Safe Harbors from Fair-Cross-Section Challenges? The Practical Limitations of Measuring Representation in the Jury Pool

Paula Hannaford-Agor and Nicole L. Waters*

The U.S. Constitution guarantees criminal defendants the right to an impartial jury selected from a jury pool that reflects the demographic composition of the geographic community served by the court. Yet there is little consensus in case law from state and federal courts about the most appropriate method of measuring demographic representation or the degree of underrepresentation that would violate the fair-cross-section requirement. Although the U.S. Supreme Court recently addressed these issues for the first time since *Duren v. Missouri*, its opinion in *Berghuis v. Smith* did little to settle the questions. In the present article, the authors use demographic information from the U.S. Census Bureau and information about jury operations in state courts from the National Center for State Courts to estimate the potential impact of competing proposals about how to measure demographic representation at different threshold levels of constitutional tolerance. Given the demographic composition of counties in the United States and the size of the jury pool in most courts, the authors find that a bright-line rule using either of the two most common measures of representation (absolute disparity and comparative disparity) would create "safe harbors" in which the courts in a majority of jurisdictions across the country would become effectively immune from fair-cross-section challenges.

I. Introduction

The Sixth Amendment to the U.S. Constitution guarantees the right of criminal defendants to "a speedy and public trial, by an impartial jury of the State and district wherein the crime

shall have been committed." Interpretation of this provision by trial and appellate courts over the past century has made it clear that the phrase "impartial jury of the State and district wherein the crime shall have been committed" requires that the jury be selected from "a fair cross section of the community"—that is, a jury pool that reflects the demographic composition of the geographic community served by the court. It is not necessary that the jury pool perfectly mirror community demographics; some deviation is permitted, but there is little consensus in case law as to the most reliable method of measuring underrepresentation and even less on how much underrepresentation is too much for purposes of the Sixth Amendment. The most recent decision by the U.S. Supreme Court on this issue—*Berghuis v. Smith*, decided March 30, 2010—explicitly declined to clarify these disputed points.

In this article, we use demographic information from the U.S. Census Bureau as well as information about jury operations from more than 1,500 state courts across the country to explore the legal and practical implications of establishing threshold levels of disparity for the most common measures of underrepresentation. First, we review the legal elements that must be satisfied to raise a fair-cross-section claim with a focus on absolute disparity and comparative (relative) disparity, the two most broadly accepted methods of measuring underrepresentation. This review includes a discussion of the arguments propounded by the petitioner in *Berghuis* to adopt a 10 percent absolute disparity threshold as the bright-line rule for evaluating underrepresentation and the counterarguments of the respondent that comparative disparity is the more appropriate measure when the underrepresented group is proportionately small.

We then describe the data and methods we used to model the impact of different disparity measures and threshold levels. This section includes a discussion of the difficulty of estimating the jury-eligible population using American Community Survey (ACS) data from the U.S. Census Bureau due to the large sampling errors that result from surveying increasingly detailed demographic characteristics of small subpopulations in each jurisdiction. We also describe the regression models that we used to estimate the size of the jury pool in each jurisdiction and discuss the practical difficulty of evaluating underrepresentation using any quantitative method when the size of the jury pool over an extended period of time is relatively small.

In the next section, we present findings concerning the number of jurisdictions that would become effectively immune from fair-cross-section challenges using different measures and at different threshold levels of disparity. As we discuss, these are affected not only by the demographic composition of the community, but also by the relative demand for jurors in each jurisdiction due to the volume of jury trials. For large swaths of the country, conclusive statistical proof of underrepresentation is simply not available, even though the disparity may well exist in reality. Thus, we conclude with a discussion of the limitations of quantitative measurement as a mechanism to enforce the rights of defendants to a jury selected from a fair cross-section of the community and suggest that the jurisprudential emphasis would be more effective if focused on the obligation of courts to address the causes of underrepresentation, regardless of its quantum.

II. Contemporary Fair-Cross-Section Jurisprudence

The fair-cross-section requirement derives principally from the Sixth Amendment right to an impartial jury and the Equal Protection Clause of the Fourteenth Amendment. These constitutional provisions prohibit groups of commonly recognized minorities from being excluded from the jury pool systematically (Sixth Amendment) or intentionally (Equal Protection Clause). As a practical matter, the Sixth Amendment and Equal Protection Clause jurisprudence have tended to merge over time, but originally each provision had slightly different procedural requirements. In addition, the Equal Protection Clause cases tended to focus on grand jury selection procedures while Sixth Amendment cases tended to focus on petit (trial) jury procedures. Some court opinions addressing alleged fair-cross-section violations will review the facts of the case under both jurisprudential theories separately. These federal constitutional requirements may also be supplemented by state constitutional or statutory requirements.

The contemporary test to determine whether a violation of the fair-cross-section requirement has occurred is the *Duren* test, named for *Duren v. Missouri*, a 1979 case decided by the U.S. Supreme Court.[1] In *Duren*, the Court addressed the question of whether an automatic exemption from jury service offered to women was unconstitutional given that it reduced the percentage of women from 46 percent of the community to 15 percent of the pool from which the defendant's jury was selected. The Court described three criteria that a defendant must show to establish a prima facie violation of the fair-cross-section requirement: (1) the group alleged to be excluded is a "distinctive" group in the community; (2) the group's representation in the jury pool is not fair and reasonable in relation to the number of such persons in the population; and (3) the underrepresentation results from systematic exclusion of the group in the jury-selection process. Once the defendant has established a prima facie violation of the fair-cross-section requirement, the burden shifts to the state to provide a compelling justification for the systematic exclusion of the distinctive group. *Duren* made it clear, however, that the states retain broad discretion to define eligibility qualifications and exemption criteria for jury service.

A. Distinctive or Cognizable Groups

A "distinctive" group for fair-cross-section purposes generally refers to groups that see themselves as distinct from other groups, that are seen by others as a distinct group, and that hold values not necessarily held by other groups. Many court opinions also refer to these groups using the Equal Protection terminology of "cognizable" groups. In most instances, these groups are defined by immutable characteristics, especially gender, race, and ethnicity (Hispanic/Latino) and are recognized as valid groups under both Sixth

───────

[1]Duren v. Missouri, 439 U.S. 357 (1979).

Amendment and Equal Protection Clause criteria.[2] In addition to gender, race, and ethnicity, some courts have found groups characterized by religious affiliation or national origin to be distinctive groups under the Sixth Amendment. In most instances, however, distinctive groups characterized by religious affiliation have such a strongly cohesive community that the religious affiliation is similar to ethnicity in terms of its cultural significance (e.g., Jews in New York City[3] and Amish persons in Ohio[4]).

B. Fair and Reasonable Representation

The second requirement under *Duren* is that the representation of the group alleged to be excluded is not fair and reasonable compared to the proportion of that group in the community. An important caveat related to this requirement is that the relevant "community" consists of individuals who are eligible for jury service in the jurisdiction—that is, they are *qualified* for jury service. Qualifications for jury service in most jurisdictions include U.S. citizenship, residency in the geographic area served by the court, adult (age 18 or over in most states), able to speak and understand English, and not subject to other legal disqualifications (e.g., previous felony conviction, mental incompetency). In many jurisdictions, these qualification requirements result in significant differences between the demographic characteristics of the jury-eligible population and those of the total population. For example, the jury-eligible population for communities with large Hispanic or Asian populations is often proportionately much smaller than that of the total population as individuals in those groups are disqualified due to noncitizenship or inability to speak and understand English.

    With respect to how the representation of distinctive groups in the jury pool compares to their representation in the community, the law does not require that demographic characteristics exactly mirror one another. Some deviation ordinarily occurs due to the random selection process. Several measures can be used to determine the extent to which the jury pool demographics differ from those of the community. The two measures most frequently used by courts are absolute disparity and comparative (relative) disparity.[5] Absolute disparity describes the numerical difference in the representation of the distinctive group. In *Duren*, for example, the absolute disparity for women was 31 percent

––––––

[2]Under the Equal Protection Clause of the Fourteenth Amendment, these three demographic characteristics are accorded "strict scrutiny" by courts, requiring the government to offer a compelling justification for disparate treatment.

[3]United States v. Gelb, 881 F.2d 1155 (2d Cir. 1989).

[4]State v. Fulton, 566 N.E.2d 1195 (Ohio 1991).

[5]A number of additional measures of representational disparity are often used by expert witnesses testifying in jury challenges. These include statistical significance tests, which indicate whether the amount of disparity reflects an actual difference or is simply the result of random chance in the selection process, and disparity of risk analyses, which quantify the representational difference in terms of the probability that the jury pool would have the same percentage of the distinctive group as the result of random chance. Richard Seltzer et al., Fair Cross-Section Challenges in Maryland: An Analysis and Proposal, 25 U. Balt. L. Rev. 127, 141 (1996).

(46 percent women in the community—15 percent women in the jury pool = 31 percent absolute disparity). Very few court opinions specify a threshold value over which the absolute disparity signifies a constitutional violation, but in the cases in which a constitutional violation was found, the absolute disparity was generally 10 percent or more. Most courts that have adopted absolute disparity as the primary measure of underrepresentation have ruled that absolute disparities less than 10 percent are insufficient as a matter of law to demonstrate a violation of the fair-cross-section requirement.

Comparative disparity is a second measure of representational disparity. Comparative disparity measures the percentage by which the number of distinctive group members in the jury pool falls short of their number in the community. The formula for calculating comparative disparity is the absolute disparity divided by the percentage of the distinctive group in the jury-eligible community. The comparative disparity in *Duren* was 67 percent (31 percent absolute disparity ÷ 46 percent jury-eligible population = 67 percent), indicating that the percentage of women in the jury pool was 67 percent less than would ordinarily be expected for the female population of Jackson County, Missouri, in 1976 when the trial took place.

