No. 01-714

In the Supreme Court of the United States

STATE OF UTAH, ET AL., APPELLANTS

v.

DONALD L. EVANS, SECRETARY OF COMMERCE, ET AL.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF UTAH

MOTION TO AFFIRM

THEODORE B. OLSON
Solicitor General
Counsel of Record
ROBERT D. MCCALLUM, JR.
Assistant Attorney General
EDWIN S. KNEEDLER
Deputy Solicitor General
MALCOLM L. STEWART
Assistant to the Solicitor General
MARK B. STERN
MICHAEL S. RAAB
JONATHAN H. LEVY
Attorneys
Department of Justice
Washington, D.C. 20530-0001
(202) 514-2217

QUESTIONS PRESENTED

In the 2000 census, the Census Bureau used a process known as "imputation," under which the number of residents in a housing unit whose occupancy could not otherwise be determined was based on the known number of residents of a similar nearby unit. The questions presented are as follows:

1. Whether the use of imputation violated 13 U.S.C. 195, which prohibits "the use of the statistical method known as 'sampling'" in determining the population "for purposes of apportionment of Representatives in Congress among the several States."

2. Whether the use of imputation violated the Census Clause of the Constitution, Art. I, § 2, Cl. 3.

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Pursuant to Rule 18.6 of the Rules of this Court, the Solicitor General, on behalf of the Secretary of Commerce and the Director of the Bureau of the Census, respectfully moves that the judgment of the district court be affirmed.

OPINION BELOW

The opinion of the three-judge district court (J.S. App. 1a-34a) is not yet reported.

JURISDICTION

The judgment of the district court was entered on November 5, 2001. The notice of appeal (J.S. App. 35a-36a) was filed on November 5, 2001. The jurisdictional statement was filed on November 20, 2001. The jurisdiction of this Court is invoked under 28 U.S.C. 1253 and under Section 209(e)(1) of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 1998, Pub. L. No. 105-119, 111 Stat. 2482.

STATEMENT

1. The Constitution requires a decennial census for the purpose of determining the number of Representatives to which each State is entitled. Article I, Section 2, Clause 3 provides that "Representatives * * * shall be apportioned among the several States * * * according to their respective Numbers" (the Apportionment Clause). It then provides that "[t]he actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and within every subsequent Term of ten Years, in such Manner as they shall by Law direct" (the Census Clause). *Ibid.* See also U.S. Const. Amend. XIV, § 2 ("Representatives shall be apportioned among the several States according to their respective numbers, counting the whole number of persons in each State, excluding Indians not taxed.").

2. The Census Act provides that the Secretary of Commerce "shall, in the year 1980 and every 10 years thereafter, take a decennial census of population as of the first day of April of such year." 13 U.S.C. 141(a). The "tabulation of total population by States" is to be completed and reported by the Secretary to the President within nine months after the April 1 census date. 13 U.S.C. 141(b). Within one week after the beginning of the first Session of Congress following the census, the President must transmit to Congress a statement showing the "whole number of persons in each State * * * and the number of Representatives to which each State would be entitled" under the statutorily prescribed "equal proportions" formula for apportioning Representatives. 2 U.S.C. 2a(a); see *United States Dep't of Commerce* v. *Montana*, 503 U.S. 442, 451-455 (1992). Under the apportionment law, "[e]ach State shall be entitled * * * to the number of Representatives shown in the statement" submitted by the President. 2 U.S.C. 2a(b). Within 15 days

after receiving that statement, the Clerk of the House must "send to the executive of each State a certificate of the number of Representatives to which such State is entitled." *Ibid.*

The Census Act authorizes the Secretary to conduct the decennial census "in such form and content as he may determine, including the use of sampling procedures and special surveys." 13 U.S.C. 141(a). The Bureau of the Census and its Director assist the Secretary in the performance of his duties under the Census Act. See 13 U.S.C. 2, 21. The Act further states that "[e]xcept for the determination of 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." 13 U.S.C. 195. Section 195 was enacted in 1957, at the request of the Secretary of Commerce, and was amended to its present form in 1976. See *Department of Commerce* v. *United States House of Representatives*, 525 U.S. 316, 336, 338-339 (1999).

3. "In the 2000 census, the Census Bureau processed data for over 120 million households, including over 147 million paper questionnaires and 1.5 billion pages of printed material." J.S. App. 25a. The Bureau's efforts "to obtain a completed census questionnaire from every housing unit for the 2000 census" began with the development of a Decennial Master Address File, "which contained the mailing address, street address, and census block location of every housing unit in the United States." *Id.* at 6a. The Bureau sought information from residents of each address through a number of techniques designed to maximize the response rate, including mailed, hand-delivered, and enumerator-prepared questionnaires, complemented by community outreach. *Id.* at 7a; A.R. C00198-C00201, C00206-C00207. The Census Bureau then undertook extensive efforts to obtain missing

data from nonresponding households. Enumerators performed rechecks and telephone interviews, making up to six attempts to obtain interviews. If the relevant information could not be obtained despite these steps, the Bureau sought the information from proxy respondents, such as neighbors, landlords and postal workers. See Declaration of Howard Hogan (Hogan Decl.) paras. 73-74; see also A.R. C00819-C00841.

