfer of a seat (from one state to another) will reduce the ratio between the numbers of persons per representative in any two states. *See* https://www.census.gov/population/apportionment/about/faq.html.

3) Non-Response Follow-Up (NRFU) operation, which attempts to enumerate all non-responding households with an in-person visit.[7]

4) Production of the Census Unedited File (CUF), which uses count imputation of any remaining uncounted households to estimate the number of household members using information from neighboring households that responded. The CUF is the basis for apportionment numbers due to the president by the end of the year.

5) Production of the Census Edited File (CEF), which applies characteristic imputation—statistically imputing missing or conflicting information about the people in the household (i.e., race, ethnicity, age, date of birth, sex, tenure, and relationship).[8] The microdata are further altered to meet the confidentiality requirements of Title 13 of the United States Code.[9] The CEF is the basis for the redistricting data files due to States within one year of the census date. Importantly, this information is not used in the process of apportioning representatives among states.

6) An independent coverage assessment to evaluate the accuracy of the census count, including estimates of the differential undercount of subgroups of the population.[10]

B. The Census Bureau's Quality Standards

10. The Census Bureau's Statistical Quality Standards govern all census products and processes—including planning and design, implementation, data processing and dissemination.[11]

---

[7] If a household is not enumerated after one visit, administrative records will be used to directly enumerate the household in those cases in which multiple, high-quality records are available. If administrative records cannot be used, at least two more in-person visits are attempted before the household becomes eligible to be directly enumerated through a proxy, such as a neighbor, landlord, or postal worker.

[8] The total resident population count in the CUF and CEF has applied count imputation—an estimate of the number of household members—for the limited number of households not enumerated in the decennial count. In 2010, count imputation accounted for only 0.39% of the total population. 2020 Census Operational Plan: A New Design for the 21st Census, v. 4. (December 2018), available at https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/2020-oper-plan4.pdf.

[9] The data are processed through the disclosure avoidance system that injects noise into the estimates, creating uncertainty in the numbers to protect confidentiality. *See* https://www.census.gov/newsroom/blogs/research-matters/2018/08/protecting_the_confi0.html.

[10] The coverage assessment relies on two different approaches to determine omissions (i.e., people who should have been counted, but were not) and erroneous enumerations (people who should not have been counted, but were, including duplications): (1) an independent Post-Enumeration Survey (PES) of a sample of census blocks; and (2) a Demographic Analysis (DA) that compares census results to independent estimates of the population using administrative records, including birth, death, and immigration records, estimates of undocumented immigration, and Medicare data.

[11] *See* U.S. Census Bureau Statistical Quality Standards (July 2013), https://www.census.gov/content/dam/Census/about/about-the-bureau/policies_and_notices/quality/statistical-quality-standards/Quality_Standards.pdf.

These guidelines require that all information collected and disseminated by the Census Bureau be designed to ensure and maximize the utility, objectivity, and integrity of the information. *Utility* or "fitness of use" refers to the "usefulness of the information for its intended users"; *objectivity* means the information is "accurate, reliable, and unbiased, and is presented in an accurate, clear, complete, and unbiased manner"; and *integrity* refers to the security of the information, including protection of such information from unauthorized access or revision.[12] The Standards further require that any information products released "must comply with the Census Bureau's statistical quality standards and must be free of serious data quality issues in order to be released outside the Census Bureau without restrictions."[13]

11. The Census Bureau is also subject to the Office of Management and Budget (OMB) policies and procedures. Under the OMB's Policy Directive No. 1, federal statistical agencies must "apply sound statistical methods to ensure statistical products are accurate" and "provide objective, accurate, and timely information."[14] Furthermore, federal statistical agencies "must seek input regularly from the broadest range of private- and public-sector data users" and they must "be independent from political and other undue external influence in developing, producing, and disseminating statistics."[15]

12. In the remainder of this declaration, I explain how the exclusion of undocumented immigrants would violate these statistical standards and result in a lower quality census count.

---

[12] U.S. Census Bureau Statistical Quality Standards (July 2013), i-ii. As discussed later, these standards include specific requirements for planning, testing, and reporting that have not been met. *See* Statistical Quality Standard B-2.

[13] U.S. Census Bureau Statistical Quality Standards (July 2013), Requirement F1-6.

[14] Office of Management and Budget (OMB), Policy Directive No. 1. https://www.govinfo.gov/content/pkg/FR-2014-12-02/pdf/2014-28326.pdf.

[15] Office of Management and Budget (OMB), Policy Directive No. 1. https://www.govinfo.gov/content/pkg/FR-2014-12-02/pdf/2014-28326.pdf.

IV. OPTIONS FOR OBTAINING POPULATION COUNTS OF UNDOCUMENTED IMMIGRANTS

13. In an attempt to count undocumented immigrants for producing an apportionment count, the Census Bureau would be left with only a few options: (a) using the 2020 Census, (b) using existing estimates outside the Census Bureau, and (c) using administrative records. As I will discuss in more detail, each of these options would fail to result in an actual enumeration as required by the Constitution. Moreover, using existing estimates outside the Census Bureau or administrative records would each depend on statistical sampling which is prohibited by statute. In my opinion, there is no feasible way to produce an accurate and reliable 2020 apportionment count that excludes undocumented immigrants that does not violate the mandates of the Constitution and the governing statutory framework.

A. The Decennial Census Does Not Ask About Citizenship Status and Legal Status

14. I start by noting the obvious difficulty in producing an apportionment count that excludes undocumented immigrants because the decennial census questionnaire does not ask, nor has it ever asked, about the legal status of foreign-born residents. It is simply too late to ask such a question on the 2020 questionnaire, so producing an apportionment count that excludes undocumented immigrants will necessarily require a methodology that departs from the 2020 Operational Plan.

15. The Trump administration attempted a late addition of a citizenship question to the decennial questionnaire.[16] In March 2018, against the recommendation of Census Bureau professional staff, Commerce Secretary Wilbur Ross approved a late request from the Department of Justice (DOJ) for a citizenship question to be added to the 2020 Census. In June

[16] Citizenship was not included among those Census questionnaire topics included in the required reporting to Congress in March 2017.

2019, the U.S. Supreme Court blocked the citizenship question from being added to the 2020 Census, citing the "contrived" justification for doing so.[17] Nonetheless, the proposed citizenship question would not have enabled the production of apportionment numbers excluding undocumented residents because it did not distinguish foreign-born residents with formal legal status from those without formal legal status (i.e., undocumented immigrants).

B. Existing Estimates of Undocumented Persons from Other Sources are Inadequate

16. Although the Census Bureau does not currently have a data product that would allow for the exclusion of undocumented persons from the apportionment count, estimates of the undocumented population have been produced outside the Census Bureau. Indeed, the Memorandum references one such estimate: "Current estimates suggest that one State is home to more than 2.2 million illegal aliens, constituting more than 6 percent of the State's entire population."[18] However, while these estimates may be useful for research and analysis, they are not adequate or permissible for use in apportionment.

17. First, although several organizations have produced estimates of the undocumented population, including Pew Research Center, The Center for Migration Studies (CMS), The Migration Policy Institution (MPI), and The Office of Immigration Statistics (OIS), these estimates were not produced to estimate the undocumented population *as of Census Day* (April 1, 2020), as the law requires.[19] For example, the most recent estimate from OIS was

---

[17] The Commerce Department had claimed that the DOJ requested the citizenship question be added to the 2020 Census to better enforce Voting Rights Act protections concerning discrimination against racial and language minorities, but it was revealed that the question was actually added to create policies "advantageous to Republicans and non-Hispanic Whites." https://www.nytimes.com/2019/05/30/us/census-citizenship-question-hofeller.html?action=click&module=Top%20Stories&pgtype=Homepage.

[18] *See* Memorandum, sec. 2.

[19] *See* 13 U.S.C. § 131(a) ("The Secretary shall . . . take a decennial census of population as of the first day of April of [each census] year").

released in December 2018 and reports estimates of the undocumented population from 2015. The other sources all similarly rely on data that are not current. Accordingly, these estimates are not timely enough to be lawfully used for purposes of apportionment.[20]

18. Second, these estimates are not reliable enough to be used for purposes of apportionment. Broadly, the available estimates rely on a methodology called the "residual technique," which estimates the number of undocumented immigrants by subtracting the number of lawful immigrants (typically estimated from government records) from the total number of immigrants in the country, as estimated from self-report responses to sample surveys (most often, the Census Bureau's American Community Survey (ACS)).[21] The accuracy and reliability of the residual technique estimates critically depend on individual data inputs and the assumptions underlying those inputs given the considerable uncertainty in the individual data components. As a result, each of these organizations produces different population counts.[22]

19. The residual method involves subtracting the number of immigrants with formal legal status from the total number of immigrants in the country, as estimated from self-report responses to the ACS.[23] The ACS is a survey designed and conducted by the Census Bureau that collects social, economic, housing, and demographic characteristics from a sample of approximately 1.6% of households annually.[24] That is, the ACS data product is a result of

---

[20] There is evidence, for instance, that immigration numbers have declined since 2015. For example, Pew estimates that the total undocumented immigrant population declined from 11,200,000 in 2013 to 10,500,000 in 2017.

[21] *E.g.*, Baker, B. (2018). Population Estimates: Illegal Alien Population Residing in the United States: January 2015. Washington, DC: Department of Homeland Security. https://www.dhs.gov/sites/default/files/publications/18_1214_PLCY_pops-est-report.pdf.

[22] For example, estimates for Pew, OIS, and CMS range from 10.7 to 11.0 million to 11.97 million in 2016. Variation is even more pronounced at the state level, although OIS publishes specific estimates only for the largest ten states.

[23] Passel et al. (2018), 37.

[24] The ACS replaced the Census long form after 2000. The ACS is implemented as a continuous sample survey, with about 3.5 million household addresses contacted each year. The Census Bureau releases yearly estimates that

sampling. As such, existing estimates of undocumented populations that rely on the ACS would necessarily use sampling, are subject to significant uncertainty from sampling error and are prohibited from use for purposes of apportionment.

20. It is well-recognized that these estimates are not precise enumerations. For example, when the Census Bureau released 2001 residual estimates of the undocumented population, it provided the following disclaimer:

> Although the residual technique . . . is based on the simple idea of subtracting the expected legal population from the counted foreign-born population at the census date, *the approach suffers from a number of limitations.* These limitations stem from anomalies and shortcomings in the data sets used, assumptions made to correct for data deficiencies or to derive intermediate estimates, and the exclusion of components that may prove to be relevant in the changing migration environment.[25]

Similarly, a March 2019 Department of Homeland Security (DHS) report explains: "DHS's ability to describe the illegal alien population depends on its ability to describe the different population groups included in the residual methodology: the total foreign-born population and the subgroups that comprise the legally resident foreign-born population. *Data limitations mean that neither of these populations can be described with precision*."[26] The OIS likewise provides a disclaimer with their estimate, acknowledging their estimates are "subject to sampling error in the ACS and considerable non-sampling error because of uncertainty in some of the assumptions

---

allow for characteristic estimates for populations of 65,000 or more. The ACS accumulates sample into 5-year estimates for smaller geographic areas, including census tracts and block groups.

[25] Costanzo et al. Evaluating Components of International Migration: The Residual Foreign Born. June 2002, page 20. https://www.census.gov/content/dam/Census/library/working-papers/2001/demo/POP-twps0061.pdf (emphasis added).

[26] Department of Homeland Security, "Potential Improvements to DHS Illegal Alien Population Estimates: Collection and Use of Data," Fiscal Year 2018 Report to Congress, March 5, 2019, page 1.

required for estimation . . . . Caution is recommended."[27] Population counts that warrant a warning label clearly lack the "fitness of use" required for the critical process of apportionment.

21. One source of variation across the estimates is the way the organizations statistically adjust estimates of the total foreign-born population to account for undercounting in the ACS. Because it is known that immigrants (especially undocumented immigrants) are harder to locate, harder to contact, harder to persuade, and harder to interview,[28] these organizations "augment and adjust" their estimates in an attempt to correct for missed immigrants.[29] Unfortunately, "the exact degree of the undercount is unknown,"[30] so organizations have to make a guess as to how, and how much, to adjust their statistical estimates. For example, the OIS estimates assume that the undercount of undocumented immigrants is 10%—an assumption based on a study about Los Angeles County in California in the 2000 decennial census. It is problematic for purposes of apportionment to rely on statistical adjustments based on 20-year old data on a narrow geographic area that could differ substantially from the rest of the country.[31]

22. These estimates are useful for making predictions about what a census might find and for research and analysis, but they are no substitute for a census. For example, I have reviewed the expert declaration of Dr. Chris Warshaw, who relies in part on the Pew estimates and other data to support his conclusions about the likely impact of excluding undocumented

---

[27] Office of Immigration Statistics, Homeland Security. (December 2018). Population Estimates: Illegal Aliens Population Residing in the United States: January 2015, 11.

[28] Tourangeau, R., Edwards, B., Johnson, T. P., Wolter, K. M., & Bates, N. (Eds.). (2014). Hard-to-survey populations. Cambridge University Press.

[29] *See* https://www.pewresearch.org/hispanic/2018/11/27/u-s-unauthorized-immigrant-total-dips-to-lowest-level-in-a-decade/.