Comparative disparity can be a very useful measure for describing the level of disparity when the proportion of the distinctive group in the jury-eligible population is relatively small (e.g., less than 10 percent) and the level of absolute disparity would not necessarily reach the threshold needed to establish a prima facie violation of the fair-cross-section requirement. For example, if African Americans represented 10 percent of a jury-eligible community, but only 4 percent of the jury pool, the absolute disparity would be 6 percent and the comparative disparity would be 60 percent. If previous case law had established the requisite threshold for absolute disparity at 10 percent, a defendant would not be able to demonstrate a violation of the fair-cross-section requirement, even though the proportion of African Americans in the jury pool was almost two-thirds less than expected given their representation in the jury-eligible community! Like absolute disparity, few courts have articulated the degree of underrepresentation using this measure that reflects a constitutional violation. Most courts that have discussed this issue cite values of 50 percent comparative disparity or higher to establish a fair-cross-section claim.

Not all courts have recognized comparative disparity as a legitimate measure of representational disparity, however. The most common criticism is the measure's susceptibility to misinterpretation when used to describe underrepresentation of very small populations (e.g., less than 2 percent of the community). Take, for example, a hypothetical court in which the community from which it summonses jurors is 2 percent Asian, but the jury pool routinely reflects 0.5 percent Asians. In this case, the absolute disparity is 1.5 percent (2 percent − 0.5 percent = 1.5 percent) and the comparative disparity is 75 percent (1.5 percent ÷ 2 percent = 75 percent). A court that recognizes comparative disparity as a legitimate measure of underrepresentation would naturally be alarmed by that value. However, the practical significance of that value depends greatly on the size of the jury pool under examination. For a very high-volume, urban court in which the jury pool over the course of full calendar year is large (e.g., 10,000 prospective jurors), a comparative disparity of 75 percent would signify the absence of a respectable

number of persons from that distinctive group (e.g., 150 Asians in this example). In a smaller court (e.g., 600 prospective jurors), it is more difficult to conceive the practical significance of the presence or absence of up to 12 persons over the course of a year (just one per month). Indeed, the chance that a monthly pool of 50 jurors includes no Asians in a community consisting of 2 percent Asians is more than one in three (37 percent). Not only would few trial judges be alarmed by this scenario, most would feel themselves obligated to disregard the purely numerical evidence of underrepresentation given the probability that it resulted from random chance. Although the level of comparative disparity may suggest a problem of constitutional magnitude, judges cannot base decisions on highly unreliable evidence. As we discuss in the Data and Methods section below, this second scenario is far more typical of the jury pool size and demographic reality of U.S. trial courts than the first.

C. Systematic Exclusion

The final prong of the *Duren* test is that underrepresentation of the distinctive group is the result of intentional discrimination (Equal Protection) or systematic exclusion (Sixth Amendment). Systematic exclusion does not have to be intentional, but merely an inherent result of the jury-selection process. In *Duren*, the Supreme Court found that the policy of offering automatic exemptions to women was systematic exclusion insofar that it was inherent in the jury-selection process. More recent examples of systematic exclusion are often related to the automation used in the jury-selection process. In *United States v. Osorio*,[6] for example, the length of the database field for the prospective juror's city of residence in the master jury list was truncated, causing the system to misread the eighth character as the jurors' status. As a result, all the records for individuals living in Hartford were mistakenly excluded from jury service because the system interpreted the "d" in Hartford to mean "deceased."[7] At that time, the largest single concentration of both African Americans and Hispanics in the state resided in the City of Hartford. In another example, during a routine upgrade to the jury automation system in Kent County, Michigan, the software was mistakenly programmed to randomly select names from the first 125,000 records on the master jury list rather than from the entire list, which contained more than 500,000 records.[8] The list was sorted alphabetically by zip code and the largest proportion of African Americans in Kent County resided in the sequentially higher zip codes.

     Nonsystematic exclusion, in contrast, results in the underrepresentation of distinctive groups in the jury pool due to factors that are typically beyond the control of

---

[6]United States v. Osorio, 801 F. Supp. 966 (D. Conn. 1992). The nature of the computer error was unknown at the time of the *Osorio* decision, but was later acknowledged in United State v. Jackson, 46 F.3d 1240 (1995).

[7]In *Osorio*, the registered voters list for the City of New Britain, Connecticut was also inadvertently excluded during compilation of the master jury list.

[8]G. Thomas Munsterman, Jury Management Study for Kent County, Michigan (May 6, 2003).

the court. Common examples of nonsystematic exclusion include disproportionately low rates of voter registration by minorities that result in underrepresentation by those groups on the master jury list and subsequently in the jury pool.[9] Courts have no authority to compel members of those groups to register to vote. Another factor commonly related to underrepresentation of minorities is undeliverable rates, which are strongly correlated with lower socioeconomic status and, in turn, correlated with minority status. Courts similarly have no authority to compel individuals to provide the U.S. Postal Service with a forwarding address or to require the agencies that provide the source files for the master jury list to improve their record-maintenance procedures. Failure-to-appear rates and excusal rates are likewise highly correlated with socioeconomic status and have historically been considered forms of nonsystematic exclusion.

Nevertheless, the question of whether the impact of socioeconomic factors on the demographic composition of the jury pool could support a fair-cross-section claim is still unsettled. Some courts in recent years have expanded the scope of systematic exclusion to include factors that may fall outside the court's ability to prevent, but for which reasonably effective and cost-efficient remedies exist. One of the earliest examples was *People v. Harris*,[10] in which the Supreme Court of California found that exclusive reliance on the voter registration list as the sole source of names for the master jury list systematically excluded blacks and Hispanics from the jury pool. Technological advances in the 1960s and 1970s had made it possible for courts to merge multiple source lists to create a more inclusive and representative master jury list, making the argument that low voter registration rates by African Americans and Hispanics that led to underrepresentation in the jury pool no longer justifiable. In *Harris*, the California Supreme Court explicitly warned against underrepresentation "stemming from negligence or inertia" in the jury-selection process, citing cases that recognize that "official compilers of jury lists may drift into discrimination by not taking affirmative action to prevent it."[11] Finally, in *United States v. Green*,[12] the U.S. District Court for the Eastern District of Massachusetts ruled that the court's failure to take reasonable steps to address undeliverable and failure-to-appear rates for jurors living in predominately minority zip codes violated the federal Jury Selection and Service Act.[13]

———

[9]See, e.g., United States v. Biaggi, 909 F.2d 662, 676–78 (2d Cir. 1990).

[10]People v. Harris, 36 Cal.3d 36 (1984).

[11]Id. at 58.

[12]United States v. Green, 389 F. Supp. 2d 29 (D. Mass. 2005).

[13]The district court proposed oversampling from predominantly minority zip codes as a remedy in *Green*. The U.S. Court of Appeals for the First Circuit subsequently overturned the order on grounds that the remedy unlawfully supplemented the Jury Plan for the Eastern District of Massachusetts. In re United States, 426 F.3d 1 (1st Cir. 2005). In 2006, the U.S. District Court for the Eastern District of Massachusetts amended its Jury Plan to respond to an undeliverable summons by sending an additional summons to the same zip code.

D. The Fair-Cross-Section Requirement After Berghuis v. Smith

In September 2009, the U.S. Supreme Court granted certiorari in the case of *Berghuis v. Smith*,[14] the first case since *Duren v. Missouri*[15] that involved the Sixth Amendment right to an impartial jury selected from a fair cross-section of the community. The facts of the case made it a very improbable one for grappling with the fair-cross-section requirement in any reasonably straightforward way. *Berghuis v. Smith* was an appeal from a federal Sixth Circuit Court of Appeals decision granting habeas corpus relief to Diapolis Smith, who was convicted of second-degree murder and sentenced to life imprisonment in the Circuit Court of Kent County, Michigan in 1993. During jury selection for the trial, Diapolis Smith objected to the jury venire on grounds that it underrepresented African Americans. The initial jury panel consisted of 60 to 100 prospective jurors, of which at most three were identified as African American. According to the 1990 Decennial Census, 7.28 percent of the adult population in Kent County was classified as African American. At a subsequent evidentiary hearing on the jury challenge, the trial court heard expert testimony that during the six-month period preceding Smith's trial, the pool of qualified jurors in the Circuit Court of Kent County consisted of only 6 percent African Americans—approximately 18 percent lower than expected given the proportion of African Americans in the community. The jury that convicted Smith consisted of 12 white jurors.

Two factors were identified as the possible cause of the underrepresentation. First, in addition to managing its own jury operations, the circuit court managed jury operations for the 12 municipal courts located in Kent County. Until shortly after Smith's trial in 1993, its practice was to allocate jurors from the master jury list to the municipal courts first and only retain the jurors remaining on the master jury list for use in the county-wide jury pool. The largest concentration of African Americans in Kent County (85 percent) lived in the City of Grand Rapids. Smith claimed that the allocation process resulted in the "siphoning" of African Americans from the county-wide jury pool to the jury pool for the Grand Rapids Municipal Court. Second, Smith claimed that the circuit court routinely granted jurors' requests to be excused for hardship due to loss of income, lack of transportation, and lack of childcare, which disproportionately released African Americans from jury service. At the time of Smith's trial, the Kent County Circuit Court had a maximum term of service of three weeks and paid jurors a jury fee of only $15 per day.

In deciding the jury challenge, the trial court followed *Duren*'s three-pronged approach to determine whether the composition of the jury pool violated the fair-cross-section requirement. After ruling that African Americans were a "distinctive group," the trial court considered the absolute disparity, which was 1.28 percent, and the comparative disparity, which was 18 percent. Although the trial court found that the amount of underrepresentation was sufficient to support the jury challenge, it ruled that there was insufficient evidence that either the court's allocation process or the court's excusal policy systematically excluded African Americans from the jury pool.

———

[14]Berghuis v. Smith, 130 S. Ct. 1382 (2010).