The Census Bureau's intensive efforts to obtain information directly from an individual at each address (or, if necessary, an individual familiar with that address) were not always successful. When the Bureau was otherwise unable to obtain information regarding the number of persons who resided in a particular housing unit on the census date, it employed "imputation," a widely-accepted procedure used to account for missing, discrepant, or improperly processed data. See Hogan Decl. paras. 8-9, 16, 31. In the 1940 and 1950 censuses, the Bureau used imputation to account for missing demographic data but not to determine the population counts used in apportioning Representatives among the States. J.S. App. 8a; Hogan Decl. para. 39. "Count imputation"—*i.e.* imputation used in the determination of official population figures—has been employed in every census starting in 1960. See J.S. App. 8a; Hogan Decl. paras. 39, 41, 43, 46, 52, 58; A.R. C00376-C00380, C00394-C00395, C00418-C00425, C00431, C01388-C01389. In the 2000 census, count imputation was used to determine the status, occupancy, and, if occupied, number of residents for a unit included in the Master Address File where any of those data points was unknown. J.S. App. 7a & 8a n.5. Count imputation was used only after the Bureau had unsuccessfully attempted to obtain the relevant information through the steps described above. *Id.* at 7a.

The basic count-imputation method used by the Census Bureau since the 1960 census has been the "hot-deck"

method, "in which imputed information comes from the same census." Hogan Decl. para. 16. ("'Cold-deck' imputation uses information from a prior census or some other outside source." *Ibid.*) In the form of hot-deck imputation used in the 2000 census, housing unit and other data were stored sequentially in a computer file as they were processed. When data for a particular unit were incomplete, data from the most recently processed housing unit with similar characteristics were imputed to it. J.S. App. 8a; see Hogan Decl. para. 17.

The Census Bureau has made Congress aware of its use of imputation. After each census, the Bureau has published procedural histories, analyses, and reports that clearly describe the use of imputation. See, *e.g.*, A.R. C00145, C00361, C00379, C00394-C00395, C00418, C00425. The Bureau has also provided statements and testimony to congressional committees regarding its use of imputation. See, *e.g.*, A.R. C00668, C00677-C00679, C00688, C01287. Following the 1980 census, the State of Indiana sued the Census Bureau because, as a result of count imputation, a seat in the House of Representatives shifted from Indiana to Florida. See *Orr* v. *Baldrige*, No. IP-81-604-C (S.D. Ind. July 1, 1985). In that suit, the parties ultimately stipulated, and the court agreed, that imputation was not sampling. See J.S. App. 19a. The court in *Orr* explained:

> Sampling is the selection of a subset of units from a larger population in such a way that each unit of the population has a known chance of selection. Sampling is used where a scientifically selected set of units can be used to represent the entire population from which they are drawn. Inferences about the entire population can be based on sample results. Imputation, on the other hand, is a procedure for determining a plausible value for missing data. Imputation is used in both sample surveys

> and censuses with the goal of achieving as complete as possible an enumeration of the sampled or population units.

Id. at 19a-20a (quoting *Orr*).

4. In 1991, Congress directed the Secretary of Commerce to contract with the National Academy of Sciences to study means to improve the accuracy of the census, including the use of sampling. Decennial Census Improvement Act of 1991, Pub. L. No. 102-135, § 2, 105 Stat. 635. The Academy recommended the use of sampling, and the Census Bureau ultimately adopted a plan for the 2000 census that included statistical sampling programs. See A.R. C00132; Hogan Decl. para. 61. Various parties filed suit to challenge that aspect of the Bureau's plan, arguing that the use of sampling in determining the population figures for the apportionment of Representatives among the States would violate 13 U.S.C. 195, as well as the Census Clause of the Constitution. In *House of Representatives*, the Court held that Section 195 "prohibits the proposed uses of statistical sampling in calculating the population for purposes of apportionment." 525 U.S. at 343. In light of its disposition of the plaintiffs' statutory claim, the Court found it unnecessary to resolve the constitutional question. *Id.* at 343-344.[1]

5. As in the 1960 through 1990 censuses, the Bureau's plan for the 2000 census included count imputation to address data processing problems. Hogan Decl. para. 58. The

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[1] Four Members of the Court expressed the view that "a strong case can be made that an apportionment census conducted with the use of 'sampling techniques' is not the 'actual Enumeration' that the Constitution requires." 525 U.S. at 349 (Scalia, J., concurring in part). Those Justices invoked the doctrine of constitutional doubt in support of the Court's holding that Section 195 bars the use of sampling for purposes of determining the apportionment figures. *Id.* at 344-349. Four other Members of the Court considered and rejected the plaintiffs' constitutional challenge. *Id.* at 362-364 (Stevens, J., dissenting).

Bureau's intention to use hot-deck imputation was unaffected by the Court's decision in *House of Representatives*. Before the commencement of the 2000 census, the Bureau presented all details of its plan for the census, including its intention to use imputation, to the congressional committees charged with overseeing the census, the General Accounting Office, the Census Monitoring Board, the Inspector General of the Department of Commerce, and numerous advisory committees. Hogan Decl. para. 65; see, *e.g.*, A.R. C01519, C01731, C01752, C01805, C01818-C01819. The Bureau conducted the census in accordance with the plans presented to Congress. A total of approximately 0.4% of the population was added to the apportionment count through imputation. J.S. App. 7a.