[30] Department of Homeland Security, "Potential Improvements to DHS Illegal Alien Population Estimates: Collection and Use of Data," Fiscal Year 2018 Report to Congress, March 5, 2019, 3.

[31] Marcelli, E. "2000 Census Coverage of Foreign-born Mexicans in Los Angeles County: Implications for Demographic Analysis," presented at 2000 Annual Meeting of the Population Association of American, Atlanta GA. As just one example of the flawed nature of the assumption, the estimated share of undocumented immigrants from Mexico in 2014 was 5% nationwide, but 70% in California.

immigrants from apportionment counts. Dr. Warshaw's analysis is carefully done, and I agree with his conclusions. While there is always uncertainty in making projections about population numbers, Dr. Warshaw's analysis incorporates possible uncertainty and imprecision in reasonable ways. Across a range of plausible assumptions and modeling decisions, his analysis consistently finds that at least one state (Texas), and more likely multiple states, stand to lose seats in Congress as a result. I am aware of no better way to determine the likely effects of the Memorandum on apportionment. But as the uncertainty estimates, confidence intervals, and robustness checks in Dr. Warshaw's analysis make clear, this is simply no substitute for the actual census that the Constitution requires.

23. In contrast to the estimates from these organizations, the Census Bureau does not statistically adjust population numbers for purposes of apportionment. Statistical adjustment requires technical decisions that can have large consequences on the resulting estimates, as the example above illustrates. As some statisticians have concluded: "statistical adjustment is unlikely to improve on the census because adjustment can easily put in more error than it takes out."[32] Following the 2000 Census, for example, the Census Bureau spent enormous resources to research whether statistical methods could be used to adjust for the undercount for use in redistricting and other purposes not related to reapportionment (given the statutory prohibition of the use of statistical methods in reapportionment, found at 13 U.S.C. § 195).[33] In the end, the Census Bureau determined that the research could not support the conclusion, with a high level

[32] Freedman, D., & Wachter, K. (2003). On the Likelihood of Improving the Accuracy of the Census through Statistical Adjustment. Lecture Notes-Monograph Series, 40, 197-230.

[33] Whitford, D. C. (2002) Chronologic Overview of the Census 2000 Adjustment Decision. Joint Statistical Meetings - Section on Survey Research. Methods. New York City.

of certainty, that the adjusted census results would be more accurate than the unadjusted results.[34] Any requests for the already-produced adjusted data acknowledged:

> [T]he adjusted estimates were determined to be so severely flawed that all potential uses of these data would be inappropriate. Accordingly, the Department of Commerce deems that these estimates should not be used for any purpose that legally require use of data from the decennial census and assumes no responsibility for the accuracy of the data for any purpose whatsoever.[35]

24. Ultimately, then, these estimates cannot be used for purposes of apportionment because they rely on statistical sampling and adjustment.[36] As a legal matter, any method that relies on statistical sampling and/or adjustment is not an actual enumeration, as the Constitution requires. Moreover, in *Department of Commerce v. U.S. House of Representatives* (1999), the Supreme Court ruled that the Census Act precluded the use of sampling to produce the apportionment count "[w]hether used as a 'supplement' or as a 'substitute.'"[37] And as a matter of accuracy, a sample of the population, in contrast to a census, is subject to uncertainty from random sampling error. That sampling error is often reported as a margin-of-error with survey statistics. The greater the margin of error, the less confidence one should have in the resulting statistical estimate.[38]

---

[34] *See* U.S. Bureau of the Census (2001) Report: Recommendation Concerning the Methodology to be Used in Producing Tabulations of Population Reported to States and Localities Pursuant to 13 U.S.C. 141(c) (March 1) Washington, DC Department of Commerce, https://www.census.gov/dmd/www/pdf/Escap2.pdf.

[35] *See* https://www.icpsr.umich.edu/icpsrweb/ICPSR/themes/census2000/disclaimer.jsp.

[36] *Department of Commerce v. U.S. House of Representatives* (1999).

[37] *Department of Commerce v. U.S. House of Representatives* (1999), 24.

[38] Groves, R. M., Fowler Jr, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2011). Survey methodology (Vol. 561). John Wiley & Sons.

C. Using Administrative Records to Produce Counts of Undocumented Immigrants

25. Following the Supreme Court's ruling that the Trump administration could not add a citizenship question to the 2020 Census, President Trump issued Executive Order 13880 on July 11, 2019 directing the Census Bureau to use administrative records to produce block-level Citizen Voting-Age Population (CVAP) data by race and ethnicity for states to use "for districting purposes."[39] Administrative records refer to data held by agencies and offices of the government collected for other than statistical purposes to carry out basic administration of a program (U.S. Office of Management and Budget 2014), although it can also include data sources from states or commercial entities.

26. The Memorandum references the following guidance regarding the estimation of undocumented immigrant population numbers: "In Executive Order 13880 of July 11, 2019 (*Collecting Information About Citizenship Status in Connection With the Decennial Census*), I instructed executive departments and agencies to share information with the Department of Commerce, to the extent permissible and consistent with law, to allow the Secretary to obtain accurate data on the number of citizens, non-citizens, and illegal aliens in the country."

27. It thus appears that President Trump wants the Census Bureau to produce state-by-state population estimates of undocumented immigrants from the same administrative records used to construct CVAP. To be clear, the planned CVAP datafile itself would not allow for the exclusion of undocumented immigrants from the apportionment count because it identifies only

[39] *See* https://www2.census.gov/programs-surveys/decennial/rdo/technical-documentation/special-tabulation/CVAP_Post2020_Census_documentation_v5.pdf?. The Census Bureau previously provided CVAP tables annually from each year's most recent 5-year American Community Survey (ACS) data. The Post-2020 Census CVAP Special Tabulation will replace CVAP tables based on the ACS that would have been released in February 2021. A census block is the smallest geographic unit used by the Census Bureau. Census blocks are defined by geographic features, such as roads, so they vary in the exact number of households they contain—many contain no population. More than 11 million census blocks were enumerated in 2010. *See* https://transition.fcc.gov/form477/Geo/more_about_census_blocks.pdf.

the total population of *citizens of voting age*, not the number of undocumented immigrants. Subtracting the CVAP numbers from the total population numbers generated by the census count does not provide the numbers necessary to apportion excluding undocumented immigrants because CVAP does not distinguish undocumented immigrants from legal non-citizen residents, and it does not provide the citizenship or legal status of those younger than 18 years of age.

28. In the next section, I explain why these administrative records are not "fit for use" to exclude undocumented immigrants from apportionment counts.

V. ADMINISTRATIVE RECORDS SHARED UNDER EXECUTIVE ORDER 13880 ARE NOT "FIT FOR USE" FOR PRODUCING APPORTIONMENT COUNTS

29. Without an actual enumeration, there is no known method of excluding undocumented immigrants from the 2020 census count for purposes of apportionment, including the use of administrative records, that does not rely on statistical sampling. Administrative records concerning citizenship and immigration status are often incomplete, outdated, and inaccurate—they are a flawed and biased sample from which to attempt extrapolation. Specifically, very few administrative records directly identify those individuals with undocumented status, and the few that do so are fundamentally flawed, so it would not be possible to perform a direct enumeration of the number of undocumented immigrants from the available administrative records. The administrative records identifying citizens and legal non-citizens are also a nonrandom sample with known inaccuracies, and includes data sources that explicitly rely on statistical sampling. Any method to extrapolate from this sample to the population necessarily requires extensive statistical modeling in ways that are fundamentally different than the kind of imputation that the Supreme Court has permitted for apportionment purposes. Among other reasons, the scale of the population that would be enumerated using statistical modeling is orders of magnitude larger than what has been permitted by the Supreme

Court and cannot be considered a "sparing" use. Finally, the census deadlines do not leave sufficient time to follow requirements for testing and stakeholder engagement before apportionment numbers are due to the President by the end of the year. It is thus my opinion that it is not currently feasible for the Census Bureau to produce estimates of undocumented immigrants from administrative records that would be lawful or of sufficient quality to use for the 2020 apportionment count.

A. Direct Enumeration of Undocumented Immigrants from Administrative Records is Impossible

30. I first note that the Census Bureau is not able to conduct an actual enumeration of undocumented immigrants based on administrative records. That is not surprising, as there are very few administrative records that directly document those with *undocumented* status. Among the limited sources available are administrative records of individuals who entered the country undetected but were subsequently apprehended.[40] The Census Bureau has received such administrative data from the Department of Justice, Department of Prisons, and the Bureau of Justice Statistics National Corrections Reporting Program (NCRP).[41] However, apprehended undocumented immigrants represent a tiny fraction of those in the country without formal legal immigration status.

31. Scrutiny of these records also highlights that—even for those in federal custody—the administrative records do not provide accurate, reliable, and timely information. The most recently available *Alien Incarceration Report* (April 16, 2019) identified only 43,519 "known or

[40] Some research has attempted to roughly estimate this number by using annual number of apprehensions and estimating the probability that an undocumented migrant is apprehended along the U.S. Mexico border to produce an estimate of the number undocumented migrants from Mexico (e.g., Massey and Singer 1995). These estimates, however, only speak to migration across the Mexico border, and they fundamentally rely on statistical sampling.

[41] Karen D. Deaver, Decennial Census Programs Directorate. Intended Administrative Data Use in the 2020 Census, May 1, 2020. https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/administrative-data-use-2020-census.pdf.

suspected aliens" in federal custody.[42] Strikingly, the report notes that 16,426 were still under investigation by Immigration and Customs Enforcement to determine alienage, and many others are difficult to classify: 1,281 were legally present and undergoing removal proceedings, 1,100 were granted relief or protection from removal, and 4,903 were deemed undocumented but under adjudication.[43] If determination of undocumented status is this difficult for Immigration and Customs Enforcement, the Census Bureau cannot be expected to make such determinations with incomplete and deficient administrative records.

32. This example also highlights the staleness in administrative records: there is a time lag of about a year from the date of the incarceration data to the report's release. The lag in reporting—plus the large number of unresolved statuses—demonstrates the impossibility of the Census Bureau using these records to produce apportionment numbers, accurate as of the Census Date (April 1, 2020), that exclude undocumented immigrants by the end of the year.

33. Another source of administrative records that directly document individuals without "lawful immigration status under the Immigration and Nationality Act," are the records of those with Deferred Action for Childhood Arrivals (DACA) status.[44] DACA recipients do not have formal legal status, but they are currently protected from deportation, and retain lawful presence in the country. Administrative records similarly exist for undocumented immigrants with pending asylum cases. It does not appear, however, that DACA records or pending asylum cases are among the administrative records that have been acquired by the Census Bureau.[45]

---

[42] Alien Incarceration Report, Fiscal Year 2018 Q2 (April 16, 2019). https://www.justice.gov/opa/page/file/1154711/download.

[43] Alien Incarceration Report, 2.

[44] To be eligible, individuals needed to have arrived in the U.S. before turning 16 and must meet education and other related requirements.

[45] Karen D. Deaver, Decennial Census Programs Directorate. Intended Administrative Data Use in the 2020 Census, May 1, 2020. https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/administrative-data-use-2020-census.pdf.

Regardless, these quasi-legal groups of undocumented immigrants represent only a tiny portion of the undocumented population, again highlighting the impossibility of directly enumerating undocumented immigrants using administrative records.

34. Given the grossly incomplete coverage of administrative records identifying undocumented immigrants, any attempt to produce a count of the undocumented population for purposes of exclusion from the 2020 apportionment count would require extensive statistical modeling. In the next section, I explain what such methods might look like and how such modeling would differ in fundamental ways from the current use of administrative records in enumerating households and the type of statistical modeling required. I then explain how such sampling would result in a less accurate and less reliable enumeration and would violate the prohibition on statistical sampling and adjustment in the context of apportionment.

B. Statistical Modeling of Undocumented Immigrants

35. Before turning to the problems associated with statistical modeling of population counts of undocumented immigrants from available administrative records, I start by first outlining what we know about the Census Bureau's plans to estimate citizenship and legal status from administrative records, based on documentation related to their planning to comply with EO 13880.

1. Likely Method for Using Administrative Records

36. According to the Census Bureau neither the CUF nor CEF will contain information on citizenship status or legal status.[46] Rather, for compliance with EO 13880, the Census Bureau plans to create a separate citizenship micro-data file, which I will call CMDF,

[46] https://www2.census.gov/cac/sac/meetings/2019-09/update-disclosure-avoidance-administrative-data.pdf?#.

that will include "citizenship and immigration status probabilities" for each person in the census based on statistical modeling of administrative records and responding census households.[47]

37. As described in the Privacy Impact Assessment For The Department of Homeland Security Immigration-Related Information Sharing With U.S. Census Bureau (Dec 20, 2019, updated June 2020):

> The Census Bureau plans to use several administrative data sources of citizenship and immigration status in a statistical model that will produce a probability of being a U.S. citizen, a lawfully present non-citizen, or an unauthorized immigrant on April 1, 2020, for each person in the 2020 Census. The citizenship and immigration status probabilities will be used together with age, race, ethnicity, and location information from the 2020 Census to produce CVAP statistics. The objective of the project as described in the E.O. is to determine the number of citizens, lawfully present non-citizens, and unauthorized immigrants in the country.[48]

In other words, statistical modeling will be used to produce a *predicted probability* of citizenship and documented/undocumented status on April 1, 2020, for each person in the 2020 Census—which will require linking administrative records with 2020 Census responses. As explained, "A model will be estimated for each person…using the most current citizenship status from each available citizenship source for the person, as well as the person's other demographic, household, and location information as explanatory variables. The model will produce a citizenship and immigration status probabilities for each person."[49]

38. To be clear, the planned methodology is not included in the 2020 Operational Plans and, as of the date of this report, the exact methodology for responding to EO 13880 has

[47] Department of Homeland Security. (Dec. 20, 2019). Privacy Impact Assessment for the Department of Homeland Security Immigration-Related Information Sharing with the U.S. Census Bureau.