[15]Duren v. Missouri, 439 U.S. 522 (1979).

Table 1:   Procedural History of *Berghuis v. Smith*

Citation	Court	Event	Outcome
Michigan v. Diapolis Smith, No. 92-060735-FC (Sept. 13–Oct. 5, 1993)	Kent County Circuit Court	Jury Trial	Convicted, second-degree murder, sentenced to life imprisonment
Michigan v. Diapolis Smith, No. 92-060735-FC (Feb. 2, 1998; April 27, 1998)	Kent County Circuit Court	Evidentiary Hearing on Fair-Cross-Section Claim	Motion for a new trial denied; insufficient evidence that underrepresentation of blacks is the result of juror allocation process or court excusal policies.
Michigan v. Diapolis Smith, 1999 Mich. App. 916 (May 7, 1999)	Michigan Court of Appeals	Appeal from Circuit Court	Conviction overturned; underrepresentation of blacks is sufficient to satisfy constitutional challenge and underrepresentation is the result of juror allocation process.
Michigan v. Diapolis Smith, 615 NW2d 1 (Mich. 2000)	Supreme Court of Michigan	Appeal from Michigan Court of Appeals	Michigan Court of Appeals decision overturned; underrepresentation is insufficient as a matter of law to satisfy constitutional challenge and evidence is insufficient to prove that juror allocation process caused the underrepresentation.
Diapolis Smith v. Mary Berghuis, No. 1:03-cv-87 (Feb. 23, 2006)	U.S. District Court, W.D. Michigan, Southern Division	Application for a Writ of Habeas Corpus	Application for a Writ of Habeas Corpus denied. The Michigan Supreme Court's determination did not constitute an unreasonable application of established U.S. Supreme Court precedent.
Diapolis Smith v. Mary Berghuis, 543 F.3d 326 (6th Cir. 2008)	U.S. Court of Appeals for the Sixth Circuit	Appeal U.S. District Court, W.D. Michigan	U.S. District Court, W.D. Michigan, denial of habeas corpus application is reversed. Comparative disparity is appropriate measure of underrepresentation for small populations.
Diapolis Smith v. Mary Berghuis, 130 S. Ct. 1382 (2010)	U.S. Supreme Court	Appeal from Sixth Circuit Court of Appeals	Sixth Circuit Court of Appeals decision is reversed. Determination by the Supreme Court of Michigan did not constitute an unreasonable application of established U.S. Supreme Court precedent.

NOTE: *Berghuis v. Smith* provides a concrete illustration of the variation in judicial interpretation of the constitutional significance of factual evidence concerning underrepresentation.

Based on the subsequent procedural history, it is certainly fair to say that reasonable courts can disagree about the conclusions to be drawn from the facts presented in *Berghuis*.[16] See Table 1. On appeal, the Michigan Court of Appeals agreed that the underrepresentation was sufficient to support the second prong of the *Duren* test, but also

---

[16]The lower courts in *Berghuis* also considered a number of additional issues in posttrial motions and appeals that are not recounted in this discussion. The most thorough summary of these issues is found in the Report and Recommendation of U.S. District Court Magistrate Judge Hugh W. Brenneman, 2005 U.S. Dist. LEXIS 40910 (Nov. 4, 2005) concerning Smith's application for a writ of habeas corpus.

ruled that the allocation process caused the systematic exclusion of African Americans. The Supreme Court of Michigan, in turn, reversed the court of appeals decision on both the second and third prongs of *Duren*. It ruled that Smith's statistical evidence did not establish a "legally significant disparity" using either the absolute or the comparative disparity measures. The Supreme Court of Michigan also considered Smith's allegations of systematic exclusion based on both the allocation process and the excusal policy. With respect to the former, the court found the evidence insufficient to establish that the allocation process significantly contributed to the underrepresentation of African Americans. It also concluded that although socioeconomic characteristics likely contributed to the disproportionate excusal rates for African Americans, those characteristics were not inherent in the circuit court's jury-selection process and thus did not systematically exclude them from jury service.

Having exhausted the state appellate process, Smith sought a writ of habeas corpus from the federal courts. To succeed, however, Smith now had to satisfy Section 2254 of the federal Antiterrorism and Effective Death Penalty Act of 1996, which requires the applicant to show that any claim adjudicated in state court "resulted in a decision that was contrary to, or involved an unreasonable application of, clearly established Federal law, as determined by the Supreme Court of the United States." In essence, Smith had to convince the federal courts that there was "clearly established Federal law" concerning the appropriate measure of underrepresentation, the requisite amount of disparity using that measure, and the definition of systematic exclusion, all of which have been disputed questions in both the state and federal courts. Then he would have to show that the Supreme Court of Michigan unreasonably applied that law in deciding his appeal.

Smith was unsuccessful at the federal district court, which dismissed his habeas application, but the Sixth Circuit Court of Appeals was more accommodating. The Sixth Circuit ruled that when the representation of a distinctive group is relatively small, comparative disparity is the appropriate measure to examine. Agreeing with the Michigan Court of Appeals, it found that the juror-allocation process systematically excluded African Americans. In its opinion, it also took issue with the Michigan Supreme Court's conclusions about the disproportionate exclusion of African Americans due to socioeconomic factors. As the Sixth Circuit stated, "the Sixth Amendment is concerned with social or economic factors when the particular *system* of selecting jurors makes such factors relevant to who is placed on the qualifying list and who is ultimately called to or excused from service on a venire panel." The Sixth Circuit granted Smith's application for habeas relief and ordered that the State of Michigan either retry Smith within 180 days of the opinion or release him from prison. The State of Michigan then appealed to the U.S. Supreme Court, which granted certiorari on September 30, 2009.

The formal question presented in *Berghuis v. Smith* was fairly straightforward: Did the U.S. Court of Appeals for the Sixth Circuit err in concluding that the Michigan Supreme Court failed to apply "clearly established" Supreme Court precedent on the issue of the fair-cross-section requirement under *Duren* where the Sixth Circuit adopted the comparative disparity test to evaluate the degree of underrepresentation? The more pressing question for the litigants as well as practitioners and experts involved in jury trials (including the authors of this article) was whether the Supreme Court would restrict its review to that

narrowly defined issue or whether it would take the opportunity to modify its fair-cross-section jurisprudence. The petitioner, the State of Michigan, argued that federal circuit courts had uniformly denied fair-cross-section claims involving similar levels of disparity under both absolute and comparative measures.[17] It also noted that four of the federal circuits had explicitly rejected comparative disparity as a legitimate measure of representational disparity.[18] It advocated that the U.S. Supreme Court adopt a bright-line rule requiring defendants to establish an absolute disparity of 10 percent or more to satisfy the second prong of *Duren*.[19]

The respondent took the position that the technical details of how courts should measure underrepresentation were immaterial given that the Supreme Court of Michigan conceded the existence of some degree of underrepresentation.[20] He contested the petitioner's claim that most federal courts rely on absolute disparity, discussing cases in both federal and state courts in which multiple measures of disparity were considered.[21] Both the respondent and several amici curiae took exception to the petitioner's endorsement of a 10 percent absolute disparity rule on grounds that the demographic composition of many, if not most, localities would effectively immunize trial courts located in those communities from future fair-cross-section claims.[22] Indeed, the Brief for Social Scientists, Statisticians, and Law Professors advocated its own bright-line rule for comparative disparity: 15 percent comparative disparity when the distinctive group comprises 10 percent or more of the jury-eligible community and 25 percent comparative disparity when the distinctive group comprises less than 10 percent of the jury eligible community.[23]

On March 30, 2010, the U.S. Supreme Court issued its unanimous opinion, reversing the Sixth Circuit Court of Appeals decision.[24] Ultimately, the Court decided the case on habeas grounds, ruling that "our *Duren* decision hardly establishes—no less 'clearly' so—that Smith was denied his Sixth Amendment right to an impartial jury drawn from a fair cross section of the community." The opinion strongly reaffirms *Duren*'s three-prong test as the appropriate analytical framework for considering jury challenges based on fair-cross-section claims, but disavowed that *Duren* specified a particular method that courts

―――――

[17]Brief for Petitioner at 30–33.

[18]Id.

[19]Id. at 45–48.

[20]Brief for Respondent at 17–18.

[21]Id. at 26–30.

[22]Id. at 31–37; Brief for Social Scientists, Statisticians, and Law Professors. One of the authors of this article (Hannaford-Agor) consulted with Erik Levine and David Kairys on the data used to support the arguments propounded at 19–25, but was not a signatory to the amicus brief.

[23]Brief for Respondent at 30–35.

[24]Justice Ginsberg, who argued as counsel before the U.S. Supreme Court on behalf of Duren in *Duren v. Missouri*, authored the opinion. Justice Thomas wrote a concurring opinion.

should employ to measure underrepresentation, much less a definitive threshold level that would establish the second prong. It recognized that lower courts had employed a number of different measures of disparity—absolute disparity, comparative disparity, and statistical significance tests were cited as the most common measures—but found that all of them could be misleading, particularly with respect to comparatively small populations of distinctive groups. The opinion approvingly cited the Michigan Supreme Court's admonition that "provided that the parties proffer sufficient evidence, the results of all of the tests should be considered."

As for the claim of systematic exclusion, the U.S. Supreme Court ultimately agreed with the Michigan Supreme Court that evidence concerning the juror-allocation process in Kent County failed to prove that it actually caused the underrepresentation of African Americans.[25] The opinion concluded by restating one of the caveats propounded in *Duren* that states retain broad discretion to define eligibility qualifications and exemption criteria for jury service, including hardship exemptions. It explicitly declined to consider whether the disproportionate impact of socioeconomic factors could support a fair-cross-section claim.