6. If the Bureau had not employed imputation—*i.e.*, if it had attributed zero residents to each of the housing units for which imputed figures were used—Utah would have been apportioned one additional (and North Carolina one fewer) Representative. J.S. App. 9a. The State of Utah and several elected Utah officials (appellants in this Court) brought suit, seeking to invalidate the use of imputation and to have one Representative reapportioned from North Carolina to Utah. Appellants alleged that the Bureau's use of imputation violated the Administrative Procedure Act (APA), the Census Act, and the Census Clause of the Constitution. *Ibid.* The State of North Carolina and several of its elected officials intervened as defendants. J.S. App. 2a. A three-judge district court convened under 28 U.S.C. 2284 granted the defendants' motion for summary judgment. J.S. App. 1a-34a.[2]

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[2] Appellants place extensive reliance (see, *e.g.*, J.S. 3) on a document captioned "Plaintiffs' Statement of Undisputed Facts" (SUF), which they filed in the district court. That document does not, however, set forth facts that are actually undisputed. Rather, it contains appellants' charac-

a. Relying on this Court's decision in *Franklin* v. *Massachusetts*, 505 U.S. 788 (1992), the district court held that appellants' Census Act and constitutional claims were justiciable. J.S. App. 9a-12a. Based on *Franklin* and on *Utah* v. *Evans*, 143 F. Supp. 2d 1290 (D. Utah 2001) (*Evans I*), aff'd, No. 01-283 (Nov. 26, 2001), however, the court held that appellants' APA claim was not justiciable. J.S. App. 12a-15a.[3]

b. The district court held that 13 U.S.C. 195 does not prohibit the use of hot-deck imputation in determining population figures for purposes of apportioning Representatives among the States. J.S. App. 16a-24a. The court observed that "section 195 does not preclude the Census Bureau from the use of every type of statistical methodology in arriving at apportionment figures during a decennial census. Instead, it prohibits only 'the use of the statistical method known as "sampling."'" *Id.* at 18a. The district court "conclude[d] that statistical sampling and imputation are separate statistical methodologies and that they were viewed as such at the time of the enactment of § 195." *Ibid.* The court explained:

> Sampling is the technique of determining the traits of the entire population by collecting and analyzing data from a representative segment of that population. In hot deck imputation, on the other hand, there is no representative sample from which to infer the characteristics of the larger population. Instead, a single, fully enumerated

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terization and analysis of the evidence contained in the record; the federal appellees disputed appellants' recitation of the facts at considerable length. See Consolidated Memorandum in Support of Defendants' Motion to Dismiss or, in the Alternative, their Cross-Motion for Summary Judgment, and in Opposition to Plaintiffs' Motion for Summary Judgment at 5-17 (filed Aug. 14, 2001).

[3] Appellants do not press their APA claim in this Court.

> housing unit is used to draw conclusions about a neighboring housing unit for which data is missing. That is, imputation is used to fill in missing data on the assumption that similar types of dwellings in the same geographic area will have similar characteristics.

Id. at 20a.

c. The district court held that the Bureau's use of hot-deck imputation in determining the population figures employed in apportioning Representatives among the States did not violate the Census Clause of the Constitution. J.S. App. 24a-27a. The court observed that the text of the Census Clause, which provides that the decennial census shall take place "in such Manner as [Congress] shall by law direct," Art. I, § 2, Cl. 3, "vests Congress with virtually unlimited discretion in conducting the decennial actual Enumeration." J.S. App. 24a. Given "the enormity and complexity of" the decennial census, the court found it "inconceivable that the Constitution prohibits the use of statistical methodologies to account for missing and incomplete data." *Id.* at 25a. Because gaps in the recorded data are inevitable, the court explained, "some type of imputation must take place by practical necessity, whether it is the imputation of statistically plausible values for the missing data or the imputation of a zero." *Ibid.* The court stated that "[t]he latter approach appears clearly inconsistent with the constitutional imperative of an actual enumeration." *Ibid.*

The district court rejected appellants' contention that the phrase "actual Enumeration" in the Census Clause precludes hot-deck imputation or requires the use of a particular census methodology. The court found that "[t]he constitutional requirement of an enumerative census was simply to distinguish that process from the conjectural apportionment of the first Congress" set forth in Article I, Section 2, Clause

3 of the Constitution itself. J.S. App. 26a. The court also noted that "the phrase 'actual enumeration[]' * * * was added by the Committee of Style and Arrangement, a committee which did not operate to alter the substance of any of the resolutions passed by the Constitutional Convention." *Ibid.*

d. Senior District Judge Greene dissented. J.S. App. 28a-34a. Judge Greene would have held that the Bureau's use of imputation violated Section 195's prohibition on the use of "sampling" in the determination of population figures used to apportion 'Representatives among the States. *Id.* at 28a. He was of the view that "'sampling' and 'imputation' in substance and effect are indistinguishable because both use a portion of the population to infer information concerning segments of the population in order to arrive at final figures concerning the population as a whole." *Id.* at 33a.

ARGUMENT

I. THE CENSUS BUREAU'S USE OF IMPUTATION IN DETERMINING THE POPULATION FOR PURPOSES OF APPORTIONING REPRESENTATIVES AMONG THE STATES DOES NOT VIOLATE THE CENSUS ACT

A. For purposes of determining the apportionment of Representatives among the States, 13 U.S.C. 195 prohibits "the use of the statistical method known as 'sampling.'" The statutory language clearly expresses Congress's intent to distinguish "sampling" from other "statistical method[s]" and to prohibit only the former. See J.S. App. 18a (district court "begin[s] by noting that section 195 does not preclude the Census Bureau from the use of every type of statistical methodology in arriving at apportionment figures during a decennial census"). In addition, Section 195's reference to "the statistical method *known as 'sampling'*" (emphasis added) reflects Congress's understanding, at the time of the

provision's enactment in 1957, that the word "sampling" was a term of art with an established meaning.