[48] Department of Homeland Security. (Dec. 20, 2019). Privacy Impact Assessment for the Department of Homeland Security Immigration-Related Information Sharing with the U.S. Census Bureau, 9.

[49] Department of Homeland Security. (Dec. 20, 2019). Privacy Impact Assessment for the Department of Homeland Security Immigration-Related Information Sharing with the U.S. Census Bureau, 9-10.

not yet been disclosed.[50] The methodology was initially set to be released by March 2020, but the Census Bureau now reports it will "publish a technical paper describing how the CVAP product will be produced, and the data sources for the product, prior to October 31, 2020."[51] Moreover, while the Memorandum references the administrative records used to comply with Executive Order 13880, there are different timelines and legal restrictions on methodology associated with apportionment numbers compared to production of the CMDF.[52] Most importantly, much of the data and many of the methodologies that might be allowable for the production of CMDF are not legally permissible for the production of apportionment counts.

2. Administrative Records Shared under Executive Order 13880 Rely on Statistical Sampling

39. While the Census Act allows the use of statistical sampling and adjustment methods for *non*-apportionment purposes (such as producing data for general research and informational use), it prohibits the use of statistical sampling and adjustment in connection with the preparation of the apportionment count. The Census Act states that "*except for the determination of the population for purposes of apportionment of Representatives in Congress among the several States*, the Secretary shall, if he considers it feasible, authorize the use of the statistical method known as 'sampling' in carrying out the provisions of this title."[53] In *Department of Commerce v. U.S. House of Representatives* (1999), the Supreme Court ruled that

---

[50] *See* https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap/Post-2020-CVAP.html. "The final specifications and analysis of CVAP data sources are still under development and will not be released March 31, 2020, as previously anticipated. We are still receiving and analyzing data from external sources, including federal and state administrative records, and require additional time for evaluation. In light of overall 2020 Census schedule adaptations due to the COVID-19 outbreak, this dataset will be published prior to July 31, 2021."

[51] https://www.documentcloud.org/documents/6825272-2020-Census-Supporting-Statement-A-for-OMB.html#document/p51/a559329.

[52] The CUF will be produced by November 30, 2020 and is used to produce the apportionment numbers by December 31, 2020. The CMDF was not scheduled to be completed until four months later.

[53] 13 U.S.C. § 195 (emphasis added).

the Census Act precluded the use of sampling to produce the apportionment count "[w]hether used as a 'supplement' or as a 'substitute.'"[54]

40. Even in the limited Census Bureau documentation available about how administrative records will be used to estimate citizenship and immigration status, there is explicit mention of reliance on data collected by sampling. In a May 2020 Memorandum, titled "Intended Administrative Data Use in the 2020," the Census Bureau lists a number of sources "expected to be used only to research how to subsequently produce citizenship information in conjunction with the census. These sources include but are not limited to…American Housing Survey data, Current Population Survey data, [and] Survey of Income and Program Participation data." However, descriptions of each of these sources on the Census Bureau's website demonstrate that each source obtains its data using sampling techniques:

- American Housing Survey (AHS): "Housing units participating in the AHS have been scientifically selected to represent all housing units in the United States. The same National *sample* of housing units is interviewed every two years until a new sample is selected (this includes the 15 largest metropolitan areas)…. Each housing unit in the AHS national *sample* is weighted and represents between 450 and 4000 other housing units in the United States."[55]

- Current Population Survey (CPS): "The CPS is administered by the Census Bureau using a probability selected *sample* of about 60,000 occupied households."[56]

- Survey of Income and Program Participation (SIPP): SIPP "is a household-based survey designed as a continuous series of national panels. Each panel features a nationally representative *sample* interviewed over a multi-year period lasting approximately four years."[57]

41. Because these and other potential data sources that the Census Bureau is likely to use to estimate citizenship and immigration status through statistical modeling (which will be

---

[54] *Department of Commerce v. U.S. House of Representatives* (1999), 24.

[55] https://www.census.gov/programs-surveys/ahs/about/methodology.html (emphasis added).

[56] https://www.census.gov/programs-surveys/cps/technical-documentation/methodology.html (emphasis added).

[57] https://www.census.gov/programs-surveys/sipp/about.html.

described in the next section) rely on statistical sampling techniques, any population estimates of citizenship and immigration status that depends on these data sources would necessarily incorporate sampling at some level in the analysis and would not be an enumeration or imputation. This would contravene the Census Act's prohibition of using sampling to produce the apportionment count.

3. Fundamental Differences in Statistical Modeling Required

42. More broadly, the statistical modeling and adjustment required to produce population estimates of undocumented immigrants differ in fundamental ways from the current use of statistical modeling and administrative records used in counting the household size of U.S. addresses. Importantly, these differences parallel the differences between sampling and imputation discussed in the Supreme Court's decision to prohibit sampling (but not imputation) for producing apportion counts: the nature, scope, immediate objective of the statistical methods, and impact on accuracy of the resulting counts.[58]

a. Nature of the Method

43. The Census Bureau relies on a variety of statistical methods in the production of federal statistics, including sampling and imputation. Generally, sampling refers to a statistical method that selects a subset (a sample) to extrapolate about the whole, whereas statistical imputation is the process of filling in individual missing or conflicting values with a substitute. The nature of the method required to produce population estimates of undocumented immigrants from available administrative records is fundamentally different from the imputation currently used to enumerate households.

[58] *Utah v. Evans*, 365 U.S. 452 (2002).

44. First, the Census Bureau distinguishes between methodologies used for *collecting* data (e.g., sampling) versus those used for *processing* data (e.g., imputation).[59] In the 2020 Operational Plan, administrative record usage for purposes of enumerating households is limited to those nonresponding addresses where the Census Bureau has multiple "high-quality" administrative records available.[60] More importantly, the Census Bureau does not use administrative records *on their own* to enumerate a household—administrative records are used only after giving the entire population an opportunity to self-respond and after an attempt to enumerate the household by field staff. In other words, they are used solely for *processing* data. In contrast, the use of administrative records for producing counts of undocumented immigrants is clearly data *collection*. No one is asked to self-respond about their legal status or citizenship status in the decennial census, so administrative records are collected separately from the decennial census, for purposes of gathering information about citizenship and legal status from the sample of administrative records available to extrapolate about the characteristics of the population.

45. Second, the specific statistical methodologies used also differ. Count imputation is the procedure that fills in household status and size for addresses where it is unknown—addresses that fail to self-complete the census questionnaire and cannot be enumerated through the NRFU (non-response follow-up) process. Count imputation relies on a hot-deck procedure—that is one that uses contemporaneous data from neighboring housing units to fill in deterministic values for the missing information. In contrast, the use of administrative records would be considered a "cold-deck" procedure because it does not rely on information collected at the same time as the census questionnaire.

---

[59] https://www.census.gov/srd/papers/pdf/rrs2005-01.pdf.

[60] 2020 Census Operational Plan.

46. In contrast to the deterministic method used for count imputation, existing documentation and public statements by the Census Bureau suggest that the Bureau intends to use probabilistic data modeling in complying with the Memorandum. A probabilistic model of citizenship will produce a single value for each person that ranges from 0 to 1, where 0 would indicate a 0% chance of being a citizen and 1 would indicate a 100% chance of being a citizen, but where most values will fall somewhere in between. The result of the model, then, is not an actual enumeration of the "whole number of persons in each State" who are not undocumented immigrants, but a range of probabilities. As such, an arbitrary statistical threshold must be set to count someone as an undocumented immigrant (e.g., an 80% probability). It is entirely unclear what probability threshold the Census Bureau plans to use or what is a reasonable threshold for receiving representation. A probabilistic model also inherently acknowledges uncertainty in the underlying data. Similar to models that rely on sampling, a probabilistic model will produce an *estimate* with uncertainty. It is unclear how this uncertainty in the prediction can be accounted for in an enumeration for purposes of apportionment. What is clear is that the resulting population count from the use of such probabilities will be less reliable than the existing method of counting the population, given that these modeling decisions will introduce uncertainty and bias into the resulting population numbers.

47. A final difference between the statistical technique used to impute household size and the technique necessary to produce a count of undocumented immigrants is the ordering of the process. Modeling administrative records to produce a count of undocumented immigrants conflates imputation of household counts with that of household characteristics. Characteristic imputation uses hot-deck imputation to fill in the characteristics of the household, such as the

age, race, and ethnicity of all persons enumerated.[61] Characteristic imputation, as currently practiced by the Census Bureau, is a "downstream" procedure—that is, it occurs *after* and *entirely separate from* the determination of the apportionment count required by the Constitution. Rather, it is used only for generating auxiliary population statistics that are not part of the census's constitutional role. The Census Bureau currently produces apportionment numbers from the CUF, which relies only on *count* imputation (*i.e.*, imputation of the *number* of people present at a given address). *Characteristic* imputation (*i.e.*, imputation of the specific *characteristics* of a given person) occurs in the CEF as a separate process, after the final population count is established and for the purposes of redistricting and other data tabulations—not for the purpose of apportionment. The current sequential nature of count and characteristic imputation provides transparency about the process producing apportionment counts, minimizing the risk of manipulation of the method. In contrast, determining eligibility for representation based on the characteristics of the household opens a Pandora's box about the informational basis of the apportionment count. For example, such a process could result in a household being excluded from the apportionment count based on entirely imputed household characteristics.

b. Scope of the Method

48. A second difference between the method proposed to exclude undocumented immigrants from the 2020 Census and traditional, lawful uses of imputation is in the scope of statistical modeling needed. The scope of any statistical modeling required to estimate the number of undocumented immigrants would be unprecedented for use in enumerating the apportionment population. In 2010, just 0.39% (less than one half of one percent) of the total population was added via count imputation, as opposed to direct enumeration; in 2000, just

[61] *See* Andrew Keller. "Imputation Research for the 2020 Census," U.S Census Bureau. https://www.census.gov/content/dam/Census/library/working-papers/2015/dec/DSSD-WP2015-03.pdf.

0.43% of total population was added using count imputation.[62] In other words, count imputation is used sparingly, and only after giving the entire population an opportunity to self-respond, and attempting to follow up with anyone who does not respond (*i.e.*, NRFU).[63]

49. In contrast, estimation of the apportionment population excluding undocumented immigrants requires modeling of every person in the census file, to determine the probability that they are an undocumented immigrant. Given the scarcity of administrative records that directly document unauthorized immigrants, *almost all* individuals identified as undocumented, and thus excluded from apportionment numbers, will have been estimated based on extrapolated data from a sample of administrative records. The scale of the population that would be enumerated through statistical methods rather than traditional methods is orders of magnitude larger than anything the Census Bureau has ever attempted before, and certainly cannot be considered "sparing" use. For individuals in the census who are unable to be linked to administrative records, the extent of the exercise is even more striking: they could be excluded from the apportionment count based only on their demographic characteristics (*e.g.*, their race or ethnicity) and local area information (the only information available in the decennial questionnaire), if the Census Bureau's modeling formula identifies them as a probable undocumented immigrant based on this information.[64] The Census Bureau also acknowledges the potential inaccuracy of the models for those in the 2020 Census who are unable to be linked

---

[62] *See* https://www.pewsocialtrends.org/2011/05/04/imputation-adding-people-to-the-census/.

[63] Relatedly, the Census Bureau acknowledges in the 2020 Operational Plan that "[t]he accuracy and usefulness of the data collected for the 2020 Census are dependent upon the ability to obtain information from the public, which is influenced partly by the public's perception of how well their privacy and confidentiality concerns are being addressed . . . . If a substantial segment of the public is not convinced that the Census Bureau can safeguard their response data against data breaches and unauthorized use, then response rates may be lower than projected, leading to an increase in cases for follow-up and cost increases." For review of research on this topic, *see* U.S. Census Bureau, Privacy Research in Census 2000, Census 2000 Topic Report No. 1 (2003).