III. Data and Methods

Although the U.S. Supreme Court declined to provide concrete guidance to state and federal courts about the appropriate methods and evaluative standards to employ in a fair-cross-section challenge, it is possible to analyze existing empirical data to explore the legal and practical implications of different approaches. All that is necessary is county-by-county information about the demographic composition of the jury-eligible population and the size of the jury pool over an extended period of time for each jurisdiction. Information about the demographic composition of each county is available from the U.S. Census Bureau based on data collected during the decennial census and other Census Bureau studies. The Center for Jury Studies at the National Center for State Courts (NCSC) has detailed information about jury operations from a sizeable number of state trial courts. Both these data sets were used in tandem to explore the potential impact of reliance on either an absolute or comparative disparity measure in fair-cross-section challenges.

A. Demographic Composition of the Jury-Eligible Population

U.S. Census Bureau data from the 2000 Decennial Census were used to ascertain the demographic composition of the jury-eligible population for every county and county-equivalent in the United States (excluding Puerto Rico). For purposes of this article, the

―――――

[25]The testimony offered during the trial court's evidentiary hearing merely established that court officials *believed* that the allocation process was the cause of the underrepresentation. Indeed, after discontinuing the allocation system shortly after Smith's trial, the comparative disparity of African Americans only decreased to 15 percent, which tends to show that even if the juror-allocation system was a contributing factor, it was not a substantial factor overall.

term "jury eligible" refers to those persons who are adults,[26] live in the geographic community served by the court, are citizens of the United States, and are able to speak and understand English sufficiently to serve as trial jurors.[27] Many states have additional qualification criteria including the absence of a legal disability (e.g., felony conviction, mental incompetence). National estimates of the number and proportion of individuals who have been convicted of a felony and sentenced to incarceration in a state or federal prison are available and the potential impact of this factor on eligibility rates for different race and ethnic groups is discussed in conjunction with Table 2, below. However reliable county-level data concerning the distribution of these characteristics by racial and ethnic subpopulation are not available nor are those concerning the distribution of demographic characteristics of persons adjudicated incompetent. Thus, these disqualification criteria were not included in the data models developed for this study.

During each decennial census, the Census Bureau collects information about the age, gender, race, ethnicity (Hispanic/Latino and not Hispanic/Latino), and relationship among household members for every household in the United States as of April 1 of each decennial year. The decennial census is, by definition, a census—that is, an actual count of every person living in the country at the time the census is conducted. Therefore, the census tables detailing county-level information for age, race, and ethnicity reflect the entire population of all 3,141 counties and county equivalents in the United States (excluding Puerto Rico).[28]

The Census Bureau also conducts a survey concurrent with the decennial census of every six households (the Long Form) that collects additional information concerning social, economic, and housing characteristics including citizenship status and English fluency.[29] Although this is a sample, rather than a census, and thus subject to sampling error, these data permit the estimation of U.S. citizenship and English-fluency rates for each race and Hispanic/Latino subpopulations for the vast majority of counties. Citizenship estimates are based on persons born in the United States or in U.S. territories, persons

---

[26]Jurors in Missouri must be age 21 or older to be qualified as trial jurors. Mo. Rev. Stat. 494.4 (2010). For county-level data, we calculated the percentage of the adult population (age 18 and over) that was age 21 and over for each race and Hispanic subpopulation, then multiplied this percentage to the total adult population for each race and Hispanic subpopulation to estimate the jury-eligible population in Missouri. The adult population for all other states and the District of Columbia is defined as persons age 18 and over.

[27]The New Mexico Constitution declares that the right of citizens to vote or to sit on juries shall not be denied because of inability to read, speak, or understand English or Spanish. NM Const., Art. 7, Sec. 3. For county-level data in New Mexico, we used only the adult, citizen population to estimate the jury-eligible population.

[28]Census 2000 Summary File (SF 1) 100-Percent Data. Table P5: Race for the Population 18 and Over; Table P6: Hispanic or Latino, and Not Hispanic or Latino, for the Population 18 or Older.

[29]The American Community Survey (ACS) is now conducted annually. It samples approximately 3 million households in the United States annually. Testing for the American Community Survey began in 1996 and the survey provides critical economic, social, housing, and demographic information to federal, state, and community policymakers every year instead of once in 10 years. It replaced the Census Bureau "long form" in the 2010 Decennial Census. American Community Survey: Questions and Answers, available at <http://www.bls.gov/lau/acsqa.htm>.

born abroad to U.S. citizens, and naturalized citizens.[30] From these estimates, we calculated the citizenship rate for each race and Hispanic/Latino subpopulation by dividing the number of citizens by the total number of persons living in each county. This percentage was then multiplied by the appropriate adult race and Hispanic/Latino subpopulation to generate an estimate of the total adult citizen population for each race and Hispanic/Latino subpopulation.[31] Similarly, English-fluency rates are based on adults (age 18 and over) who speak only English or speakers of other languages who speak English either "very well" or "well" (excluding persons who speak English "not well" or "not at all").[32] From these estimates, we calculated the English-fluency rate for each race and Hispanic/Latino subpopulation by dividing the number of English-fluent adults by the total number of adults living in each county. This percentage was then multiplied by the appropriate adult, citizen, race, and Hispanic/Latino subpopulation to generate an estimate of the total adult citizen English-fluent population for each race and Hispanic/Latino subpopulation.[33]

As Table 2 illustrates, the application of these screening criteria for jury eligibility have a measurable impact on the demographic composition of the jury pool. According to the 2000 Decennial Census, white persons comprised 75.1 percent of the total population, while blacks comprised 12.3 percent, Asians comprised 3.6 percent, persons of "other" races comprised 5.5 percent, and persons of two or more races comprised 2.4 percent. Hispanics/Latinos comprised 12.5 percent of the total population. As a result of the disqualifications due to age (under 18), noncitizenship, and lack of English fluency, the proportion of all nonwhite and Hispanic/Latino subpopulations declined in the jury-eligible population, some as much as by half, while the proportion of whites increased to 81.4 percent of the jury-eligible population.

──────

[30]Census 2000 Summary File 3 (SF3)—Sample Data. Table P21: Place of Birth by Citizenship Status; Tables PCT63A-H: Place of Birth by Citizenship Status [by Race, by Hispanic/Latino].

[31]Due to the unreliability of estimates from sampling error, the number of citizens was unavailable in 148 counties for blacks, in 78 counties for Native Americans/Native Alaskans, in 221 counties for Asians, in 1,147 counties for Native Hawaiians/Pacific Islanders, in 131 counties for other races, in 18 counties for persons of two or more races, and in 14 counties for Hispanic/Latinos. In these counties, we assumed a 100 percent citizenship rate for all persons of these race and Hispanic/Latino subpopulations. This assumption may slightly inflate the jury-eligible population estimates. The U.S. Census Bureau does not release the sampling error for these tables, but detailed documentation is available in 2000 Census of Population and Housing, Summary File 3: Technical Documentation (July 2007), available at <http://www.census.gov/prod/cen2000/doc/sf3.pdf>.

[32]Census 2000 Summary File 3 (SF3)—Sample Data. Table 19: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over; Tables PCT62A-H: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over [by Race, by Hispanic/Latino].

[33]Due to the unreliability of estimates from sampling error, the number of English-fluent adults was unavailable in 237 counties for blacks, 88 counties for Native American/Native Alaskans, 198 counties for Asians, 1,489 counties for Native Hawaiians/Pacific Islanders, 165 counties for other races, 27 counties for persons of two or more races, and 26 counties for Hispanic/Latinos. In these counties, we assumed a 100 percent English-fluency rate for all persons of these race and Hispanic/Latino subpopulations. This assumption may slightly inflate the jury-eligible population estimates. The U.S. Census Bureau does not release the sampling error for these tables, but detailed documentation is available in 2000 Census of Population and Housing, Summary File 3: Technical Documentation (July 2007), available at <http://www.census.gov/prod/cen2000/doc/sf3.pdf>.

Table 2: Impact of Eligibilty Criteria for Jury Service on Demographic Composition of the Jury Pool (2000 Census)

| | n | % One Race | | | | | | % 2 or More Races | % Hispanic / Latino* |
		White	Black	Native American	Asian	Hawaiian / Pacific Islander	Other Race		
Total Total Population	281,421,906	75.1	12.3	0.9	3.6	0.1	5.5	2.4	12.5
Total Adult	209,128,094	77.4	11.4	0.8	3.7	0.1	4.7	1.9	11.0
Total Adult Citizen	195,414,056	79.8	11.7	0.8	2.6	0.1	3.4	1.7	8.3
Total Adult Citizen English Fluent	191,804,563	79.0	11.6	0.8	2.3	0.1	2.6	1.6	6.8
Total Jury Eligible*	186,713,415	81.4	12.1	0.8	2.2	0.1	2.5	1.6	6.4
Total Population (2006–2008 ACS)	301,237,703	74.3	12.3	0.8	4.4	0.1	5.8	2.2	15.1

*Jury eligible in New Mexico is age 18 or older and U.S. citizen; jury eligible in Missouri is age 21 or older, U.S. citizen, and fluent in English; all other states are age 18 or older, U.S. citizen, and fluent in English.

NOTE: Qualification criteria for jury service have a demonstrable impact on the demographic composition of the jury pool in U.S. courts.

SOURCE: U.S. Census Bureau, 2000 Decennial Census, Summary Files 1 and 3; (Sample Data); 2006–2008 American Community Survey 3-Year Estimates.