Among statisticians, the term "sampling" has a well-accepted meaning and refers to a strategy for *collecting* data. See Hogan Decl. paras. 19, 21-23; Declaration of Joseph Waksberg (Waksberg Decl.) paras. 7-9. Imputation, by contrast, is a method of *processing* data that have already been collected. *Ibid.* Thus, "sampling and imputation 'are two completely different procedures, based upon totally distinct principles and serving equally distinct purposes.'" Hogan Decl. para. 23 (quoting A.R. C00570).[4]

Indeed, "the common usage by survey statisticians of such expressions as sampling * * * does not refer to imputation for missing data, even when the method of imputation involves some auxiliary sample operation (which was not the case in the 2000 census)." Waksberg Decl. para. 9. As a standard textbook published shortly before the enactment of 13 U.S.C. 195 explained, "[a] sampling method is a method of selecting a fraction of the population in a way that the selected sample represents the population." Hogan Decl. para. 27 n.5 (quoting P. Sukhatme, *Sampling Theory of Surveys With Applications* 9 (1954)). That is, moreover, the common dictionary meaning of "sampling." See *Webster's Third New International Dictionary* 2008 (1993) (def. 1.b) ("assessment of the quality or character of a whole by examination of a sample"); *ibid.* ("sample"; def. 2.a) ("a representative portion of a whole: a small segment or quantity taken as evidence of the quality or character of the entire group or lot"). By contrast, "[t]he hot-deck imputation used in the 2000 Census was a completely deterministic

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[4] Some statisticians do not consider hot-deck imputation to be a statistical methodology at all. See A.R. C01638 ("the hot deck consists of non-statistical procedures"); A.R. C01419 ("hot deck is * * * fundamentally non-statistical").

procedure which utilized data from a predetermined neighbor. There was no process of selecting from among a set of similar units, and, as a result, no sampling." Waksberg Decl. para. 6.

In the district court, appellants submitted the declarations of Drs. Lara J. Wolfson (Wolfson Decl.) and Donald B. Rubin (Rubin Decl.) in support of their claim that hot-deck imputation is a form of statistical sampling. Dr. Wolfson's declaration defined sampling as "the process of selecting a number of subjects [units] from all the subjects [units] in a particular group or universe." Wolfson Decl. para. 45 (internal quotation marks omitted). As Dr. Hogan explained, that definition is potentially over-inclusive because it "does not make clear that, in sampling, the process of selecting a sample is a deliberate and purposeful activity occurring during the design phase of a survey." Hogan Decl. para. 26. Dr. Hogan further explained:

> Without this understanding, Dr. Wolfson's definition is broad enough to cover situations that have nothing to do with sampling. And with this understanding, Dr. Wolfson's definition does not encompass imputation. * * * [I]mputation is not a mechanism for selecting units during the design phase of a census or sample survey, but rather is a means of dealing with missing data in the data processing stage.

Ibid. Dr. Rubin's declaration similarly defined sampling as "the process of obtaining data from a subset of a population (the subset is usually called the 'sample') from which estimates are made about characteristics of the entire population." Rubin Decl. para. 13. That definition "suffers from the same flaws as Dr. Wolfson's in that Dr. Rubin's definition does not incorporate the process of *deliberately* selecting a subset of the population *during the design phase of a survey*." Hogan Decl. para. 27.

Appellants contend (J.S. 14, 17) that their understanding of the term "sampling" is consistent with that of the Census Bureau, as reflected in the Bureau's August 1997 *Report to Congress* concerning the 2000 census. Appellants' argument rests on misleading partial quotations from that *Report*. The full passage from which those quotations are drawn is as follows:

> In our common experience, "sampling" occurs whenever the information on a portion of a population is used to infer information on the population as a whole. We use samples every day to characterize a larger group—for manufacturing quality checks, for medical tests, for determining air and water quality, and for conducting audits, to name a few. In laymen's terms, a "sample" is taken whenever the whole is represented by less than the whole. *Among professional statisticians, the term "sample" is reserved for instances when the selection of the smaller population is based on the methodology of their science.*

A.R. C00155 (emphasis added).

As the underscored language makes clear, the Bureau's understanding of "sampling" as a technical term of art reflected in the 1997 *Report to Congress* does not encompass hot-deck imputation. Under the hot-deck method, each individual "donor" unit is used because it bears a particular relation to a unit for which the Bureau is (for whatever reason) unable to obtain occupancy information. *After* the census has been completed, it is possible to identify the "donor" units used in the imputation process and to characterize the class of persons within those units, taken together, as a subset of the national population. But the class (*qua* class) of persons within the donor units is simply the fortuitous result of the Bureau's inability to obtain pertinent information regarding a set of other residences. The

class is not (in statistical terminology) a "sample" because it is not selected "based on the methodology of [statistical] science" (*Report to Congress*, A.R. C00155) and does not reflect a "deliberate and purposeful activity occurring during the design phase of a survey" (Hogan Decl. para. 26).

B. Appellants contend that hot-deck imputation is "substantively indistinguishable" from the sampling activities declared invalid by this Court in *House of Representatives*, and that it would therefore be "absurd" to permit the one but not the other. J.S. 15; see J.S. 15-17. That argument ignores the salient distinctions between hot-deck imputation and the sampling activities that were at issue in *House of Representatives*.

First, "the use of the statistical method known as 'sampling,'" 13 U.S.C. 195, involves a conscious decision by the Census Bureau to undertake more intensive data-collection efforts with respect to some housing units than it employs for other, comparable units. Under the Census Bureau's initial plan for the 2000 census, for example, the Bureau would have conducted nonresponse followup on only a portion of the housing units that did not respond to the mailed questionnaires. 525 U.S. at 324. As a result of the Court's decision in *House of Representatives*, the Bureau undertook followup efforts with respect to all nonresponding units. Hogan Decl. paras. 62, 63; A.R. C00278.