[64] Given the known disparities in the availability of administrative records by race and ethnicity, this will almost certainly result in more Blacks and Hispanics being erroneously excluded from the apportionment base.

to administrative records, noting that citizenship probability will be "estimated based on local area information and the person's demographic characteristics, but not the person's citizenship, which makes the estimate much less accurate."[65]

c. Immediate Objective

50. The immediate objective might be considered another difference between the statistical modeling necessary to exclude undocumented immigrants and that used for imputing nonresponding households (or for the use of administrative records in enumerating households). In the latter cases the objective is "the filling in of missing data as part of an effort to count individuals one by one."[66] In contrast, by design, any methodology developed for the goal of excluding undocumented immigrants has the explicit objective of adjusting the entire population estimates, not filling in missing data after an attempt to conduct an actual enumeration.

d. Impact on Accuracy

51. The final way in which the use of a methodology to produce counts of the undocumented population from administrative records differs from the current statistical methods and approaches used in census enumeration is the impact on accuracy. Whereas the current use of count imputation makes the census more accurate,[67] the exclusion of undocumented immigrants through statistical modeling of administrative records will make the census less accurate. Fundamental shortcomings in the availability, accuracy, reliability, and timeliness of administrative records concerning citizenship and legal status will impact the predictive accuracy of the model results. Census research acknowledges that the modeling of missing information on citizenship will be challenging, with the accuracy of the models "not

---

[65] Template for Memorandum of Agreement Between the U.S. Department of Commerce and State Program Agencies, 11. https://big.assets.huffingtonpost.com/athena/files/2019/10/16/5da72b8de4b02253a2fbe8da.pdf.

[66] Finkelstein, Basic Concepts of Probability and Statistics in the Law (2009).

[67] *Utah v. Evans*, 365 U.S. 452 (2002).

known" because the missing information is not random.[68] I have already outlined the incomplete and problematic nature of administrative records about unauthorized immigrants. It is also the case, as described below, that the more prevalent administrative records about citizens and *documented* non-citizens are also incomplete, outdated, and inaccurate.

i. Incomplete, Outdated, and Inaccurate Administrative Records about Citizens and Documented Non-Citizens

52. Although there are few administrative records that document those residing in the U.S. *without* formal legal status, more sources have information identifying U.S. citizens and *documented* non-citizens (*i.e.*, those in compliance with immigration laws). However, as I show, the Census Bureau will be unable to produce an accurate and reliable enumeration of the undocumented population by indirectly estimating the undocumented immigrant population through a process of elimination based on information in these administrative records. Doing so requires correct identification of citizens and the documented non-citizen immigrant population—those persons granted lawful permanent residence, persons granted asylum, persons admitted as refugees, and persons admitted as nonimmigrants under classes of admission associated with residence (e.g., students and temporary workers, as opposed to tourists) and with authorized periods of admission in the future of any estimated date.[69] Here, again, administrative

[68] Brown et al, 44. It is worth noting that the legal debates surrounding the use of sampling by the Census Bureau assumed the used of probability sampling, which has a scientific basis for drawing inferences from a randomly selected sample. In contrast, the sample of administrative records to be used in producing counts of undocumented immigrants is non-random—for example, all of the states that have shared DMV records with the Census Bureau have Republican governors and voted for Trump in the 2016 presidential election.

[69] There is a question as to how to handle so-called quasi-legal cases, such as foreign nationals granted Temporary Protected Status (TPS) because they are from countries in which they cannot return home safely or those with DACA status, who have work authorization and protection against deportation. Pew includes in the authorized immigrant estimates those with temporary protection from deportation under DACA, TPS, and pending asylum cases. This would mean that a resident with 18-month temporary protected status (that could be extended) would be excluded from political representation but a student or temporary worker on a 12-month visa would be included.

records lack the necessary coverage, accuracy, and reliability to produce the high-quality estimates necessary for an apportionment count.

4. The Numident

53. The Census Bureau's most complete source of citizenship data is the Census Numident file, a record of individual applications for Social Security cards and any changes subsequently made (such as change of name).[70] This is the cornerstone of any effort to identify citizenship status based on administrative records. In an effort to evaluate the potential use of administrative records to estimate the citizenship status for the 2020 Census, the Census Bureau undertook research evaluating the strengths and weaknesses of Numident for identifying citizenship status (though not legal status, *i.e.*, compliance with immigration laws).

54. These results were reported in a 2018 white paper titled, "Understanding the Quality of Alternative Citizenship Data Sources for the 2020 Census" (hereinafter, "The Brown Memo"). As the Census Bureau found, there are many sources of error in these records. First, there will be individuals enumerated in the 2020 Census who will not have information in the Numident. While this is more likely among undocumented immigrants, citizens and non-citizens with formal legal status can also be missing because of linkage errors, or incomplete identifying information provided by the household.[71] Of those enumerated in the 2010 Census, the Brown Memo found that only 89.4% could be matched to the Numident file.[72]

55. A second issue is that some individuals in Numident have missing information about citizenship status. In 2017, 6.6 million persons born outside the U.S. have no indication of

[70] *See* Layne, Wagner, and Rothaas (2014) and NORC (2011). *See also* Rastogi and Ohara (2012), Bond et al. 2014.

[71] The internal unique person identifier is called the protected identification key or PIK.

[72] Brown et al, 14 (as reported, 91% can be assigned a PIK; once assigned, 98.2% could be matched to Numident).

citizenship (among those born in 1920 or later with no year of death).[73] While some of those persons may be undocumented immigrants, a much higher share appear to be U.S. citizens whose information simply happens to be missing from the file.[74] The Brown Memo outlines the different groups of people who could have missing citizenship status in Numident:

- U.S. citizens from birth with no Social Security number or U.S. passport;
- U.S. citizens from birth born outside the U.S., who do not have a U.S. passport, and either applied for a Social Security number prior to 1974 and were 18 or older or applied before the age of 18 prior to 1978;
- U.S. citizens who were automatically naturalized if they were under the age of 18 when their parents became naturalized in 2000 or later, and they did not inform USCIS or receive a U.S. passport;
- U.S. citizens who were naturalized prior to 2001 and did not inform the Social Security Administration of their naturalization and had never applied for a Social Security number; and
- Lawful permanent residents (LPR) who received that status prior to 2001 and had never applied for a Social Security number.[75]

56. These gaps in citizenship status information are related to the history of the Social Security number, which was not created to track citizenship status, but rather created for tracking earnings for use in determining benefit levels. Evidence of citizenship was not added to the Social Security application until 1974. Moreover, there was geographic variation in the rollout of the enumeration-at-birth (EAB) program, which is now used by 90% of parents. Some states adopted EAB as early as 1987, but California, Rhode Island, and Connecticut did not participate

[73] *See* https://www.supremecourt.gov/DocketPDF/18/18-966/91016/20190306200155135_18-966%20Commerce%20J.A.pdf, 153. In total, 20.0%of 2010 Numident records have missing citizenship status, but some of those will not be in the 2020 Census—either because they no longer reside in the U.S. (e.g., those who had temporary work status), or because they fail to respond.

[74] Memorandum from John M. Abowd, Chief Scientist & Assoc. Dir. for Research & Methodology, U.S. Census Bureau, to Wilbur L. Ross, Sec'y, U.S. Dep't of Commerce (Mar. 1, 2018).

[75] Brown et al., 19.

in EAB until 1995.[76] This means that late-adopting states could be more likely to have citizens with missing citizenship status in Numident, potentially leading to their disproportionate exclusion from apportionment numbers.

57. In addition to missing information, there are also inaccuracies in the Numident. Numident will erroneously list someone as a non-citizen if they were naturalized prior to 2001 and did not inform the Social Security Administration of their naturalization. Similarly, lawful permanent residents who received that status prior to 2001 and had applied for a Social Security number prior 1974 would also have inaccurate data.

58. The Census Bureau is receiving other administrative records from federal agencies and state governments to supplement Numident, but those records are also plagued by gaps and errors that can introduce inaccuracies and conflicts across records. In the case of administrative records that contain information about legal non-citizen status—lawful naturalized citizens, legal permanent residents, temporary migrants (such as foreign students), and refugees and asylees—the Census Bureau will rely on data from DHS's Office of Immigration Statistics and Office of Refugee Resettlement.[77]

59. DHS offers the most complete information about documented non-citizens, but these records are incomplete and often outdated, and can only partially address Numident's weaknesses.[78] As the Census Bureau has recognized, DHS has "incomplete records prior to 2001. These data do not cover naturalizations occurring before 1988, and they miss some

---

[76] *See* https://www.ssa.gov/policy/docs/ssb/v69n2/v69n2p55.html. Today, over 90% of parents use the EAB process, which is offered in all 50 states plus Puerto Rico and the District of Columbia. The Social Security Administration receives nearly three-quarters of original Social Security number applications through the EAB process and issues over 4 million Social Security numbers via EAB each year (Social Security Administration 2006).

[77] *See* https://www.pewresearch.org/hispanic/2018/11/27/unauthorized-immigration-estimate-methodology/.

[78] Memorandum from John M. Abowd, Chief Scientist & Assoc. Dir. for Research & Methodology, U.S. Census Bureau, to Wilbur L. Ross, Sec'y, U.S. Dep't of Commerce (Mar. 1, 2018).

between 1988 and 2000."[79] Moreover, available records "do not always cover children under 18 at the time a parent became a naturalized U.S. citizen. These children automatically become U.S. citizens under the Child Citizenship Act of 2000."[80] Regarding the estimation of citizenship status, John Abowd, Chief Scientist of the Census Bureau, acknowledges that the Census Bureau "will most likely never possess a fully adequate truth deck to benchmark to."[81] Determining the specific legal status (undocumented or otherwise) among immigrants is even more difficult. DHS admits that "immigration status information is challenging, complicated, and dynamic… No one source of citizenship information is complete and up-to-date."[82] In another report, DHS acknowledges, "while Census and DHS data provide a wealth of information on the total foreign-born population broken down by citizenship and on annual migration flows and status changes, national population data on the major subcategories of non-citizens, including lawful permanent residents, students, temporary workers, and unauthorized immigrants, are not readily available from any source and must be estimated."[83]

60. Another clear example of the unreliability of the data comes from calculations of visa overstays—individuals lawfully admitted to the United States for an authorized period, but who remained in the United States beyond their authorized period of admission. The 2019 DHS exit/entry analysis (March 2020) reported 55,928,990 admissions to the United States through air or sea ports with expected departures occurring in FY 2019, with a total overstay rate of 1.21%, or 676,422 overstays. Although the report gives an "illusion of precision," the DHS

---

[79] Brown et al., 18.

[80] Brown et al., 18.

[81] Memorandum from John M. Abowd, Chief Scientist & Assoc. Dir. for Research & Methodology, U.S. Census Bureau, to Wilbur L. Ross, Sec'y, U.S. Dep't of Commerce (Mar. 1, 2018).

[82] *See* Department of Homeland Security. (Dec. 20, 2019). Privacy Impact Assessment for the Department of Homeland Security Immigration-Related Information Sharing with the U.S. Census Bureau.

[83] *See* https://www.dhs.gov/sites/default/files/publications/lpr_population_estimates_january_2015.pdf, 2.

administrative records are woefully inadequate for determining undocumented status. Record-keeping challenges make it difficult to match arrival and departure records for the same person, which could result in erroneously counting as an overstayer someone who actually left the country.[84]

61. Consider the enormous scale of the task—more than 55 million people visited the United States from abroad for tourism and business.[85] When departure records are incompletely collected by the airlines and transmitted to DHS, errors result. The land borders are even harder to track, since the ports of entry are primarily focused on screening incoming traffic rather than checking who is departing. More than 254 million people annually pass through the border checkpoints (nearly 700,000 travelers on a given day)—mostly individuals who are legally able to "travel back and forth across the border for commercial trade, tourism, work, school, family visits or a simple trip to the store."[86]

62. As admitted in the DHS Privacy Impact Assessment for the Immigration-Related Information Sharing with the U.S. Census Bureau: "Determining an individual's citizenship based on various DHS data is a challenging task . . . . Due to the decentralized nature of admission and immigration information, as well as the lack of a nationwide departure control system, [U.S. Customs and Border Protection] collects different data points from different data sets."[87] As a result, the classification of an individual as an overstayer is often inaccurate.

---

[84] *See* https://thehill.com/opinion/immigration/447607-illegal-immigration-by-the-numbers-visa-violators-and-border-crossers.

[85] Morral, Anrew, Henry Willis, Peter Brownell. (2011). Measuring Illegal Border Crossing Between Ports of Entry: An Assessment of Four Promising Methods. Rand, Homeland Security and Defense Center. https://www.rand.org/content/dam/rand/pubs/occasional_papers/2011/RAND_OP328.pdf.

[86] Davis, Kristina. (April 7, 2019). "The impossible challenge of tracking visa overstays," The San Diego Union-Tribune. https://www.sandiegouniontribune.com/news/immigration/story/2019-04-06/the-impossible-challenge-of-tracking-visa-overstays.

[87] Department of Homeland Security. (Dec. 20, 2019). Privacy Impact Assessment for the Department of Homeland Security Immigration-Related Information Sharing with the U.S. Census Bureau, 6.

Indeed, research by the Center for Migration Studies found nearly half the visa overstayers identified by DHS had left the U.S. unnoticed.[88] Others have emphasized that the data are quickly out of date because "many overstayers leave or adjust their status within a few months of their visa expiration date."[89] As DHS acknowledges regarding the information they are sharing with the Census Bureau: the shared information "is assumed to be accurate at the time it was collected. However, because DHS is providing information at a point in time, it is reasonable to believe that eventually data accuracy issues may arise."[90] In calculating its own estimates of the undocumented population, DHS admits that the agency "does not know how many lawfully admitted aliens have deceased or departed the United States."[91]

5. Problems with Other Model Inputs

63. What matters to the accuracy of the resulting estimates is not just the information about citizenship and legal status in administrative records, but also the other information from the administrative records that might be used in building the predictive model—such as race, ethnicity, sex, age, or country of origin. If there are errors in the other explanatory variables, the model results can be biased and unreliable.