In addition to these qualification criteria, the U.S. Department of Justice, Bureau of Justice Statistics, estimates that 1.4 percent of whites, 8.9 percent of blacks, and 4.3 percent of Hispanics have been incarcerated in a state or federal prison as of 2001 as the result of a previous felony conviction.[34] This would serve as a disqualification for jury service in most U.S. jurisdictions.[35] If accurate, these estimates would further reduce the percentage of the jury-eligible population nationally. It is important to note, however, that these estimates do not simultaneously control for other possible disqualifications such as U.S. citizenship and English fluency. Thus, the impact of this factor may be overstated, particularly with respect to Hispanics. By the same token, the estimates do not account for individuals with felony convictions who received sentences other than incarceration (e.g., probation or parole). From 1992 through 2000, the percentage of defendants who were convicted in state courts and sentenced to probation without prison or jail time ranged from 29 percent to 32 percent.[36] Thus, the impact of a previous felony conviction may also be understated for some or all racial and ethnic subpopulations.

Minority populations have increased since the U.S. Census Bureau administered the 2000 Decennial Census. According to the most recent estimates, 311 of the 3,143 counties have minority populations of 50 percent or greater, an increase of 61 counties.[37] These changes in the demographic composition of the total population would likely affect the composition of the jury pool as well. To conduct the analyses for this article, we investigated the possibility of using more recent statistics to develop the jury-eligible population database. For example, the U.S. Census Bureau also conducts the American Community Survey (ACS), an annual survey that samples one out of every six households in every county, American Indian and Alaska Native Area, Hawaiian Home Land, and Puerto Rico. Among the most recent ACS data available are demographic and socioeconomic tables showing a three-year rolling average for 2006–2008 for 1,822 counties with total populations of 20,000 and over. Like the 2000 Long Form data, however, these data are based on a sample and are thus subject to sampling error. Ultimately, the unreliability of estimates from sampling error resulted in too many counties with missing numbers

---

[34]Thomas P. Bonczar, Prevalence of Imprisonment in the U.S. Population, 1974–2001 (Aug. 2003), Table 5. Estimates for other racial categories were not reported.

[35]Colorado, Illinois, Michigan, and Rhode Island do not disqualify persons convicted of a felony from jury service provided that they have completed their sentence. Connecticut, the District of Columbia, Kansas, and Massachusetts disqualify convicted felons from jury service for a statutorily defined period following completion of the sentence. Alabama, Maine, Mississippi, Nevada, and Tennessee disqualify persons convicted of certain types of felony crimes. The remaining 37 states permanently disqualify persons convicted of a felony from jury service unless their civil rights have been restored. David B. Rottman & Shauna Strictland, State Court Organization, 2004, Table 39 (Trial Juries: Qualifications and Source Lists for Jury Service) (Aug. 2006).

[36]See generally U.S. Dept. of Justice, Bureau of Justice Statistics, Felony Sentences in State Court Series (a biennial survey of adults convicted of a felony and sentenced in a representative sample of 300 counties).

[37]Census: U.S. Becoming More Diverse: Minorities Could be the Majority by the Middle of this Century, Rich. Times Dispatch A4 (June 11, 2010).

for most nonwhite and Hispanic/Latino subpopulations to compile a sufficiently robust data set for modeling purposes.[38]

B. *Size of the Jury Pool in State Courts*

To investigate the impact of different measures of underrepresentation, it is also necessary to consider the size of the jury pool in different jurisdictions. For this article, the term "jury pool" refers to the collective group of qualified jurors who are summonsed and who are available to appear for jury service over some defined period of time.[39] For this, we used data from the NCSC State-of-the-States Survey of Jury Improvement Efforts.[40] The State-of-the-States Survey was a multicomponent study of state court jury operations and trial procedures. This article employs data from the "Local Court Survey" component of the study.[41] The Local Court Survey collected detailed information about local jury operations from 1,337 local jury systems representing 1,546 individual counties or county equivalents from 49 states and the District of Columbia.[42] On average, these courts reflect 65 percent of their respective state populations and collectively they represent jurisdictions encompassing 70 percent of the total U.S. population.[43] Counties with total populations less than 25,000 are underrepresented in the Local Court Survey data (42 percent of Local Court Survey respondents vs. 50 percent of counties in the United States); counties with total populations 100,000 and more are overrepresented in the Local Court Survey data (25 percent of Local Court Survey respondents vs. 17 percent of counties in the United States).[44]

---

[38]The number of counties and county equivalents for which we could not calculate reliable estimates of the jury-eligible population was 425 for whites (23 percent), 1,487 for blacks (82 percent), 1,769 for Native American/Native Alaskans (97 percent), 1,258 for Asians (69 percent), 1,789 for Native Hawaiians/Pacific Islanders (98 percent), 1,224 for persons of other races (67 percent), 1,618 for persons of two or more races (89 percent), and 823 for Hispanic/Latinos (45 percent).

[39]The maximum period of time for any pool of prospective jurors is defined by the life of the master jury list employed by each court to summons jurors, which typically ranges from six months to four years. Whenever the court renews or updates the master jury list, the resulting jury pool will by definition be a new jury pool. The defined period of time for any given pool can be less than the life of the master jury list (e.g., daily pool, weekly pool, monthly pool, quarterly pool). Unless otherwise noted, we use a full calendar year to define the jury pool for purposes of these analyses.

[40]Gregory E. Mize, Paula L. Hannaford-Agor & Nicole L. Waters, State-of-the-States Survey of Jury Improvement Efforts: A Compendium Report (April 2007).

[41]A Statewide Survey and a Judge and Lawyer Survey were two additional components of the State-of-the-States Survey. The Statewide Survey collected legal and institutional information about state jury trial requirements from all 50 states and the District of Columbia. The Judge and Lawyer Survey collected information from nearly 12,000 state and federal trial judges and attorneys concerning trial-level details of jury trial procedures in all 50 states, the District of Columbia, and Puerto Rico. Id. at 3–5.

[42]Courts in Vermont did not participate in the Local Court Survey, but did participate in the Statewide Survey and in the Judge and Lawyer Survey. Id. at 3.

[43]Id. at 2–3.

[44]Id.

Table 3:   Number of Summonses and Qualified Jurors, by Percentile of Qualified Jurors

Percentile	Summonses Mailed (#)	Jury-Eligible Population Summonsed (%)	Qualified Jurors (#)
25th	500	4.1%	248
50th	1,300	8.0	630
75th	4,500	16.1	1,965

NOTE: The annual jury pool (qualified jurors) in state courts is actually quite small.
SOURCE: NCSC State-of-the-States Survey of Jury Improvement Efforts (2007), Local Court Survey data

Among the questions asked of local courts was the type of summoning and qualification system each court employed,[45] the number of jury summonses mailed annually, the ultimate disposition of those summonses (e.g., returned undeliverable, not responded to, disqualified, exempted, excused, deferred to a future term of service, and qualified for service), and the number of each type of jury trial conducted annually (e.g., capital felony, noncapital felony, misdemeanor, civil, and other). Using the number of summonses mailed annually and the average qualification rate for each court, it is possible to calculate the total jury pool—that is, the total number of qualified jurors—summonsed by those courts annually. As Table 3 illustrates, the jury pool for courts in this country is actually quite small. Seventy-five percent of the courts in the Local Court data set mail 4,500 or fewer jury summonses each year (16 percent or less of the total population of those jurisdictions); these summonses result in annual jury pools of fewer than 2,000 qualified jurors. Half the courts mail 1,300 summonses or fewer (8 percent or less of the total population), producing jury pools of 630 jurors or less.

To conduct the analyses for this article, we used regression modeling to estimate the number of summonses mailed and the size of the jury pool for the courts that were not already represented in the Local Court data set from the State-of-the-States Survey. Using the Local Court data set, we incorporated county-level data including the number of trials reported annually and whether the court employs a one-step or two-step summonsing process for the counties represented in the Local Court data set. Also, from the U.S. Census Bureau, we could estimate the total population served by each court according to the 2000 Decennial Census.

Ultimately, we predicted the number of summonses sent in each county using only the population from the 2000 Census. Using the counties in the Local Court database, we modeled the additional county-level variables using a regression equation and modeled the R^2 change from using only county population as a predictor. The additional county-level variables (one-step vs. two-step summonsing process and the total number of annual reported jury trials) did not significantly improve the prediction of the population-only

---

[45]Jury systems can be characterized as either one-step or two-step systems. Two-step courts mail qualification questionnaires to prospective jurors and then summon jurors from the list of prequalified jurors. One-step courts combine the qualification and summoning steps. Eighty-five percent (85 percent) of the courts in the Local Court Survey characterized themselves as either one-step or two-step courts; the remaining courts characterized themselves as hybrid courts that combine the summoning and qualification process, but summons jurors for multiple appearances during the term of service. Id. at 21.

model.[46] Clearly, county population was a strong predictor of the number of summonses. We applied the regression equation to the remaining counties not represented in the Local Court database to provide estimates for the number of summonses mailed in those counties.[47]

   The number of summonses for each county was used to predict the size of the jury pool. We multiplied the number of summonses (using reported figures from the Local Court database, if available, or the estimated number from the population-predicted regression estimate) by the jury qualification rate to obtain the size of the jury pool. For counties not represented in the Local Court database, estimated jury qualification rates by population were used based on actual data from other similarly sized counties in the Local Court database.[48] Using the calculated estimates of the size of the jury pool, we were able to predict and analyze the impact various thresholds of disparity would have on the relative demographic composition for each county. For example, the Census provides the demographic composition of each county such as the percent of blacks/African Americans. Using the size of the jury pool, we can estimate the expected number of blacks/African Americans who would be qualified and summoned for jury duty in each county. The expected number can then be compared to hypothetical scenarios using absolute or comparative disparity thresholds. The results of these analyses are presented in the following section.

IV. FINDINGS

Based on the relative size and the demographic composition of the jury pool in each county, what impact would a bright-line rule concerning absolute or comparative disparity have on a defendant's ability to establish a fair-cross-section claim? Table 4 shows the potential impact of a bright-line 10 percent absolute disparity rule in terms of the number of county jurisdictions and their respective populations that would become functionally immune from a jury challenge based on underrepresentation of each distinctive racial and

----

[46]The adjusted R^2 for the population-only block was 0.804 compared to the block for additional county-level variables, for which the R^2 change was 0.001 ($F = 2.438$, $p = 0.088$).