Indeed, the types of sampling at which Section 195 was originally directed, such as the "long form" used for "gathering supplemental, nonapportionment census information regarding population, unemployment, housing, and other matters collected in conjunction with the decennial census," *House of Representatives*, 525 U.S. at 337, involve efforts to collect data *only* from persons within the selected sample. The initial exemption of apportionment figures from the general authorization to use "sampling" thus reflected Congress's view that sampling should not be employed in the

apportionment context as a *substitute* for systematic efforts to contact all households directly. In *House of Representatives*, the Court held that the language of Section 195 admits of no distinction between that form of sampling and sampling used "as a 'supplement' to traditional enumeration methods." 525 U.S. at 342. There is, however, no basis for extending the holding in that case to imputation techniques that (a) fall outside the expert understanding of "sampling" as a technical term of art, and (b) are used only as a last resort after the failure of extensive direct efforts to collect occupancy information regarding a particular unit.

In the instant case, the housing units for which population data were imputed were not the subject of less intensive data collection efforts than the units from which the imputed data were drawn. To the contrary, those units for which imputed figures were ultimately used were subject to the *most* intensive data collection efforts, since the Bureau imputed figures to a particular unit only after the full range of measures successfully employed to obtain occupancy information from other units had proved unavailing. See Hogan Decl. paras. 73-74; J.S. App. 7a. Appellants do not contend that the Bureau could or should have made additional efforts to contact persons within the units at issue; their challenge to the Bureau's use of imputation has nothing to do with the manner in which data were collected. Instead, their claim is that, after all efforts to collect occupancy information regarding a particular housing unit proved unsuccessful, the Bureau should have simply attributed zero residents to the unit in question rather than imputing data from a comparable nearby unit. Congress's decision to prohibit the use of "sampling" in the determination of apportionment figures has little bearing on the appropriate choice between those two alternatives.

Second, precisely because "the process of selecting a sample is a deliberate and purposeful activity occurring

during the design phase of a survey," Hogan Decl. para. 26, the Bureau's use of sampling in determining the population for purposes of apportioning Representatives among the States might give rise to the appearance of political manipulation. In hot-deck imputation, by contrast, neither the number nor the identity of the "donor" or "donee" units is pre-selected by the Bureau. Indeed, if the Bureau's other data collection efforts were uniformly successful, imputation would not be used at all. Because the imputation of figures to a particular unit is simply an *ex post* response to a gap in the collected data, Congress might reasonably conclude that it is unlikely to be used in a manipulative fashion.

Appellants contend that if the hot-deck method is permitted, "the Bureau could predictably expand its use of hot-deck imputation to estimate increasingly larger portions of the population" by "reducing the resources it dedicates to the non-response follow-up process." J.S. 15, 16. But whether or not the Bureau uses hot-deck imputation at the data-processing stage, it has very substantial latitude to determine what followup data collection efforts should be employed for housing units that fail to respond to the initial questionnaire. If the Census Bureau attributed zero occupants to each unit for which its data collection efforts were unsuccessful, rather than imputing occupancy information from a comparable nearby unit, changes in the Bureau's nonresponse followup procedures could be expected to have much more substantial effects on the final population counts. The Bureau's use of hot-deck imputation therefore mitigates rather than increases any danger that might be thought to exist of political manipulation of the data collection process.

Section 195 should be construed, moreover, in light of the Census Act as a whole, which confers extremely broad discretion on the Secretary. See 13 U.S.C. 141(a) (Secretary may conduct the decennial census "in such form and content as he may determine."); *Wisconsin* v. *City of New York*, 517

U.S. 1, 19 (1996) (noting that in Section 141(a), "Congress has delegated its broad authority over the census to the Secretary"). Section 195's ban on sampling in the apportionment context does not reflect a systematic congressional effort to micromanage the census; it is instead a narrow exception, confined to a particular statistical methodology, to a general rule of broad deference to the Secretary's judgment and expertise. Because hot-deck imputation is not (and was not in 1957) regarded within the statistical community as a form of "sampling," the determination whether imputation shares practical shortcomings similar to those of sampling is entrusted to the Secretary, not to the courts.[5]

C. In holding that 13 U.S.C. 195 bars the use of sampling in determining the apportionment counts, the Court in *House of Representatives* relied in part on prior Census Bureau pronouncements construing the statute to impose such a prohibition. See 525 U.S. at 340. By contrast, the Bureau has used count imputation in every census since 1960 and has expressed no doubt as to its legality. Testifying at a 1991 congressional oversight hearing, for example, Director of the Census Bureau Barbara Everitt Bryant included imputation in her description of longstanding decennial census procedures:

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[5] Plaintiffs also contend (J.S. 16 n.4) that Congress could not have intended to ban sampling while allowing imputation because sampling is always more reliable than imputation. For the purposes of determining whether hot-deck imputation violates the Census Act, its relative accuracy is irrelevant. The only relevant question is whether imputation is a form of "the statistical method known as 'sampling.'" 13 U.S.C. 195. In any event, appellants' premise is incorrect: imputation can be more accurate than sampling because housing units in geographic proximity tend to be similar in size. See Hogan Decl. para. 17; A.R. C00534-C00546, C00601-C00615, C00634-C00650, C01418, C01422; see also Hogan Decl. para. 23 ("sampling and imputation are not competitive, nor is one methodology superior to the other").

> After all efforts are made through mail, personal interview, repeat visits to each housing unit, talking to neighbors, observation, coverage improvement operations, and so on, to identify and complete the enumeration for every housing unit, we still have a certain level of unfinished work. That is, our address control file contains housing units that have been identified by our enumerators as occupied but for which they were not able to collect population information. We also have housing units where it is not known whether the unit is occupied or vacant. *In either of these cases, for the last several censuses, we have determined that the counts are improved if we use a procedure to impute persons for these units, rather than just assume there are no persons in these units.*

A.R. C01287 (emphasis added). Similarly, in a published report announcing the Secretary's decision not to employ a statistical adjustment of the 1980 census figures, the Bureau explained that the "1980 census data covering the vast majority of Americans will result from a pure count in the full tradition and practice of actual enumeration." 45 Fed. Reg. 69,373 (1980) (A.R. C01220). The Bureau then described its conduct of the 1980 census, including its use of count imputation. *Ibid.* (explaining that, after several visits to a housing unit, "[i]f the number of occupants is unknown, an entire set of characteristics for a neighboring household is substituted"); see also A.R. C00679 (General Accounting Office official explains that "[d]ue to concerns about the legality of sampling, the Bureau did not use sampling techniques as part of the 1980 census but did impute about 762,000 persons into the census count.").