64. Specifically, one key input of concern is the quality of the measures of race and ethnicity in administrative records. It is recognized that the quality of the race and ethnicity data in Numident is poor.[92] The race data included in the Numident file is collected at the time an

---

[88] Warren, Robert (February 27, 2019). Sharp Multiyear Decline in Undocumented Immigration Suggests Progress at US-Mexico Border, Not a National Emergency. https://cmsny.org/publications/essay-warren-022719/.

[89] Fazel-Zarandi, Feinstein, Kaplan 2018.

[90] Department of Homeland Security. (Dec. 20, 2019). Privacy Impact Assessment for the Department of Homeland Security Immigration-Related Information Sharing with the U.S. Census Bureau.

[91] Department of Homeland Security, "Potential Improvements to DHS Illegal Alien Population Estimates: Collection and Use of Data," Fiscal Year 2018 Report to Congress, March 5, 2019, 3.

[92] The Census Bureau has built an internal Best Race and Hispanic Origin file, a composite from various government and commercial sources that uses a rules-based approach to resolve unique race and Hispanic origin codes for person records where those values vary across different files. Unfortunately, the content and quality of this file "is

application is made to obtain a Social Security number. Prior to 1980, the application form only permitted the racial categories of white, black, and other.[93] Individuals added to Numident through state vital records (the EAB program)—roughly one-fourth of the population—are typically missing race entirely because states do not transfer that information.[94] Also problematic is that Hispanic origin data are indirectly estimated through country of birth—a flawed assumption given that Hispanics often select more than one race or "some other race."[95] Given the problems with Hispanic ethnicity in Numident, census research has warned that statistical imputation could result in "bias in the resulting proportion of persons who are Hispanic," which could, in turn, bias estimates of citizenship and legal status.[96]

6. Discrepancies across records

65. Another source of error in the available administrative records is the inevitable discrepancies across records given the problems with each set of records. The Census Bureau will have to determine how to reconcile these differences. The only documentation that the Census Bureau has provided thus far references the fact that survey responses will be privileged over administrative records, an acknowledgement of the inaccuracies of administrative records. A May 2020 memo notes, in a discussion of characteristic imputation, that "[w]hen possible, we will use the 2010 Census and ACS response before using information from other sources."[97]

---

mysterious to observers." Czajka, J. L. (2013). Can administrative records be used to reduce nonresponse bias?. The ANNALS of the American Academy of Political and Social Science, 645(1), 171-184.

[93] The current OMB race and ethnicity categories were not used until 1997.

[94] Czajka, J. L. (2013). Can administrative records be used to reduce nonresponse bias?. The ANNALS of the American Academy of Political and Social Science, 645(1), 171-184.

[95] Czajka, J. L. (2013). Can administrative records be used to reduce nonresponse bias?. The ANNALS of the American Academy of Political and Social Science, 645(1), 171-184.

[96] Richard A. Griffin. (2014). "Issues Concerning Imputation of Hispanic Origin due to Administrative Record Enumeration for the 2020 Census," Proceedings of the Survey Research Methods Section, American Statistical Association, available at http://ww2.amstat.org/sections/srms/proceedings/y2014/Files/311893_88330.pdf.

[97] Karen D. Deaver, Decennial Census Programs Directorate. Intended Administrative Data Use in the 2020 Census, May 1, 2020, P. 11.

Here again, there are well-documented inaccuracies in measures of citizenship status. In a recent comparison of administrative records from the Social Security Administration with individual responses to the ACS, census researchers found that 37.6% of those individuals who were recorded as *non-citizens* in administrative records had self-reported being *U.S. citizens* in the ACS.[98] As explained by the researchers, undocumented immigrants "have a strong incentive to provide an incorrect survey answer, if they answer at all, due to concerns about the data being used for enforcement."[99]

VI. CONSEQUENCES OF EXCLUDING UNDOCUMENTED IMMIGRANTS FROM APPORTIONMENT COUNTS

A. Excluding Undocumented Immigrants from the 2020 Apportionment Count will Result is a Less Accurate and Fair Census Count

66. Given the issues outlined above, any attempt to exclude undocumented immigrants will result in a lower quality and less accurate census. The issues outlined above mean that any attempt to exclude undocumented immigrants will result in erroneous omissions of citizens and documented non-citizens and erroneous inclusion of undocumented non-citizens. At issue is not just accuracy of the overall population count, but also the completeness and fairness of the count.[100] An overall population count can be accurate, even while the counts for subpopulations are highly inaccurate. This can happen, as it did in 2010, when some segments of the population are undercounted at the same time other segments of the population are

[98] Moreover, this is likely an underestimate because the noncitizens able to be matched to administrative records are more likely to be legal noncitizens. Brown et al. (2018).

[99] J. Brown et. al., Working Paper: Understanding the Quality of Alternative Citizenship Data Sources for the 2020 Census, Center for Economic Studies, U.S. Census Bureau, 18–38 (2018), https://www2.census.gov/ces/wp/2018/CES-WP-18-38.pdf.

[100] Prewitt, K. (2010). The US decennial census: Politics and political science. *Annual Review of Political Science*, 13, 237-254.

overcounted. The Census Bureau's post-enumeration coverage found a net overcount of Non-Hispanic Whites, and a net undercount of Blacks and Hispanics.[101]

67. The fundamental concern is with *distributional accuracy*—the proportional distribution of the population by geography or population groups. Apportionment, the first and most enduring purpose of U.S. census taking, is based on statistical proportionality. If the Census Bureau misses more people living in one state than another, the census count is not only inaccurate, it will also be unfair—and thus, not fit for use for purposes of apportionment, failing both "objectivity" and "utility" in the words of the Census Bureau Quality Standards.

68. The impact of producing an apportionment count that excludes undocumented immigrants will not be felt equally across the country given geographic variation in those likely to be erroneously identified as undocumented. This is more likely to affect states with a larger number of foreign-born residents, given that such individuals are less likely to self-respond to the census and less likely to be found in administrative records.

69. Another source of potential geographic variation in the accuracy of the count is the variation in the availability, accuracy, and content of administrative records. As another example, the above noted state-by-state variation in the year of adoption of "enumeration at birth" is likely to create variation in the accuracy of Numident across states. For example, the Census Bureau plans to rely on Medicaid/Children's Health Insurance Program data from the Department of Health and Human Services (HHS) for producing citizenship estimates.[102] Census Bureau research documents that the content and availability of HHS administrative

[101] The difference between population groups is called the differential undercount. Although differential undercounts have been documented since the 1940 census, they have typically improved from one census to the next.

[102] Karen D. Deaver, Decennial Census Programs Directorate. Intended Administrative Data Use in the 2020 Census, May 1, 2020. https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/administrative-data-use-2020-census.pdf.

records vary widely across states.[103] More striking is varying access to state Department of Motor Vehicle (DMV) records. The Census Bureau has requested DMV data from the states, including citizenship status and eye color among other characteristics, but only a handful of states have agreed. As of July 2020, just four states appear to have entered into agreements to provide the requested DMV data to the Census Bureau.[104] Asymmetries in information about state populations could make it easier or harder to identify and exclude undocumented immigrants from apportionment populations. Consider, for instance, that South Carolina, Nebraska, and South Dakota are sharing citizenship status from the DMV with the Census Bureau, whereas Iowa is sharing DMV data that does not include citizenship status, and many other states have refused to provide any DMV information at all. Such variation in data availability and accuracy across states raises concerns about the fairness or distributional accuracy of the resulting population counts.

70. DMV records are also notoriously unreliable.[105] Typically, driver-license records reflect a person's citizenship status only as of the date the person applied for a license and was asked to provide proof of either U.S. citizenship or legal presence in the United States. If a non-citizen gets a driver license and then later naturalizes, the DMV record will be incorrect (and unlikely to be updated until they need to interact with the agency again). Florida and Texas attempted to purge from their voter rolls registered voters who were identified as having been

[103] Brown et al. 2018, 14.

[104] https://www.npr.org/2020/07/14/890798378/south-dakota-is-sharing-drivers-license-info-to-help-find-out-who-s-a-citizen.

[105] Wang, Hansi Lo. (November 20, 2019). Nebraska Is 1st State To Share Driver's License Records With Census Bureau. https://www.npr.org/2019/11/20/781373128/nebraska-1st-to-say-it-will-share-drivers-license-records-with-census-bureau.

noncitizens when they applied for driver licenses, but it was discovered that virtually all of them were actually naturalized citizens who had outdated information in DMV records.[106]

71. In sum, efforts to exclude undocumented immigrants will lower the accuracy of the count and those effects are likely to vary across states in a manner rendering the resulting apportionment inequitable.

B. Any Method for Excluding Undocumented Immigrants from the 2020 Apportionment Count would Violate Census Processes and Procedures

72. The 2020 operational plan does not provide for a method for excluding undocumented immigrants in the decennial count. In the years of planning, preparation, and testing for the 2020 Census, the Census Bureau did not evaluate possible methods for producing an apportionment count that excludes undocumented immigrants. It is infeasible for the Census Bureau to suddenly shift their operational plan in the midst of census operations, especially in light of the challenges with COVID-19 and without evaluating the implications for the accuracy of the results. In testimony before Congress, former Census Director Bob Groves warned, "Rarely in the conduct of censuses throughout the world is the responsible agency asked to produce official estimates critical to the economy or the society without prior testing. The attempt to assemble from administrative record systems and other sources counts of citizens at small geographical areas as official statistics is a task unprecedented in the history of the Bureau. With unprecedented efforts within a statistical agency serving the country comes the obligation to inform the country of the strengths and weaknesses of the product of those efforts."[107]

---

[106] Lopez, Ashley. (February 14, 2019). There's No Easy Way For Texas To Vet Its List Of Alleged Noncitizen Voters. Just Ask Florida. National Public Radio Kut 90.5. https://www.kut.org/post/theres-no-easy-way-texas-vet-its-list-alleged-noncitizen-voters-just-ask-florida.

[107] https://docs.house.gov/meetings/GO/GO00/20200729/110948/HHRG-116-GO00-Bio-GrovesR-20200729.pdf.

73. Planning and testing for producing an accurate and reliable census count is codified in formal policies and procedures of the Census Bureau. The OMB and Census Bureau Quality Standards recognize such pretesting as a necessary step in an accurate and reliable population count.[108] The U.S. Government Accountability Office, in designating the decennial census as a high risk activity, emphasized that it must "rigorously test individual census-taking activities to provide information on their feasibility and performance, their potential for achieving desired results, and the extent to which they are able to function together under full operational conditions."[109] Such testing has not occurred for the creation of apportionment numbers that exclude undocumented immigrants.

74. According to Census Bureau Statistical Quality Standards, the Census Bureau is required to develop a preliminary study design that describes the methods to be used and "addresses verification and evaluation of the quality of the acquired data."[110] Those standards also require "[v]erification and testing of the editing and imputation systems; and monitoring and evaluation of the quality of the editing and imputation operations."[111] To date, there is no indication that sufficient planning and evaluation of the statistical modeling required to estimate an apportionment population that excludes undocumented immigrants has occurred. With just a few months left before the final data product must be released, the Census Bureau is still in the process of acquiring data sources—so it has not yet evaluated coverage nor conducted the require quality control checks.

---

[108] For example, the Census Bureau explicitly requires pretesting of survey items. The Handbook for Administrative Data Projects requires a scientific merit review of explicit "models to be estimated, [and] how model variables will be measured" (25).

[109] U.S. Government Accountability Office. (2017). Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others, U.S. Government Accountability Office, (GAO-17-317), Retrieved from https://www.gao.gov/products/GAO-17-317.

[110] Census Bureau Quality Standards, 32.

[111] https://www.census.gov/about/policies/quality/standards/standardc2.html.

75. As a point of comparison, consider that the Census Bureau began investigating methods for utilizing administrative records in NRFU operations in the 2020 Census shortly after *the 2010 census*. By the time the 2018 Operational Plan was drafted, the use of administrative records had undergone years of research led by a team of census researchers (Administrative Records Modeling Team), extensive testing in large-scale tests, engagement with stakeholders (e.g., I served on an administrative records working group for the Census Scientific Advisory Committee), publication and presentation in professional outlets, and significant revisions in light of the results of that research.[112] Again, none of that has occurred with respect to the plan to exclude undocumented immigrants from the apportionment base.

76. OMB Policy Directive 1 requires transparency and engagement with stakeholders. Here again, the Census Bureau has failed to follow its own rules. The Census Bureau has failed to respond to requests for more information about their plans for estimating citizenship status.[113] For example, the Census Bureau has still failed to respond to an October 2019 Campaign Legal Center (CLC) request for information about the use of state DMV records in modeling citizenship status.[114] The Census Bureau also canceled the March 2020 meeting of the Census Scientific Advisory Committee (CSAC).[115]

77. There is simply not sufficient time for the Census Bureau to follow required policies and procedures before the apportionment deadline. During his recent testimony to Congress, Dr. Steven Dillingham, the current Director of the Census Bureau, seemed to

---

[112] The final 2020 Census Operational Plan scaled back the plans to use administrative records compared to initial plans in the 2015 version 1.1. Operational Plan.