[47]For any county with a predicted number of summonses less than zero (0), we imputed a conservative minimum of 600. This number is based on the 25th percentile using data from the Local Court database. Although it is most likely that many of the courts set at 600 summonses will not summonses this many citizens for jury duty, if any at all, it provides a conservative estimate that will allow the following analyses considerable leeway so that the remaining hypothetical scenarios presented in the findings section can be analyzed. Note that regression-generated estimates comprise 1,855 of the 3,151 counties (59 percent), overrepresenting less populous counties. See Mize et al., supra note 40, at 2–3.

[48]Based on State-of-the-States data (see supra note 38, Table 15), the equation used was: Number of Qualified Jurors = (Estimated # of Summons × % 2-step courts × 2-step yield) + (Estimated # of Summons × % 1-step courts × 1-step yield) for each of the four population categories. Again, the regression-generated estimates comprise 1,855 of the 3,151 counties (59 percent), overrepresenting less populous counties. Id.

Table 4:   Counties in Which the Percentage of Distinctive Racial/Ethnic Groups is Less than 10 Percent

	Counties		U.S. Population (2000 Decennial Census)	
Distinctive Group Table	#	%	#	%
White	2	0.06	19,494	0.01
Black	2,368	75.39	159,741,655	56.76
Native American	3,037	96.69	279,127,785	99.18
Asian	3,126	99.52	260,602,439	92.60
Hawaiian/Pacific Islander	3,138	99.90	281,144,988	99.90
Other	3,020	96.15	258,724,173	91.93
Multiple race	3,137	99.87	280,210,516	99.5
Hispanic	2,877	91.60	214,190,519	76.11
All Nonwhite racial groups/Hispanic	**2,051**	**65.30**	**126,537,922**	**44.96**

NOTE: Under a bright-line 10 percent absolute disparity rule, state courts in a substantial proportion of counties would become functionally immune from fair-cross-section challenges.

ethnic group in the community. For example, a jury challenge based on underrepresentation of blacks/African Americans would only be theoretically possible in 773 counties in the United States; in the remaining 2,368 counties, which reflect more than half (57 percent) of the total U.S. population, blacks/African Americans comprise less than 10 percent of the local jury-eligible population.[49] Even if blacks/African Americans were completely excluded from the jury pool in those communities, the absolute disparity would not rise to the requisite 10 percent threshold. Safe harbors of similar or greater magnitude would be created in those counties in which other racial and ethnic groups comprise less than 10 percent of the jury-eligible population. In nearly two-thirds (65 percent) of counties, no racial or ethnic group individually makes up a sufficient portion of the jury-eligible population to satisfy a 10 percent absolute disparity rule. These counties reflect nearly half (45 percent) of the total U.S. population.

Advocates of comparative disparity argue that it provides a more meaningful measure of underrepresentation when the proportion of the "distinctive group" is relatively small (e.g., less than 10 percent). Jurisprudentially speaking, this is correct. Comparative disparity measures the *extent* of underrepresentation, which is the principal focus of *Duren*'s second prong. However, the reality of jury operations in state courts creates a different problem of interpretation when the size of the jury pool itself is small. Indeed, three distinct demographic and operational factors converge to render comparative disparity a far less useful measure than its advocates claim. First, recall from Table 3 that the 25 percent least populous counties and county equivalents have annual jury pools of 248 or fewer qualified jurors. In absolute terms, a relatively small proportion of an already small jury pool is a very

---

[49]Recall from the discussion of the impact of a previous felony conviction on jury service qualification that an estimated 8.9 percent of blacks/African Americans have been incarcerated for a felony conviction. In addition, an undetermined percentage of convicted felons were sentenced to parole without jail or prison time. Consequently, the number of counties in which the proportion of blacks/African Americans in the jury-eligible population is less than 10 percent is likely to be larger than is reflected in Table 4.

Table 5:   Concentration of Racial and Hispanic Subpopulations

Population . . .	*Average Jury-Eligible Population (%)*						
	Black	*Native American*	*Asian*	*Hawaiian/ Pac. Islander*	*Other Race*	*2+ Races*	*Hispanic*
Less than 25,000	7.7	2.3	0.2	0.1	1.4	0.9	3.8
25,000 to 99,999	8.4	1.2	0.4	0.1	1.1	1.0	3.1
100,000 to 499,999	9.4	0.8	1.2	0.1	1.7	1.3	4.5
500,00 and over	15.3	0.6	3.6	0.2	3.5	2.1	9.4

NOTE: With the exception of Native American populations, racial and ethnic minority groups are disproportionately concentrated in more populous counties.
SOURCE: U.S. Census Bureau, 2000 Decennial Census, Summary Files 1 and 3

small number of prospective jurors—25 or fewer over the course of an entire year. Second, due to the comparatively lower demand for jurors in rural areas, these jury pools also summon a smaller proportion (4 percent) of their respective communities compared to more urban areas (8 percent at the 50th percentile and 16 percent at the 75th percentile). The lower summoning rate will result in a higher potential sampling error, making it less likely that the proportion of "distinctive groups" in the sample accurately reflects those groups' actual representation in the community. Finally, distinctive racial and ethnic groups in the United States tend to congregate in urban areas—that is, more populous jurisdictions have larger proportions of most of these race and Hispanic subpopulations than less populous jurisdictions.[50] See Table 5. The only exception to this general premise is Native Americans/Native Alaskans, who comprise a larger proportion of the community in jurisdictions with populations less than 25,000 (2 percent) than in more populous areas (e.g., 0.6 percent in counties with 500,000 or more population). In short, for the communities in which comparative disparity would seem most appropriate—that is, those with comparatively small populations of distinctive groups and for which absolute disparity measures rarely reach threshold levels of constitutional magnitude—the reliability of those values becomes increasingly suspect.

Table 6 illustrates the problems involved with statistically demonstrating that a distinctive group is underrepresented using comparative disparity. Consider, for example, a defendant's claim that a distinctive group that comprises 10 percent of the jury-eligible population is underrepresented by 50 percent. In such a case, the court's jury pool would have to consist of a minimum of 120 prospective jurors to show that random selection resulting in six or fewer jurors from the distinctive group is statistically improbable (5 percent probability or less).[51] More than 10 percent of the counties in the United States

---

[50]Pearson correlation values for the correlation between total population size and the proportion of racial and Hispanic subpopulations was statistically significant ($p < 0.01$) for all racial and Hispanic subpopulations except Hawaiian/Pacific Islander ($p =$ ns).

[51]We assume, for the purpose of this article, that most trial and appellate judges would require that evidence supporting a claim of underrepresentation have *at least* a 95 percent probability that the underrepresentation is real,

Table 6: Minimum Size of the Jury Pool Necessary to Produce ≥95 Percent Probability that Comparative Disparity Level is Not Due to Chance

Comparative Disparity Rule	*Percent of the Jury-Eligible Population Comprised by a Distinctive Racial/Ethnic Group*		
	10%	*5%*	*2%*
	Required Jury Pool		
50%	120	250	600
15%/25% (*Berghuis* Amicus Proposal)	1,200	900	2,500

NOTE: A distinctive group's proportional representation in the jury-eligible population is inversely related to the minimum jury size necessary to demonstrate a statistically significant level of comparative dispary. This inverse relationship is magnified as the numerical threshold for measuring comparative disparity is reduced.

today have jury pools this size or smaller. The size of the jury pool must be at least 200 before the probability of randomly selecting 10 or fewer jurors (50 percent comparative disparity) of a distinctive group falls to 1 percent.

One of the amicus briefs filed in *Berghuis v. Smith* advocated a lower threshold level for comparative disparity than the 50 percent level most commonly cited in case law: 15 percent when the distinctive group comprises 10 percent or more of the jury-eligible population and 25 percent when the distinctive group comprises less than 10 percent of the jury-eligible population.[52] By reducing the numerical threshold for comparative disparity, the proponents ostensibly intended to make it easier for defendants to establish a prima facie violation of the fair-cross-section requirement, but by failing to take account of the measure's dependence on the relative size of the jury pool, the proposal ironically produces reliable measures of underrepresentation in even fewer jurisdictions in the United States. Under that proposal, the minimum size of the jury pool would have to be 1,200 prospective jurors to be able to conclusively prove that a distinctive group was underrepresented by 15 percent using comparative disparity.[53] This would effectively exclude 2,343 counties and county equivalents in the United States (75 percent) from relying on this measure. Shifting to a higher 25 percent threshold when the distinctive group is less than 10 percent does not appreciably improve the situation. If the distinctive group is 5 percent of the jury-eligible population, the size of the jury pool must be at least 900 prospective jurors. If the distinctive group is only 2 percent of the jury-eligible population, the size of the jury pool must be at least 2,500 prospective jurors.

The size of a statistical test, addressed in footnote 51, describes the confidence that the effect detected in a test is the result of a real difference rather than sampling error

———

rather than the result of random chance. This standard is the one most frequently employed in the social sciences to establish statistical significance.

[52] Brief for Social Scientists, Statisticians, and Law Professors, supra note 22, at 30–35.

[53] In a pool of 1,200 prospective jurors, there is a 5 percent probability that 102 or fewer members of a distinctive group comprising 10 percent of the jury-eligible population would be randomly selected.