The Bureau's longstanding view that hot-deck imputation is not a form of "sampling" within the meaning of 13 U.S.C. 195 is entitled to judicial deference under the principles

announced in *Chevron U.S.A. Inc.* v. *Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-845 (1984). Compare *House of Representatives*, 525 U.S. at 340-341 (noting that the Commerce Department did not invoke principles of *Chevron* deference in that case in light of the agency's changing views on the question whether Section 195 prohibits the use of "sampling" in the determination of apportionment figures). Deference to the Bureau's reading of the disputed language is particularly appropriate for at least three reasons. First, because Congress utilized a term of art having an established meaning within the statistical community, interpretation of Section 195 rests in part on a technical judgment as to which the Bureau possesses substantial expertise. Second, deference to the Bureau on this question is consistent with the overall thrust of the Census Act, which vests the Secretary with very broad authority to conduct the decennial census "in such form and content as he may determine." 13 U.S.C. 141(a); see *City of New York*, 517 U.S. at 19; pp. 16-17, *supra*.

Third, deference to an agency's interpretation of disputed statutory language is especially appropriate where, as here, Congress has amended other provisions of the relevant law without disturbing the settled agency practice regarding the matter in question. See, *e.g.*, *United States* v. *Rutherford*, 442 U.S. 544, 554 n.10 (1979) ("[O]nce an agency's statutory construction has been fully brought to the attention of the public and the Congress, and the latter has not sought to alter that interpretation although it has amended the statute in other respects, then presumably the legislative intent has been correctly discerned.") (internal quotation marks omitted). In 1976, when Congress amended Section 195 without change pertinent to this issue, the Census Bureau had already used imputation for apportionment purposes in two decennial censuses. Congress again used imputation in 1980 (with the effect of shifting a seat in the House of

Representatives, leading to the *Orr* litigation) and in 1990, and it has repeatedly apprised Congress of that practice. see pp. 5-6, *supra*. Before the 2000 census, the Bureau presented its plan, including the use of imputation, to relevant congressional committees, the General Accounting Office, the Census Monitoring Board (created by Congress in 1998 to oversee the census), the Inspector General, and numerous advisory committees. See Hogan Decl. para. 65; A.R. C01519, C01731, C01752, C01805, C01818-C01819. But while Congress has amended the Census Act in other respects on a number of occasions, it has not restricted the Bureau's use of imputation.[6] That pattern of congressional acquiescence provides further evidence of the reasonableness of the Bureau's position.

II. THE CENSUS BUREAU'S USE OF IMPUTATION IS CONSISTENT WITH THE CENSUS CLAUSE OF THE CONSTITUTION

Appellants contend that the words "actual Enumeration" in the Census Clause were intended "to prescribe an individualized, person-by-person count of the population based on data from those with first-hand knowledge of the matters reported." J.S. 24; see J.S. 19-30. That claim lacks merit.

A. Appellants contend (J.S. 20) that "[t]here simply is no plausible understanding of the term 'actual Enumeration' that would permit the apportionment of Representatives to be calculated by reference to" imputation techniques. That argument is incorrect. *The Oxford English Dictionary* (*OED*) gives as its primary definition of the word "enu-

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[6] See, *e.g.*, Pub. L. No. 105-252, 112 Stat. 1886 (1998); Pub. L. No. 104-13, 109 Stat. 163 (1995); Pub. L. No. 103-430, 108 Stat. 4393 (1994); Pub. L. No. 103-105, 107 Stat. 1030 (1993); Pub. L. No. 101-533, 104 Stat. 2344 (1990); Pub. L. No. 101-509, 104 Stat. 1339 (1990); Pub. L. No. 99-544, 100 Stat. 3046 (1986); Pub. L. No. 99-467, 100 Stat. 1192 (1986).

meration" "[t]he action of ascertaining the number of something; *esp.* the taking [of] a census of population; a census." 3 *OED* 227 (1933). The *OED* states that the word "enumeration" has been used in that manner since at least 1577. *Ibid.* The Bureau's use of hot-deck imputation indisputably constitutes a means "of ascertaining the number of" persons within each State.

The structure of Article I, Section 2, Clause 3, reinforces the conclusion that the Framers did not intend to prescribe a particular census methodology. After first stating that "Representatives * * * shall be apportioned among the several States * * * according to their respective Numbers," the Clause provides that "[t]he actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and within every subsequent Term of ten Years, in such Manner as [Congress] shall by Law direct." The Framers' use of the definite article ("*[t]he* actual Enumeration") presumes that the requirement of an "Enumeration" is implicit in what has come before—*i.e.*, in the requirement that the apportionment of Representatives be based upon the States' "respective Numbers"—rather than a further constraint on the discretion of Congress (such as a specification of the means by which those numbers are to be determined). Thus, the first sentence of Article I, Section 2, Clause 3 states the constitutional principle that apportionment of Representatives will be based on population, and the first portion of the next sentence then specifies when the ascertainment of population will "actual[ly]" occur. The *means* by which the "Enumeration" will be "made" are addressed not by that first portion of the sentence (including the words "actual Enumeration"), but by the second portion, which simply provides that the task will be accomplished "in such Manner as [Congress] shall by Law direct." Those are words of authorization, not limitation.