[113] https://www.nextgov.com/analytics-data/2020/04/how-census-building-citizenship-database-covering-everyone-living-us/164275/.

[114] https://campaignlegal.org/cases-actions/clc-v-bureau-census-foia-delay-suit.

[115] https://www.federalregister.gov/documents/2020/03/17/2020-05465/census-scientific-advisory-committee.

recognize the impossibility of the task. When Representative Comer (R-KY) asked if he could be confident the Census Bureau would "produce an accurate estimate of the accurate count of legal citizens, for purposes of apportionment," Director Dillingham demurred: "I am confident that we can analyze the data we have and look at the methodologies that might be employed for that purpose."[116]

78. In sum, the production of 2020 apportionment numbers that exclude undocumented immigrants requires reliance on untested modeling approaches and unverified modeling assumptions that will inherently result in a population count that is less reliable and less accurate than the planned methods for counting the population.

C. Additional Impacts

79. Beyond the impact of the less accurate census, the administration's effort to exclude the undocumented immigrant population from the apportionment count could further threaten the accuracy and reliability of the apportionment population by reducing cooperation with the decennial census. The very exercise of asking the Census Bureau to use administrative records beyond their originally intended purpose to identify the legal status of the population will stoke fears about confidentiality and will undermine trust in the Census Bureau. As the former director of the Census John Keane explained: "If the Census Bureau were directed to enumerate undocumented aliens separately in order to remove them from the apportionment count, we would run the risk of being perceived as an enforcement agency…. The Census Bureau goes to great lengths to avoid misperception that could adversely affect cooperation. We must convince the population that it is safe to be included in the census."[117]

---

[116] https://www.sciencemag.org/news/2020/07/census-director-dodges-legislators-questions-about-trump-memo-undocumented-residents.

[117] John G. Keane. Statement of the Director of the Bureau of the Census Before the Subcommittee on Energy, 5.

80. Research shows that attitudes about privacy and confidentiality are strong predictors of census self-response—those individuals reporting higher levels of concern about the confidentiality of census data are less likely to return their census forms or cooperate with enumerators, more likely to skip individual questions, and more likely to provide inaccurate responses.[118] Lower levels of self-response, in turn, further reduce the quality of the census count.[119] In testimony before Congress, Former U.S. Census Director John Thompson warned:

> [T]he directive to exclude undocumented persons from the Apportionment base has a high potential to reduce the likelihood of response for the hard-to-count populations including non-citizens and immigrants. A significant component of the Census Bureau plan to get a complete count of these populations is getting out a message that the 2020 Census is important to local communities and that respondent information is kept completely private and not shared with any outside entity including law and immigration enforcement. The Census Bureau has also documented that it will be more challenging to get this message out relative to previous censuses given higher levels of fear of government.[120]

According to OMB Policy Directive 1:

> Federal statistical agencies and recognized statistical units must function in an environment that is clearly separate and autonomous from the other administrative, regulatory, law enforcement, or policy-making activities within their respective Departments. Specifically, Federal statistical agencies and recognized statistical units must be able to conduct statistical activities autonomously when determining what information to collect and process, the physical security and information systems security employed to protect confidential data, which methods to apply in their estimation procedures and data analysis, when and how to store and disseminate their statistical products, and which staff to select to join their agencies. In order to maintain credibility with data providers and users as well as the public, Federal statistical

[118] *E.g.*, Singer, E., Mathiowetz, N. A., & Couper, M. P. (1993). The impact of privacy and confidentiality concerns on survey participation: The case of the 1990 U.S. census. Public Opinion Quarterly, 57, 465–482.

[119] Brown, J. D., Heggeness, M. L., Dorinski, S. M., Warren, L., & Yi, M. (2019). Predicting the Effect of Adding a Citizenship Question to the 2020 Census. Demography, 56(4), 1173-1194.

[120] Statement of John H Thompson, Former Director U.S. Census Bureau (August 2013 – June 2017), For the House Committee on Oversight and Reform, U.S. House of Representatives, July 29, 2020. https://oversight.house.gov/sites/democrats.oversight.house.gov/files/documents/Testimony%20Thompson.pdf.

> agencies and recognized statistical units must seek to avoid even the appearance that agency design, collection, processing, editing, compilation, storage, analysis, release, and dissemination processes may be manipulated.[121]

81. Any effort to exclude undocumented immigrants would violate this Directive. The Memorandum, coming on the heels of the Supreme Court case concerning the citizenship question, the recent additional political appointments to the agency, and fundraising efforts linked to excluding noncitizens from the Census, has served to politicize the decennial count and jeopardize trust in the federal statistical system. In testimony before Congress, Former U.S. Census Director John Thompson expressed concern that the Trump administration had politicized the Census: "Perceptions that the results of the 2020 Census have been manipulated for political purposes will greatly erode public and stakeholder confidence, not only in the 2020 Census but in our democracy."[122]

VII. CONCLUSION

82. In summary, it is my opinion that there is no feasible way to produce an accurate and reliable 2020 apportionment count that excludes undocumented immigrants by the apportionment deadline. The 2020 Census will not provide an actual enumeration of the undocumented immigrant population in each state that could be used to exclude undocumented immigrants from the apportionment count. In addition, existing estimates of undocumented immigrants are inadequate for use in adjusting the apportionment count because they are not actual enumerations, they rely on sampling, and they are inaccurate. Without an actual enumeration, there is no known method of excluding undocumented immigrants from the 2020

---

[121] Office of Management and Budget (OMB), Policy Directive No. 1, p. 71615. https://www.govinfo.gov/content/pkg/FR-2014-12-02/pdf/2014-28326.pdf.

[122] Statement of John H Thompson, Former Director U.S. Census Bureau (August 2013 – June 2017), For the House Committee on Oversight and Reform, U.S. House of Representatives, July 29, 2020. https://oversight.house.gov/sites/democrats.oversight.house.gov/files/documents/Testimony%20Thompson.pdf.

census count for purposes of apportionment, including the use of administrative records, that does not rely on statistical sampling. The use of administrative records to estimate numbers of undocumented immigrants would differ in kind and degree from count imputation methods that have been approved by the Supreme Court, or from the current use of administrative records in household enumeration. Finally, the use of administrative records to exclude undocumented immigrants from the 2020 apportionment count would result in a less accurate and more biased decennial census count and apportionment.

83. I reserve the right to amend or supplement my opinions if additional information or materials become available.

84. I declare under penalty of perjury that the foregoing is true and correct.

DATE: August 18, 2020

D. Sunshine Hillygus, Ph.D

Appendix A

Works Cited

Abowd, John. September 4, 2018. Protecting the Confidentiality of America's Statistics: Ensuring Confidentiality and Fitness-for-Use. Blog Post at U.S. Census Bureau. https://www.census.gov/newsroom/blogs/research-matters/2018/08/protecting_the_confi0.html.

Baker, B. (2018). *Population Estimates: Illegal Alien Population Residing in the United States: January 2015*. Washington, DC: Department of Homeland Security. https://www.dhs.gov/sites/default/files/publications/18_1214_PLCY_pops-est-report.pdf.

Bond, B., Brown, J. D., Luque, A. & O'Hara, A. (2014). The nature of the bias when studying only linkable person records: Evidence from the American Community Survey. CARRA Working Paper #2014-08. Washington, D.C.: U.S. Census Bureau. https://www.census.gov/content/dam/Census/library/working-papers/2014/adrm/carra-wp-2014-08.pdf.

Brown, J, Heggeness, M, Dorinski, S, Warren, L & Yi, M (2018). *Understanding the Quality of Alternative Citizenship Data Sources for the 2020 Census*, Center for Economic Studies, U.S. Census Bureau Working Paper 18-38. Available at https://www2.census.gov/ces/wp/2018/CES-WP-18-38.pdf.

Brown, J. D., Heggeness, M. L., Dorinski, S. M., Warren, L., & Yi, M. (2019). Predicting the Effect of Adding a Citizenship Question to the 2020 Census. Demography, 56(4), 1173-1194.

Costanzo et al. (June 2002). Evaluating Components of International Migration: The Residual Foreign Born. https://www.census.gov/content/dam/Census/library/working-papers/2001/demo/POP-twps0061.pdf.

Czajka, J. L. (2013). Can administrative records be used to reduce nonresponse bias? *The ANNALS of the American Academy of Political and Social Science*, 645(1), 171-184.

Davis, Kristina. (April 7, 2019). "The impossible challenge of tracking visa overstays," The San Diego Union-Tribune. https://www.sandiegouniontribune.com/news/immigration/story/2019-04-06/the-impossible-challenge-of-tracking-visa-overstays.

Deaver, Karen, Decennial Census Programs Directorate. Intended Administrative Data Use in the 2020 Census, May 1, 2020. https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/administrative-data-use-2020-census.pdf

Department of Homeland Security (March 5, 2019). "Potential Improvements to DHS Illegal Alien Population Estimates: Collection and Use of Data," Fiscal Year 2018 Report to Congress.

Department of Homeland Security (Dec. 20, 2019). Privacy Impact Assessment for the Department of Homeland Security Immigration-Related Information Sharing with the U.S. Census Bureau.

Fazel-Zarandi, M. M., Feinstein, J. S., & Kaplan, E. H. (2018). The number of undocumented immigrants in the United States: Estimates based on demographic modeling with data from 1990 to 2016. PloS one, 13(9).

Freedman, D., & Wachter, K. (2003). On the Likelihood of Improving the Accuracy of the Census through Statistical Adjustment. Lecture Notes-Monograph Series, 40, 197-230.

Griffin, Richard (2014), "Issues Concerning Imputation of Hispanic Origin due to Administrative Record Enumeration for the 2020 Census," Proceedings of the Survey Research Methods Section, American Statistical Association. Available at http://ww2.amstat.org/sections/srms/proceedings/y2014/Files/311893_88330.pdf.

Groves, R. M., Fowler Jr, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2011). Survey methodology (Vol. 561). John Wiley & Sons.

Hillygus, DS, Nie, NH, Prewitt, K & Pals, H (2006). *The hard count: The political and social challenges of census mobilization*, Russell Sage Foundation, New York.

Layne, M., Wagner, D., & Rothhaas, C. (2014). Estimating record linkage false match rate for the Person Identification Validation System. Center for Administrative Records Research and Applications Working Paper.

Lopez, Ashley. (February 14, 2019). There's No Easy Way For Texas To Vet Its List Of Alleged Noncitizen Voters. Just Ask Florida. National Public Radio Kut 90.5. https://www.kut.org/post/theres-no-easy-way-texas-vet-its-list-alleged-noncitizen-voters-just-ask-florida.

Marcelli, Enrico. (2000). "2000 Census Coverage of Foreign-born Mexicans in Los Angeles County: Implications for Demographic Analysis," presented at the 2000 Annual Meeting of the Population Association of American, Atlanta GA.

Massey, D. S., & Singer, A. (1995). New estimates of undocumented Mexican migration and the probability of apprehension. Demography, 32(2), 203-213.

Morral, Anrew, Henry Willis, Peter Brownell. (2011). Measuring Illegal Border Crossing Between Ports of Entry: An Assessment of Four Promising Methods. Rand, Homeland Security and Defense Center.

Office of Immigration Statistics, Homeland Security (December 2018). Population Estimates: Illegal Alien Population Residing in the United States: January 2015, 11.
Office of the Inspector General. https://oig.ssa.gov/sites/default/files/audit/full/pdf/A-07-04-24094.pdf.

Office of Management and Budget (OMB), Policy Directive No. 1. https://www.govinfo.gov/content/pkg/FR-2014-12-02/pdf/2014-28326.pdf.

Passel JS, Clark RL. (March 1997). How Many Naturalized Citizens Are Thee? An Assessment of Data Quality in the Decennial Census and CPS. Paper presented at the Annual Meeting of the Population Association of America; Washington, DC.

Passel, J. S., & Cohn, D. (2018). US Unauthorized immigrant total dips to lowest level in a decade. Pew Research Center. https://observatoriocolef.org/wp-content/uploads/2018/11/Pew-Research-Center_U.S.-Unauthorized-Immigrants-Total-Dips_2018-11-27.pdf.

Prewitt, K. (2010). The US decennial census: Politics and political science. Annual Review of Political Science, 13, 237-254.

Puckett, Carolyn. (2009). "The Story of the Social Security Number," *Social Security Bulletin*, Vol. 69, No. 2.

Rastogi, S., & O'Hara, A. (2012). Census match study. 2010 census program for evaluations and experiments. Center for Administrative Records Research and Applications.

Singer, E., Mathiowetz, N. A., & Couper, M. P. (1993). The impact of privacy and confidentiality concerns on survey participation: The case of the 1990 U.S. census. Public Opinion Quarterly, 57, 465–482.

Tourangeau, R., Edwards, B., Johnson, T. P., Wolter, K. M., & Bates, N. (2014). Hard-to-survey populations. Cambridge University Press.