Figure 1:   Comparative disparity detectable by population proportion and size of jury pool.
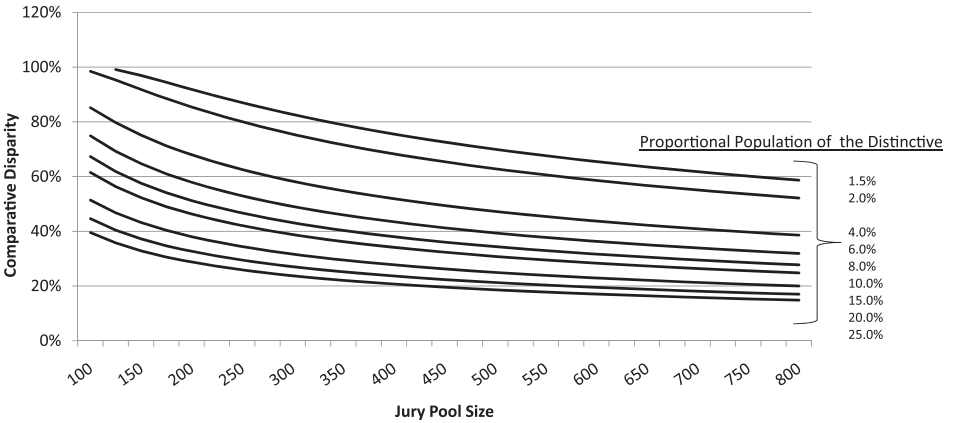
NOTE: Figure 1 illustrates the inverse relationship between the power of a comparative disparity measure to detect underrepresentation, the size of the jury pool, and the proportional representation of a distinctive group.

(avoiding a Type I error). However, trial judges must also consider the reciprocal problem that a statistical test may fail to detect disparity that actually exists (a Type II error). Like size, the power of a test is affected by the size of the jury pool and the proportion of the jury-eligible population. One standard resource identifies 0.80 as a convention for the acceptable power of a test, representing a four to one balance between Type II and Type I errors.[54] The tests in Table 6 have power of approximately 0.7 for the 50 percent comparative disparity rule, and 0.6 for the *Berghuis* amicus proposal. That is, there is a somewhat greater risk than conventional statistics would normally tolerate that the jury pool sizes described in Table 6 would fail to detect a disparity that actually exists. Adopting a standard test size of 0.05 and power of 0.80, one can calculate the smallest effect, or comparative disparity, that could be detected for any given jury pool size and jury-eligible population proportion. Figure 1 presents those figures for jury pools between 100 and 800 in which the distinctive group in the jury-eligible population ranges from 1.5 percent to 25 percent. For a distinctive group that comprises less than 1.5 percent of the jury-eligible population, no disparity can be detected with the designated size and power as the jury pool falls below 150.

      Other measures of representational disparity are sometimes used by expert witnesses testifying in jury challenges.[55] In spite of their statistical sophistication, however, all these tests ultimately succumb to the dilemma that their reliability to detect actual disparity that is not a result of random chance depends on a sufficiently large sample on

---

[54]Jacob Cohen, Statistical Power Analysis for the Behavioral Sciences (1988).

[55]Richard Seltzer et al., Fair Cross-Section Challenges in Maryland: An Analysis and Proposal, 25 U. Balt. L. Rev. 127, 141 (1996).

which to base a conclusion. In many jurisdictions across the country, the practical reality is that the jury pool is simply too small for these tests to be employed with any confidence. A trial judge risks making both Type I and Type II errors by relying on a purely mechanical application of a statistical test. Thus, a trial judge would necessarily have to consider and rely on nonquantitative evidence (e.g., the pattern of disparity, the timeframe over which it has persisted, or even the court's failure to investigate and make efforts to remedy the likely causes of underrepresentation)[56] to find a violation of the fair-cross-section requirement.

Table 7 illustrates the impact that a bright-line comparative disparity rule would have in terms of the number of counties and proportion of the U.S. population that would be effectively unable to prove the reliability of comparative disparity measures for blacks/African Americans and for Hispanic populations, the two largest distinctive groups for fair-cross-section claims. If the bright-line rule is the traditional 50 percent comparative disparity threshold articulated in case law, a defendant would be unlikely to establish underrepresentation of blacks in 1,291 counties (41 percent) and of Hispanics in 1,676 counties (53 percent). These counties encompass 8 percent and 12 percent, respectively, of the total U.S. population (2000 Census). If the proposal espoused in *Berghuis v. Smith* is used as the bright-line rule, a defendant would be unlikely to establish underrepresentation of blacks in 1,910 counties (61 percent) and of Hispanics in 2,314 counties (74 percent). These counties encompass 17 percent and 23 percent of the U.S. population, respectively. As we see, comparative disparity may be superior to absolute disparity with respect to accurately describing the extent of underrepresentation of a distinctive group. In practice, however, comparative disparity measures would not produce sufficiently reliable evidence of underrepresentation to support a fair-cross-section claim in many, if not most, jurisdictions in the country and for a sizeable portion of the U.S. population.[57]

The maps comprising Figure 2 illustrate the distribution of counties affected across the country. The shaded counties represent those that would effectively become safe harbors from fair-cross-section challenges based on these comparative disparity rules. Successful fair-cross-section challenges based on underrepresentation of blacks/African Americans would be unattainable throughout much of the northern and central areas of the country. Claims alleging underrepresentation of Hispanics could be raised in most of the South and Southwest, but would be mostly foreclosed in the rest of the country. For both groups, the lower comparative disparity threshold extends the reach of these safe harbors.

Thus far, the findings presented in this article have focused on the implications of representational disparity measures in state courts, rather than federal courts. We have

---

[56]*See* Paula Hannaford-Agor, Systematic Negligence in Jury Operations: Why the Definition of Systematic Exclusion in Fair Cross Section Claims Must Be Expanded, 59 Drake L. Rev. 101 (2010).

[57]Recall from Section III.B that the Local Court Survey data from the State-of-the-States Survey of Jury Improvement Efforts underrepresents less populous counties. In Table 7, the regression-generated estimates of jury pool size for these smaller counties provide a more accurate picture of the potential impact of a bright-line comparative disparity rule than would be reflected using just the Local Court Survey data.

Table 7: Number of Counties and US Population for which the Jury Pool is Insufficient to Produce Reliable Comparative Disparity Measures, Black and Hispanic Subpopulations

Proportion of Distinctive Group in Jury-Eligible Population	50% Comparative Disparity				15%/25% Comparative Disparity (Berghuis Amicus Proposal)			
	Counties		U.S. Population (2000 Census)		Counties		U.S. Population (2000 Census)	
Black								
≤2%	1,261	40.1%	22,158,180	7.9%	1,496	47.6%	35,563,292	12.6%
2.1 to 5%	23	0.7	496,445	0.2	227	7.2	6,635,752	2.4
5.1 to 10%	7	0.	2129,931	0.0	187	6.0	5,745,973	2.0
Total	**1,291**	**41.1**	**22,784,556**	**8.1**	**1,910**	**60.8**	**47,945,017**	**17.0**
Hispanic								
≤2%	1,648	52.5	34,323,929	12.2	2,002	63.7	56,268,700	20.0
2.1 to 5%	24	0.8	710,464	0.3	208	6.6	5,810,046	2.1
5.1 to 10%	4	0.1	19,065	0.0	104	3.3	2,393,286	0.8
Total	**1,676**	**53.4**	**35,053,458**	**12.4**	**2,314**	**73.7**	**64,472,032**	**22.9**

NOTE: Under either a 50 percent bright-line comparative disparity rule or the proposed 15 percent/25 percent rule proposed by amici in *Berghuis v. Smith*, a substantial number of state courts would become effectively immune from fair-cross-section challenges alleging underrepresentation of blacks or Hispanics.

Figure 2:   Safe harbors.
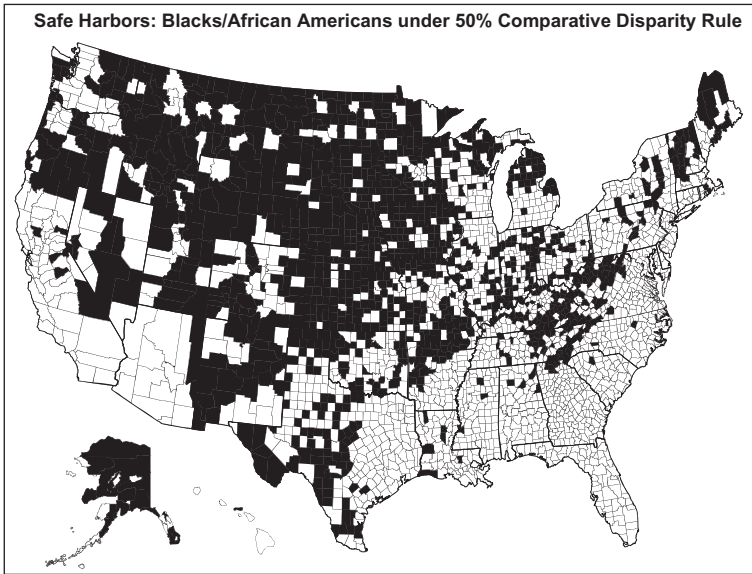
Safe Harbors: Blacks/African Americans under 50% Comparative Disparity Rule
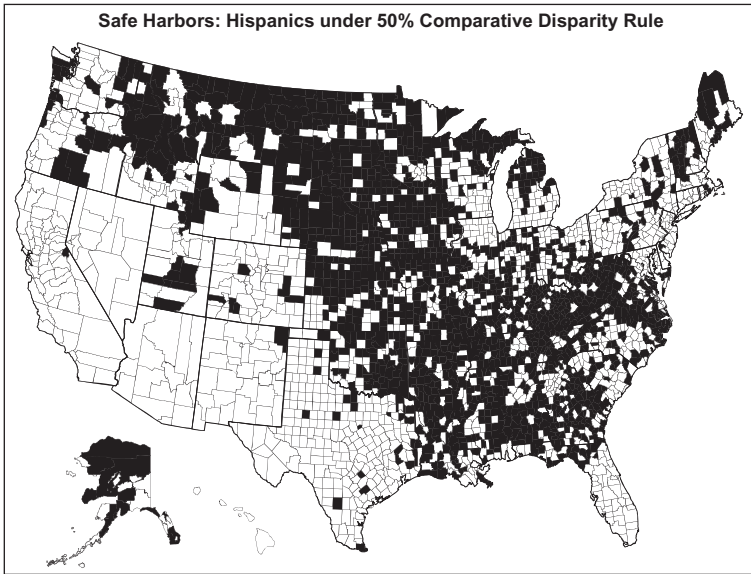

NOTE: Shaded areas indicate counties that would become functionally immune from fair-cross-section challenges alleging underrepresentation of blacks/African Americans under a bright-line 50 percent comparative disparity rule.