Furthermore, from the time of the First Congress, the conduct of the decennial census has frequently involved techniques designed to obtain and use reliable information concerning the *aggregate* number of persons residing at particular locations, rather than an attempt by federal personnel to conduct "an individualized, person-by-person count of the population." J.S. 24. The Act providing for the 1790 decennial census stated that each "assistant" was to return to the appropriate United States marshal a schedule identifying all heads of households within the assistant's district, together with the number of persons in each household falling within each of five categories (free white males of sixteen years and upwards, free white males under sixteen years, free white females, all other free persons, and slaves). Act of Mar. 1, 1790, ch. II, § 1, 1 Stat. 101-102. Nothing in the Act required the marshals or their assistants to report or record individual names. Nor did the Act specify the manner in which the relevant information was to be obtained, though it did require "each and every person more than sixteen years of age" to furnish accurate information if questioned by an assistant. § 6, 1 Stat. 103. Indeed, it was not until the seventh decennial census in 1850 that the government began to record the names of individuals other than heads of households. See S. Doc. No. 194, 56th Cong., 1st Sess. 47 (1900).

B. In *Wesberry* v. *Sanders*, 376 U.S. 1, 10-14 (1964), this Court summarized the debates at the Constitutional Convention concerning the basis upon which the representation of the States in Congress would be determined. Delegates from the larger States argued that each State's representation should be determined on the basis of population; those from the smaller States contended that each State should have an equal number of Representatives. *Id.* at 10-11. The dispute was finally resolved by means of the Great Compromise, under which representation in the Senate was

divided evenly among the States, while the Members of the House were "apportioned among the several States . . . according to their respective Numbers." *Id.* at 13 (quoting U.S. Const. Art. I, § 2, Cl. 3). The Court in *Wesberry* further observed that "[t]he Constitution embodied Edmund Randolph's proposal for a periodic census to ensure 'fair representation of the people,' an idea endorsed by Madison as assuring that 'numbers of inhabitants' should always be the measure of representation in the House of Representatives." *Id.* at 13-14 (footnote omitted).

The debates at the Constitutional Convention contain no discussion of the specific methodology that would be used to ascertain the "respective Numbers" of "the several States." The drafting history of the Census Clause strongly indicates, however, that the Framers did not regard the word "Enumeration" as denoting any particular means of taking the census. Edmund Randolph made the first specific proposal, moving that the Convention adopt a provision stating "that in order to ascertain the alterations in the population & wealth of the several States the Legislature should be required to cause a census, and estimate to be taken within one year after its first meeting; and every ____ years thereafter—and that the Legisl[ature] arrange the Representation accordingly." 1 M. Farrand, *The Records of the Federal Convention of 1787*, at 570-571 (1966 ed.). Subsequent versions of that provision consistently used the word "census"; none used the word "enumeration." See *id.* at 575, 594, 595, 600.

The Committee of Detail subsequently prepared a draft Constitution incorporating the resolutions passed by the Convention. Article IV, Section 4 of the draft Constitution directed Congress to "regulate the number of representatives by the number of inhabitants, according to the provisions herein after made, at the rate of one for every

forty thousand." 2 Farrand at 178. Article VII, Section 3, provided:

> The proportions of direct taxation shall be regulated by the whole number of white and other free citizens and inhabitants, of every age, sex and condition, including those bound to servitude for a term of years, and three fifths of all other persons not comprehended in the foregoing description, (except Indians not paying taxes) *which number shall, within six years after the first meeting of the Legislature, and within the term of every ten years afterwards, be taken in such manner as the said Legislature shall direct.*

Id. at 182-183 (emphasis added). The effect of those provisions, read together, was that Congress was directed to "regulate the number of representatives by the number of inhabitants, * * * which number shall * * * be taken in such manner as [Congress] shall direct." The relevant provisions of the Committee of Detail's draft imposed no restriction on the "manner" in which the "number" of each State's inhabitants would be "taken."

After receiving the Committee of Detail's report, the Convention devoted approximately one month to section-by-section analysis of the draft Constitution. See 2 Farrand at 190-564. The provisions set forth above were amended in minor respects not relevant to the question presented here. See *id.* at 219-223, 339, 350-351, 357. Those provisions were approved by the Convention in their amended form, and the revised draft Constitution was referred to the Committee of Style and Arrangement. See *id.* at 565, 566, 571. The phrase "actual Enumeration" first appeared in a new draft Constitution submitted to the Convention by the Committee of Style. See *id.* at 590. No delegate suggested that the Committee of Style's use of the word "Enumeration" was intended to affect the scope of Congress's authority to

conduct the census in the manner that it saw fit. Rather, the drafting history of the relevant constitutional provisions strongly indicates that the Census Clause as finally adopted, like the earlier version on which it was patterned, was simply intended to direct Congress to determine the "Numbers" of persons within the "several States" every ten years.

This Court has recognized that "the Committee of Style had no authority from the Convention to alter the meaning" of the draft Constitution submitted for its review and revision. *Nixon* v. *United States*, 506 U.S. 224, 231 (1993); accord *Powell* v. *McCormack*, 395 U.S. 486, 538-539 (1969). The limited nature of the Committee of Style's mandate does not mean that the Committee's changes "can be disregarded." J.S. 21. In interpreting ambiguous provisions of the Constitution in its final form, however, the Court "must presume that the Committee's reorganization or rephrasing accurately captured what the Framers meant in their unadorned language"—*i.e.*, "that the Committee did its job." *Nixon*, 506 U.S. at 231. Insofar as the phrase "actual Enumeration" is susceptible of different meanings, it should therefore be construed in a manner that renders it consistent with the language previously approved by the Convention, which stated that the "number" of persons within each State "shall * * * be taken in such manner as the said Legislature shall direct." 2 Farrand at 183, 571; cf. 3 *OED* 227 (explaining that the word "enumeration" has been used since at least 1577 to mean "[t]he action of ascertaining the number of something"); pp. 20-21, *supra*.