Trump President Presidential Memorandum on Excluding Illegal Aliens From the Apportionment Base Following the 2020 Census, July 21, 2020.

U.S. Census Bureau. Template for Memorandum of Agreement Between the U.S. Department of Commerce and State Program Agencies, 11. https://big.assets.huffingtonpost.com/athena/files/2019/10/16/5da72b8de4b02253a2fbe8da.pdf

U.S. Census Bureau. (July 2013). Statistical Quality Standards https://www.census.gov/content/dam/Census/about/about-the-bureau/policies_and_notices/quality/statistical-quality-standards/Quality_Standards.pdf.

U.S. Census Bureau. (December 2018). 2020 Census Operational Plan: A New Design for the 21st Census, v. 4. https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/2020-oper-plan4.pdf.

U.S. Census Bureau (Feb. 2020). Post-2020 Census Citizen Voting Age Population by Race and Ethnicity (CVAP) Special Tabulation. https://www2.census.gov/programs-surveys/decennial/rdo/technical-documentation/special-tabulation/CVAP_Post2020_Census_documentation_v5.pdf?

U.S. Bureau of the Census (2001) Report: Recommendation Concerning the Methodology to be Used in Producing Tabulations of Population Reported to States and Localities Pursuant to 13 U.S.C. 141(c) (March 1) Washington, DC Department of Commerce https://www.census.gov/dmd/www/pdf/Escap2.pdf

Wang, Hansi Lo. (November 20, 2019). Nebraska Is 1st State To Share Driver's License Records With Census Bureau. https://www.npr.org/2019/11/20/781373128/nebraska-1st-to-say-it-will-share-drivers-license-records-with-census-bureau.

Warren, Robert. (February 27, 2019). Sharp Multiyear Decline in Undocumented Immigration Suggests Progress at US-Mexico Border, Not a National Emergency. https://cmsny.org/publications/essay-warren-022719/.

Warren, R., & Warren, J. R. (2013). Unauthorized Immigration to the United States: Annual Estimates and Components of Change, by State, 1990 to 2010. International Migration Review, 47(2), 296–329.

Expert Report of Dr. Christopher Warshaw dated August 17, 2020 and associated exhibits.

Whitford, D. C. (2002). Chronologic Overview of the Census 2000 Adjustment Decision. Joint Statistical Meetings - Section on Survey Research. Methods. New York City. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.380.7478&rep=rep1&type=pdf.

Appendix B

D. SUNSHINE HILLYGUS

Department of Political Science
Duke University
Box 90204, Durham, NC 27708
919-660-4341 (phone) 919-660-4330 (fax)
hillygus@duke.edu

ACADEMIC APPOINTMENT

Duke University
Professor of Political Science, July 2015-
Professor of Public Policy (by courtesy), Nov 2015-
Associate Professor of Political Science, July 2009-2015
Director, Duke Initiative on Survey Methodology, July 2010-

Harvard University
Frederick S. Danziger Associate Professor of Government, July 2007-June 2009
Director, Program on Survey Research, July 2005-June 2009
Assistant Professor of Government, July 2003-June 2007

EDUCATION

Stanford University
Ph.D., Political Science, 2003
M.A., Political Science, 2000
Dissertation: Understanding Receptivity to Political Campaigns: Three Essays on Voter Decision Making in Election 2000.
Committee: Morris Fiorina (chair), Norman Nie, Simon Jackman, David Brady

University of Arkansas
M.A., Political Science, May 1998
B.A., Political Science and B.A., Spanish, *Summa Cum Laude*, May 1996

BOOKS

Holbein, J. and D.S. Hillygus. *Making Young Voters: Converting Civic Attitudes into Civic Action*. Cambridge University Press, 2020.

Hillygus, D.S. and T. Shields. *The Persuadable Voter: Wedge Issues in Presidential Campaigns*. Princeton University Press, 2008. Paperback, 2009.
Winner of the 2009 Robert E. Lane Award.
Excerpt reprinted in *Controversies in Voting Behavior*, 5th edition(2011).

Hillygus, D.S., N. Nie, K. Prewitt, and H. Pals. *The Hard Count: The Political and Social Challenges of Census Mobilization*. Russell Sage Foundation, 2006.

JOURNAL PUBLICATIONS

Valentino, N., K. Zhirkov, and D.S. Hillygus, B. Guay. forthcoming "Personality Differences between Face-to-Face and Online Samples," *Public Opinion Quarterly*.

Hillygus, D. S., and Lopez, J. 2020. Easy as 1, 2, 3? Challenges of the 2020 Census and Implications for Political Science. *Journal of Political Institutions and Political Economy*, 1(2), 289-317.

Bail, C.A., Guay, B., Maloney, E., Combs, A., Hillygus, D.S., Merhout, F., Freelon, D. and Volfovsky, A., 2020. Assessing the Russian Internet Research Agency's impact on the political attitudes and behaviors of American Twitter users in late 2017. *Proceedings of the National Academy of Sciences*, 117(1).

Madson, G. and D.S. Hillygus. 2019. "Who Trusts the Polls? Motivated Reasoning in Evaluations of Polling Results," *Political Behavior*.

Carlson, C., V. Dounoucos, and D.S. Hillygus. 2019. "The Message and the Medium: The Communication Effects of Twitter Commentary," *Journal of Information Technology & Politics*.

Holbein, J., D.S. Hillygus, C. Gibson-Davis, M. Lenard, and D. Hill. 2018. "The Development of Students' Engagement in School, Community, and Democracy," *British Journal of Political Science*.

Hillygus, D.S. 2018. "Navigating Scholarly Exchange in Today's Media Environment," *Journal of Politics* 80(3), 1064-1068(editor-reviewed).

Xing, Z. D.S. Hillygus and L. Carin. 2017. "Evaluating U.S. Electoral Representation with a Joint Statistical Model of Congressional Roll-Calls, Legislative Text, and Voter Registration Data," *Proceedings of the 23nd ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 1205-1214.

Knutson, K, J. Phelan, M. Paskow, A. Roach, K. Whiton, G. Langer; D.S. Hillygus, M. Mokrzycki, W.A. Broughton, S. Chokroverty, K.L. Lichstein, M. Hirshkowitz. 2017. "The National Sleep Foundation's Sleep Health Index," *Sleep Health* 3 (4): 234-40.

DeYoreo, M., Reiter, J. and D.S. Hillygus. 2017."Nonparametric Bayesian Models With Focused Clustering for Mixed Ordinal and Nominal Data," *Bayesian Analysis*.

Hillygus, D.S., McKee, S., and M. Young. 2017. "Reversal of Fortune: The Political Behavior of White Migrants to the South," *Presidential Studies Quarterly*.

Henderson, M. and D.S. Hillygus. 2016. "Contextual Factors in Time of Decision in the 2008 Presidential Election," *Public Opinion Quarterly*.

Holbein, J. and D.S. Hillygus. 2016. "Making Young Voters: The Impact of Preregistration on Youth Turnout," *American Journal of Political Science*.

Ballard, A., D.S. Hillygus, and T. Konitzer. 2016. "Campaigning Online: Web Display Ads in the 2012 Presidential Campaign," *PS: Political Science & Politics*.

Si, Y., J. Reiter, and D.S. Hillygus. 2016. "Bayesian Latent Pattern Mixture Models For Handling Attrition In Panel Studies With Refreshment Samples," *Annals of Applied Statistics*.

Schifeling, T. C. Cheng, J. Reiter and D.S. Hillygus. 2015. "Accounting for Nonignorable Unit Nonresponse and Attrition in Panel Studies with Refreshment Samples," *Journal of Survey Statistics and Methodology*.

Gerber, A., K. Arceneaux, C. Boudreau, C. Dowling, and D.S. Hillygus. 2015."Reporting Balance Tables, Response Rates and Manipulation Checks in Experimental Research: A Reply from the Committee that Prepared the Reporting Guidelines," *Journal of Experimental Political Science*.

Johnston, C., D.S. Hillygus, and B. Bartels. 2014. "Ideology, The Affordable Care Act Ruling, and Supreme Court Legitimacy," *Public Opinion Quarterly*, 78 (4): 963-973.

Gerber, A., K. Arceneaux, C. Boudreau, C. Dowling, D.S. Hillygus, T. Palfrey, D. Biggers, D. Hendry. 2014. "Reporting Guidelines for Experimental Research: A Report from the Experimental Research Section Standards Committee," *Journal of Experimental Political Science*, 1(1): 81-98.

Si, Y., J. Reiter and D.S. Hillygus. 2014. "Semi-parametric Selection Models for Potentially Non-ignorable Attrition in Panel Studies with Refreshment Samples," *Political Analysis*, 23(1): 92-112.

Frankel, L. and D.S. Hillygus. 2014. "Panel Attrition and the Survey Experience," *Political Analysis*, 22(3): 336-353.

Hillygus, D.S. and S. Treul. 2014. "Assessing Strategic Voting in the 2008 Presidential Primaries," *Public Choice*, 161(3): 517-536.

Aldrich, J., B. Bishop, R. Hatch, D.S. Hillygus, and D. Rohde. 2013. "Blame, Responsibility, and the Tea Party in the 2010 Midterm Elections," *Political Behavior*, 36(3), 471-491.

Deng, Y., D.S. Hillygus, J. Reiter, and Y. Si. 2013. "Handling Attrition in Longitudinal Studies: The Case for Refreshment Samples," *Statistical Science*, 28(2): 238-256.

Hillygus, D.S. 2011. "The Evolution of Election Polling in the United States," *Public Opinion Quarterly*, 75(5): 962-981.

Henderson, M. and D.S. Hillygus. 2011. "The Dynamics of Health Care Opinion, 2008-2010: Partisanship, Self-Interest, and Racial Resentment," *Journal of Health Politics, Policy, and Law*, 36(6): 945-960.

Henderson, M., D.S. Hillygus, and T. Tompson. 2010. "'Sour Grapes' or Rational Voting? Voter Decision Making Among Thwarted Primary Voters in 2008," *Public Opinion Quarterly*, 74(3): 499-529.

Ellis, R., D.S. Hillygus and N. Nie. 2010. "Retrospective and Prospective Candidate Evaluations and the Dynamics of Vote Choice in 2008," *Electoral Studies* 29(4): 582-593.

Hillygus, D.S. and M. Henderson. 2010. "Policy Issues and the Dynamics of Vote Choice in the 2008 Presidential Election," *Journal of Elections, Public Opinion, and Parties*, 20(2): 241-269.

Treier, S. and D.S. Hillygus. 2009. "The Nature of Political Ideology in the Contemporary Electorate," *Public Opinion Quarterly*, 73(4):679-703.

Burden, B. and D.S. Hillygus. 2009. "Opinion Formation, Polarization, and Presidential Reelection." *Presidential Studies Quarterly*, 39: 619-35.

Hillygus, D.S. and T. Shields. 2008. "Southern Discomfort? Regional Differences in Voter Decision Making in the 2000 Presidential Election," *Presidential Studies Quarterly*, 38(3): 506-520.

Hillygus, D.S. 2007. "The Dynamics of Voter Decision Making Among Minor Party Supporters: The 2000 U.S. Presidential Election," *British Journal of Political Science*, 37(2): 225-244.

Hillygus, D.S. 2005. "Campaign Effects and the Dynamics of Turnout Intention in Election 2000," *Journal of Politics*, 66(1): 50-68.

Hillygus, D.S. 2005. "The Missing Link: Exploring the Relationship between Higher Education and Political Behavior," *Political Behavior*, 27(1): 25-47.

Hillygus, D.S. and T. Shields. 2005. "Moral Issues and Voter Decision Making in the 2004 Presidential Election," *PS: Political Science and Politics*, 38(2): 201-10. Reprinted in *Quantitative Methods in Practice*, D. Rochefort (ed) CQ Press, 2006.

Hillygus, D.S. and S. Jackman. 2003. "Voter Decision Making in Election 2000: Campaign Effects, Partisan Activation, and the Clinton Legacy," *American Journal of Political Science*, 47(4): 583-596.

Nie, N. and D.S. Hillygus. 2002. "Where Does Internet Time Come From?: A Reconnaissance," *IT & Society*, 1(2): 1-20.

Nie, N. and D.S. Hillygus. 2002. "The Impact of Internet Use on Sociability: Time-Diary Findings," *IT & Society*, 1(1): 1-29.

OTHER PUBLICATIONS

Zhou, J., D.S. Hillygus, and J. Aldrich. 2019. "Understanding the Trump Win: Populism, Partisanship, and Polarization in the 2016 Election," *Publications of the Bavarian American Academy*, Heidelberg University Press.

Guay, B. and D.S. Hillygus. 2018. "Online Public Opinion Polling," *Oxford Bibliographies*

Hillygus, D.S. and S. Snell. 2018. "Longitudinal Surveys: Issues and Opportunities," *Oxford Handbook on Polling and Polling Methods*. L. Atkeson and M. Alvarez, eds. New York: Oxford University Press.

Hillygus, D.S. and B. Guay. 2016. "The Virtues and Limitations of Election Polling in the United States," *Seminar Magazine*.

Hillygus, D.S. 2016. "The Practice of Survey Research: Changes and Challenges," *New Directions in Public Opinion*, second edition. Adam Berinsky, ed. Routledge Press.