Safe Harbors: Blacks/African Americans under 15% / 25% Comparative Disparity Rule (Berghuis amicus proposal)
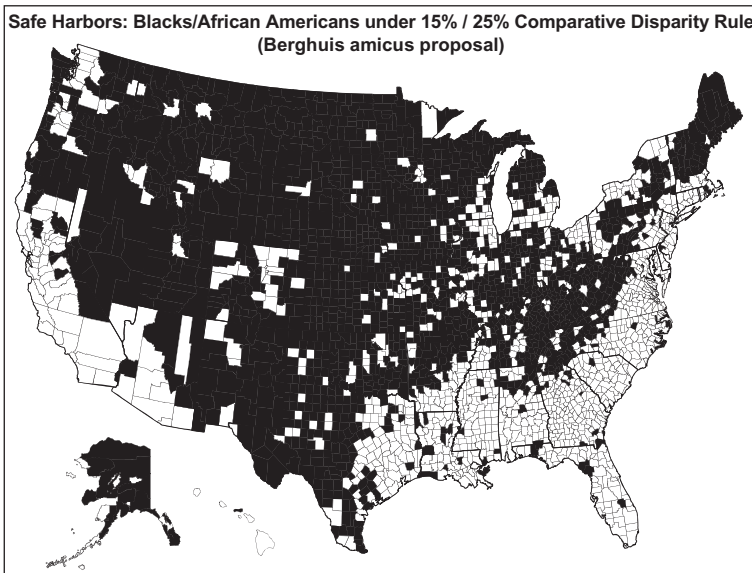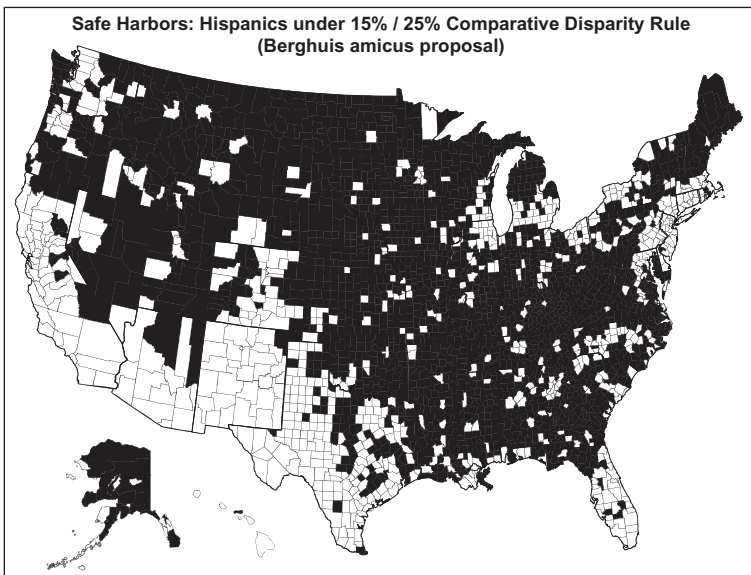

NOTE: Shaded areas indicate counties that would become functionally immune from fair-cross-section challenges alleging underrepresentation of blacks/African Americans under a bright-line 15 percent/25 percent comparative disparity rule.

Figure 2   Continued

Safe Harbors: Hispanics under 50% Comparative Disparity Rule

NOTE: Shaded areas indicate counties that would become functionally immune from fair-cross-section challenges alleging underrepresentation of Hispanics under a bright-line 50 percent comparative disparity rule.

Safe Harbors: Hispanics under 15% / 25% Comparative Disparity Rule
(Berghuis amicus proposal)

NOTE: Shaded areas indicate counties that would become functionally immune from fair-cross-section challenges alleging underrepresentation of Hispanics under a bright-line 15 percent/25 percent comparative disparity rule.

reason to believe that bright-line rules would function even less effectively in federal court jurisdictions because the key components that define these measures—demographic composition and jury pool size—are even more attenuated. All but one of the 94 federal district courts in the country encompass multiple counties within a state and even, in some instances, the entire state.[58] Although most federal district courts distribute their work across multiple subdivisions within the district, even these subdivisions serve more than one county. Typically, these divisions are located in an urban area, but encompass the surrounding suburban and rural areas adjacent to the central location. As we noted in Table 5, most of the racial subpopulations and Hispanics tend to congregate in these urban areas. The most likely result of the larger geographic jurisdictions for federal courts is a reduction in the overall proportion of these distinctive groups in the jury-eligible community. Thus, a larger proportion of federal district courts would be characterized as having race and Hispanic subpopulations with less than 10 percent of the jury-eligible community and thus functionally immune from fair-cross-section challenges under a 10 percent absolute disparity rule.

Simultaneously, federal courts have far fewer jury trials than state courts. Nationally, state courts conduct an estimated 148,000 jury trials each year compared to less than 6,000 jury trials conducted by federal courts, so the demand for jurors is less in federal courts than in state courts.[59] Moreover, federal courts tend to have longer terms of service for jurors—using jurors for multiple trials rather than summoning new jurors for each new trial—which also reduces the demand for jurors in federal courts. As a consequence of the lower demand, the jury pool over time is also much smaller. Thus, the reliability of comparative disparity measures suffers from the same factors in federal courts as it does in state courts.

A final note should be made about the implications of these analyses given the apparent demographic shift toward a more diverse United States since the 2000 Decennial Census. Although it is true that the proportion of distinctive groups has increased in many counties over the past decade, it is less clear that the proportion of these groups in the jury-eligible population has increased to the same extent. In particular, much of the increase in the Hispanic population since 2000 may be offset by commensurate disqualification rates due to noncitizenship and lack of English fluency. In addition, all available evidence suggests that jury trials have continued to decrease over the past decade, resulting in a decreased demand for jurors and smaller jury pools.[60] This is likely to exacerbate the problems with the reliability of comparative disparity measures in an increasing number of jurisdictions. Overall, we predict only marginal changes in the analyses and conclusions to be drawn from the findings described above.

───────

[58]The only exception is the U.S. District Court for the District of Columbia, whose geographic boundary is contiguous with the boundary for the D.C. Superior Court.

[59]Gregory E. Mize et al., supra note 38, at 7.

[60]Brian J. Ostrom, Shauna M. Strickland & Paula L. Hannaford-Agor, Examining Trial Trends in State Courts: 1976–2002, 1 J. Empirical Leg. Stud. 755 (2004).

V. Conclusions

As these findings demonstrate, neither absolute disparity nor comparative disparity offers a fully satisfactory method of measuring demographic underrepresentation. As its name implies, absolute disparity only measures the absolute numerical difference between the proportion of a distinctive group in the jury pool and its proportion in the jury-eligible population. It does not provide a context for considering the degree of underrepresentation of those groups in the jury pool itself. Moreover, the current demographic composition and the distribution of distinctive groups across the country create functional safe harbors in the vast majority of counties and county equivalents using a traditional 10 percent absolute disparity rule. Unfortunately, comparative disparity offers no better alternative in many jurisdictions. Although it does measure the degree of underrepresentation, those measurements become increasingly unreliable as the size of the jury pool decreases. The practical reality of jury operations is that fairly small jury pools (less than 1,000 jurors annually) comprise the majority (73 percent) of state courts in the contemporary United States. In the end, it is clear that a bright-line rule for either measure of representational disparity would effectively eviscerate the fair-cross-section requirement across large swaths of the country.

The pervasive popularity of absolute and comparative disparity measures in case law likely is due to their mathematical simplicity and ease of interpretation. Although statisticians might be convinced of the legitimacy of a more sophisticated approach, trial judges managing increasingly large dockets are unlikely to credit, much less welcome, novel methods of calculating and evaluating disparity unless those methods are sufficiently understandable, employable, and persuasive to overcome the presumptive legitimacy that the absolute and comparative disparity measures currently enjoy. The ongoing challenge to scholars in the academic and legal communities will be to ensure that trial judges understand the inherent limitations of all statistical measures of representational disparity, including the possibility that those tests may fail to detect disparity where it actually exists (Type II error) as well as falsely detect disparity due to random chance (Type I error). Until that time, we are inclined to agree with the U.S. Supreme Court in its opinion in *Berghuis v. Smith* that—imperfect as they are—all measures of representational disparity that are supported by credible evidence should be considered when drawing legal conclusions about the constitutional significance of underrepresentation. Such an approach does not necessarily make it easier for defendants to prevail in fair-cross-section claims, but likewise it does not make it any harder than the present system.

In the end, however, there are significant limits on the usefulness of a purely quantitative focus on the second prong of *Duren* when addressing demographic underrepresentation in the nation's jury pools. Indeed, based on the NCSC Center for Jury Studies' substantial experience providing technical assistance to state and federal courts concerning these and related issues, it is our professional opinion that the jurisprudential focus of *Berghuis v. Smith* and similar cases is misplaced. In contemporary jury operations, the most significant causes of demographic underrepresentation are those that have been traditionally attributed to nonsystematic exclusion, such as undeliverable,

nonresponse, and excusal rates. The current focus on the quantum of underrepresentation that the U.S. Constitution prohibits is standing in the way of a more productive focus on the underlying causes of that underrepresentation and, more importantly, the obligation of courts to remedy that underrepresentation with effective jury operation practices.