C. The requirement that a new "Enumeration" be conducted within every ten-year period was intended to ensure that the apportionment of Representatives would continue to correspond to the "respective Numbers" of the "several States." The delegates to the Convention anticipated that westward migration would substantially alter the distribution of the country's population. They wished to avoid

replicating the English practice of "rotten boroughs" that resulted from the legislature's refusal to reapportion itself in light of population shifts. See *Wesberry*, 376 U.S. at 14; 1 Farrand at 584 (James Madison states that "[t]he power [in England] had long been in the hands of the boroughs, of the minority; who had opposed & defeated every reform which had been attempted."). The pertinent constitutional provisions thus operate together to further "our Constitution's plain objective of making equal representation for equal numbers of people the fundamental goal for the House of Representatives." *Wesberry*, 376 U.S. at 18; see also *Montana*, 503 U.S. at 463 (referring to "[t]he polestar of equal representation"); *Franklin*, 505 U.S. at 804, 806 ("constitutional goal of equal representation").

The decennial census can fulfill that purpose, however, only to the extent that it *accurately* determines the relative population shares of the individual States. To construe the phrase "actual Enumeration" to preclude techniques that would enhance the accuracy of the census would place the Census Clause at cross-purposes with the related constitutional provisions that the Clause was intended to implement. Appellants do not contest the district court's conclusion (see J.S. App. 25a) that the approach they advocate—*i.e.*, attributing zero residents to each housing unit in question, rather than imputing data from a comparable nearby unit—would reduce the accuracy of the apportionment counts. Appellants find that result unproblematic because "the Census Clause necessarily assumes that all persons who cannot be 'enumerated' will be *excluded* from the apportionment count." J.S. 23. It is surely true that the constitutional goal of "equal representation for equal numbers of people" is incapable of complete achievement in practice because (*inter alia*) the population figures derived from the decennial census "are inherently less than absolutely accurate." *Gaffney* v. *Cummings*, 412 U.S. 735, 745 (1973); cf. *City of*

New York, 517 U.S. at 6 ("Although each [decennial census] was designed with the goal of accomplishing an 'actual Enumeration' of the population, no census is recognized as having been wholly successful in achieving that goal."). Appellants' construction of the Census Clause, however, would exacerbate the inherent imperfections of the census by preventing Congress from authorizing and the Bureau from using an established methodology that enhances the accuracy of the count.

D. Appellants contend (J.S. 23-24) that a decision sustaining the Bureau's use of hot-deck imputation "would inevitably embroil the courts in an endless series of inquiries into which estimation procedures are sufficiently accurate to pass constitutional muster." Of course, litigation concerning the census would be nothing new: this Court has previously noted "the plethora of lawsuits that inevitably accompany each decennial census." *City of New York*, 517 U.S. at 19; see *Franklin* v. *Massachusetts*, 505 U.S. 788, 790 (1992) ("As one season follows another, the decennial census has again generated a number of reapportionment controversies."). The Court has minimized the disruptive effects of those lawsuits, not by establishing bright-line rules separating constitutional from unconstitutional census practices, but by respecting the Framers' decision to entrust such issues to Congress. See U.S. Const. Art. I, § 2, Cl. 3 ("actual Enumeration" is to be conducted "in such Manner as [Congress] shall by Law direct"); *City of New York*, 517 U.S. at 19 (recognizing that "[t]he text of the Constitution' vests Congress with virtually unlimited discretion in conducting the decennial 'actual Enumeration,'" and that "there is no basis for thinking that Congress' discretion is more limited than the text of the Constitution provides").

E. Appellants contend (J.S. 24-30) that the Framers were familiar with various means of estimating the population and deliberately adopted constitutional language that would

preclude such techniques. The historical evidence on which appellants rely, however, suggests at most that the Framers distinguished between systematic empirical efforts to count the population through actual inquiry of the people, and attempts to infer population figures from pre-existing data that had initially been compiled for other purposes. The historical materials cited by appellants simply do not speak to the question presented here: namely, what evidence is sufficiently probative to support an inference that a particular number of persons reside in an identified housing unit.

From 1790 to the present, the federal officials charged with conducting the census have always been permitted to rely on evidence other than their own firsthand observation of the persons included in the count. See p. 22, *supra*. In determining the likely number of residents within a given housing unit, data imputed from a comparable nearby unit are concededly less reliable than information provided by a household member or neighbor (hence the Bureau's decision to use imputation only as a last resort). But the responsibility for determining whether imputed data are sufficiently reliable to warrant their inclusion in the apportionment count, where the alternative is to attribute zero residents to the relevant unit, has been entrusted by the Constitution to Congress and by Congress to the Secretary. In each of the last five decennial censuses, the Secretary has concluded that imputation is the better of those two imperfect options. Appellants identify no historical evidence suggesting that the Framers anticipated the question presented here or sought to constrain Congress's discretion to define the type and quantum of evidence by which occupancy levels at particular housing units may be established.

CONCLUSION

The judgment of the district court should be affirmed.

Respectfully submitted.

THEODORE B. OLSON
Solicitor General
ROBERT D. MCCALLUM, JR.
Assistant Attorney General
EDWIN S. KNEEDLER
Deputy Solicitor General
MALCOLM L. STEWART
Assistant to the Solicitor General
MARK B. STERN
MICHAEL S. RAAB
JONATHAN H. LEVY
Attorneys

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