Hillygus, D.S., N. Jackson, and M. Young. 2014. "Professional Respondents in Online Survey Panels," *Online Panel Research: A Data Quality Perspective*. M.Callegaro, R. Baker, P. Lavrakas, J. Krosnick, J. Bethlehem, and A. Göritz, eds.

Frankel, L. and D.S. Hillygus. 2014. "Niche Communication in Political Campaigns," *Oxford Handbook on Political Communication*. Kathleen Hall Jamieson and Kate Kenski, eds. New York: Oxford University Press.

Hillygus, D.S. and B. Burden. 2013. "Mass Polarization in the Bush Presidency," *The Presidency of George W. Bush: Perspectives on the Forty-Third President of the United States*, D. Kelly and T. Shields, eds. Texas A&M Press.

Hillygus, D.S. 2011. "The Practice of Survey Research: Changes and Challenges" *New Directions in Public Opinion*. Adam Berinsky, ed. Routledge Press.

Bishop, B. and D.S. Hillygus. 2011. "Campaigning, Debating, Advertising," *Oxford Handbook on Public Opinion and Media*. Larry Jacobs and Robert. Shapiro, eds. New York: Oxford University Press.

Hillygus, D.S. 2010. "Campaign Effects on Vote Choice," *Oxford Handbook on Elections and Political Behavior*. Jan Leighly and George C. Edwards III, eds. Oxford University Press.

Bishop, B., A. Cooper, and D.S. Hillygus. 2009. "Innovative Survey Methodologies for the Study of Attitudes Toward Terrorism and Counterterrorism Strategies," Institute for Homeland Security Solutions, Duke University.

Hillygus, D.S. 2009. "Guest Editor Introduction: Understanding the 2008 Presidential Election," *Public Opinion Quarterly* 73: 841-844.

Hillygus, D.S. 2009. "The Need for Survey Reporting Standards in Political Science," *The Future of Political Science: 100 Perspectives*, G. King, N. Nie, and K. Schlozman (eds).

Hillygus, D.S. 2008. "Internet and Politics 2008: Microtargeting," *The Publius Project*, The Berkman Center.

Hillygus, D.S. and T. Shields. 2008. "Moderation or Polarization in Candidates' Campaign Agendas?" *The Polling Report*, 24(15).

Hillygus, D.S. 2007. "Moral Values: Media, Voters, and Candidate Strategy," in *A Matter of Faith? Religion in the 2004 Presidential Election*, Brookings Institution Press.

Hillygus, D.S. 2004. Review of Models of Voting in Presidential Elections: The 2000 Election, H. Weisberg and C. Wilcox (eds), in *Presidential Studies Quarterly*, 34(3).

Brady, D. and D.S. Hillygus. 2004. "Assessing the Clinton Presidency: The Political Constraints of Legislative Policy" in *The Clinton Riddle: Perspectives on the 42nd President*, Shields, Whayne, and Kelley (eds). U of Arkansas Press.

Nie, N., D.S. Hillygus, and L. Erbring. 2003."Internet Use, Interpersonal Relations and Sociability: A Time Diary Study" in *The Internet in Everyday Life*, Wellman and Haythornthwaite (eds). Oxford: Blackwell Publishers.

Nie, N. and D.S. Hillygus. 2001. "Education and Democratic Citizenship," in *Making Good Citizens: Education and Civil Society*, Ravitch and Viteritti (eds). Yale University Press.

CURRENT PROJECTS

Olanrewaju A., G. Madson, D.S. Hillygus and J. Reiter. "Leveraging Auxiliary Information on Marginal Distributions in Nonignorable Models for Item and Unit Nonresponse in Surveys," under review.

Lopez, J. and D.S. Hillygus. "Why So Serious?: Survey Trolls and Political Misinformation" available at SSRN.

Endres, K. D.S. Hillygus, and S. Snell, "Big Data, Big Problems: Overcoming Barriers to Consent for Data Linking."

HONORS/AWARDS

Duke University Howard D. Johnson Distinguished Teaching Award, 2019.

National Science Foundation, Political Science Program ($3.9m) "ANES Web: American National Election Study," (PI S. Iyengar), 2018-2021.

Provost "Together Duke" Initiative ($454,000), "Duke Polarization Lab" (Co-PI with K. Heller, J. Moody, G. Sapiro, A. Volfovsky and PI C. Bail), 2018-2019

National Science Foundation, Political Science Program, Grant SES-1657821 ($335,690), "Making Young Voters: Policy Reforms to Increase Youth Turnout" (PI with Co-PI J. Holbein) 2017-2019

National Science Foundation, MMS Program, Grant SES-1733835 ($300,000), "Leveraging Auxiliary Information on Marginal Distributions in Multiple Imputation for Survey Nonresponse" (Co-PI with PI J. Reiter) 2017-2019

Bass Connections, Education and Human Development grant ($23,000), 2017-2019

Facebook Academic Program gift ($25,000), 2016

National Science Foundation, Political Science Program, Grant SES-1416816 ($249,999), "Education, Engagement, and Well-being among Adolescents" (PI with Co-PI C. Gibson-Davis) 2014-2016

National Science Foundation, MMS Program, Grant SES-1131897 supplement ($199,000), "Conducting Research Using the Survey of Income and Program Participation (SIPP) Panel Study," 2013-2015

Information Initiative at Duke, Research Incubator Award ($75,000) "Using Big Data to Understand the American Electorate," (with L. Carin), 2013-2015

National Science Foundation, MMS Program, Grant SES-1131897 ($2,997,591), "Triangle Census Research Network" (Senior Co-Investigator with L. Cox, D. Dunson, J. Hotz, F. Li, and PI J. Reiter and Co-PI A. Karr), 2011-2016

National Science Foundation, MMS Program, Grant SES-1061241 ($160,000), "Multiple Imputation Methods for Handling Missing Data in Longitudinal Studies with Refreshment Samples." (with PI J. Reiter), 2011-2012

National Science Foundation, Political Science Program, SES-1110341"Balancing Innovation and Continuity in Longitudinal Surveys"($38,235), 2011

IHSS Award, Innovative Survey Methodologies($25,081), 2009

Robert E. Lane Award for best book published in political psychology in 2008

CAPS Junior Faculty Seed Grant ($5000), 2008

Shorenstein Center for Press and Politics Fellow, Fall 2005

Program on the Global Demography of Aging Grant ($17,130), 2005-06

Institute for Quantitative Social Science Research Grant ($10,000), 2005-06

Institutional Development Initiative ($10,000), 2005-06

Blair Center for Southern Politics, 2004 Election Survey Funding ($85,000)

CAPS Junior Faculty Seed Grant ($5000), 2004-2005

Milton Fund Grant, Harvard University ($3500), 2004-2005

Harvard University Cooke-Clark Grant ($6000)

Westview Paper Prize, 2003 Midwest Political Science Meeting

Heinz Eulau Political Behavior Fellowship, 2002-2003

Best Graduate Student Poster Award, 2002 Political Methodology Meeting

National Conference of State Legislators Women's Graduate Fellowship, 1998

PROFESSIONAL SERVICE

Associate PI, American National Election Study, 2018-2021
Associate Editor, *Political Analysis*, 2018-
Chair, POQ Advisory Committee, 2011-
Methods, Measurement, and Statistics Advisory Panel, National Science Foundation, 2018-2020
Board Member, American National Election Studies, 2010-2013, 2014-2017
Scientific Advisory Committee, U.S. Census Bureau, 2012-2018
Political Science Advisory Panel, National Science Foundation, 2010-2012
Member, Executive Council, Midwest Political Science Association, 2014-17
Member, Executive Council, Southern Political Science Association, 2014-17

Editorial Board, *American Political Science Review*, 2016-
Editorial Board, *Journal of Politics*, 2010-
Editorial Board, *Public Opinion Quarterly*, 2008-
Editorial Board, *Political Communication*, 2015-
Editorial Board, *Journal of Experimental Political Science*, 2013-
Editorial Board, *Political Behavior*, 2011-
Editorial Board, *Journal of Elections, Public Opinion and Parties*, 2008-
Editorial Board, *Political Science Network*, 2007-
Editorial Board, *The Forum*, 2011-
Editorial Board, *Political Analysis*, 2015-2017
Editorial Board, *American Journal of Political Science*, 2009-2012
Guest Editor, *Public Opinion Quarterly* 2009 Special Issue
AAPOR Journals Committee (2019)
APSA EPOVB Best Article in Political Behavior Award Committee (2019)
APSA Experimental Research Section: Reporting Standards Committee (2011)
APSA Political Meth Section: Nominations Committee (2010-2012), Diversity Committee (2005-08, 2011-12), Miller Prize (2017), Emerging Scholar (2018-2020)
SPSA, VO Key Award Committee, 2013
APSA Gladys M. Kammerer Award Committee, 2012
APSA Philip Converse Book Award Committee, 2009, 2010 and 2012
SPSA Program Committee, 2009 and 2012
JOP Best Paper Award Committee, 2011
AAPOR Book Award Committee, 2011, 2016

CONFERENCES ORGANIZED

International Total Survey Error Workshop (6/18)
Conducting Research Using the Survey of Income and Program Participation (SIPP) Panel Study, Durham, NC (2/14)
Balancing Innovation and Continuity in Longitudinal Surveys, Durham, NC (2/11)
Assessing Survey Quality, Cambridge, MA (4/09)
Surveying Multiethnic America, Cambridge, MA (4/07)
Advances in Questionnaire Design, Cambridge, MA (2/06)

Expert Witness Work

League of Women Voters v. State of North Carolina, Case No. 1:13-CV-660
NAACP et al. v. Bureau of the Census et al., Case No. 8:18-CV-00891
New York Immigration Coalition v. Dept. of Commerce, Case No. 18-CV-5025

INVITED PRESENTATIONS(last 5 years)

Plenary, Pacific Association of Public Opinion Research Meeting (12/19)
Massachusetts Institute of Technology (10/19)
Michigan State University (9/19)
Plenary, American Association of Public Opinion Research Meeting (5/19)
University of North Carolina (2/19)
Emory University (11/18)
Duke Alumni Association of Philadelphia (4/18)
Duke Alumni Association of Los Angeles (6/17)
Duke Alumni Association of Austin (6/17)

Duke Alumni Association of Denver (5/17)
Fordham University (4/17)
Qualtrics Innovation Summit, Salt Lake City (3/17)
Stanford Alumni Association, Durham (2/17)
Duke Alumni Association of San Diego (11/16)
Wake Forest University (11/16)
Reed College (10/16)
UNC-Wilmington (10/16)
Duke Alumni Association of North Texas (9/16)
Duke Alumni Association of Charlotte (5/16)
Dept of Political Science, MIT (4/16)
Center for the Study of Democratic Politics, Princeton (3/16)
Appalachian State University (3/16)
Computers, Privacy, and Data Protection Conference, Brussels (1/16)
Political Persuasion Conference, Laguna Beach, CA (1/16)
Duke Alumni Association of Tampa (1/16)
Keynote, Australian Society for Quantitative Political Science, Melbourne (12/15)
Dept of Communication, U. of Michigan (11/15)
Dept of Political Science, UNC-Greensboro (11/15)
Microsoft Panel on Campaign Technology, D.C. (11/15)
Political Science Dept, U. Texas (12/14)
ElectionsLive!, Duke University (11/14)
American Politics Research Group, UNC (11/14)
American Politics Workshop, UCLA (01/14)
The American Panel Survey Workshop, Wash U (11/13)
Intro to Survey Methods, Shanghai Jiao Tong University (06/13)
Senior Scholar Career Presentation, Visions in Methodology, FSU (04/13)
American Politics Workshop, Yale University (03/13)
Google Political Innovation Summit, New York (01/13)

DEPARTMENTAL AND UNIVERSITY SERVICE

Founding Director, Duke Initiative on Survey Methodology, 2010-
Associate Director, Institutional Review Board, Duke University, 2010-
Social Science Research Institute Steering Committee, 2011-
Duke Advisory Committee on Investment Responsibility, 2017-
EHD-Bass Connections Team Leader, 2017-2020
Standing Committee for Misconduct in Research, 2019-2022
Social Science Research Institute (SSRI) Director Search chair, 2018
Faculty Fellow, Duke Alumni Association, 2015-2018
POLIS steering committee, 2015-2017
Social Science Research Institute Planning Committee, 2012
Behavior and Identity Field Chair, 2011-2012, 2014, 2016-2018
Behavior and Identity Workshop Organizer, 2010-2012, 2016
American Politics Field Organizer, 2010-2012
REP Search Committee, Duke Political Science, 2013, 2017
China Search Committee, Duke Political Science, 2011
Graduate Admissions Committee, Duke Political Science, 2009, 2014

Undergraduate Curriculum Committee, Duke Political Science, 2009
Faculty Organizer, Duke Political Science Graduate Orientation, 2009
Harvard University Faculty Advisory Group for Metrics and Analysis, 2006-2009
Faculty Advisory Board for the Social Sciences, Harvard FAS, 2008-2009
Executive Committee, Center for American Political Studies, 2003-2009
Organizer, Political Psychology and Behavior Workshop, 2003-2008
Standing Committee on Women, Harvard FAS 2004-2005