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Furman at 45: Constitutional Challenges from California's Failure to (Again) Narrow Death Eligibility

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The Eighth Amendment's "narrowing" requirement for capital punishment eligibility has challenged states since it was recognized in *Furman v. Georgia* in 1972. This article examines whether California's death penalty scheme complies with this requirement by empirically analyzing 27,453 California convictions for first-degree murder, second-degree murder, and voluntary manslaughter with offense dates between January 1978 and June 2002. Using a 1,900-case sample, we examine whether California's death penalty statute fails to comply with the Eighth Amendment's narrowing test. Our findings support two conclusions. First, the death-eligibility rate among California homicide cases is the highest in the nation during that period and in the ensuing decade. We find that 95 percent of all first-degree murder convictions and 59 percent of all second-degree murder and voluntary manslaughter convictions were death eligible under California's 2008 statute. Second, a death sentence is imposed in only a small fraction of the death-eligible cases. The California death sentencing rate of 4.3 percent among all death-eligible cases is among the lowest in the nation and over two-thirds lower than the death-sentencing rate in pre-*Furman* Georgia.

I. Introduction

This article examines the scope and application of California's death penalty statute, particularly whether it satisfies the Eighth Amendment's requirement that a state statute narrows the subclass of offenders upon whom a sentence of death may be imposed. The

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narrowing requirement derives from the decision announced over 45 years ago in *Furman v. Georgia*[1] in which the U.S. Supreme Court invalidated the then-current death penalty statutes as violative of the Eighth Amendment's prohibition against cruel and unusual punishments. Citing statistics demonstrating the risk of arbitrary and capricious application of capital punishment, the Supreme Court held that a death-sentencing procedure is unconstitutional if it provides "no meaningful basis for distinguishing the few cases in which [death] is imposed from the many cases in which it is not."[2]

Four years later, in *Gregg v. Georgia*,[3] and in its companion cases, the Supreme Court reviewed the subsequently enacted statutes.[4] In upholding some of the statutes, the Court, in a plurality opinion, explained that "*Furman* mandates that where discretion is afforded a sentencing body on a matter so grave as the determination of whether a human life should be taken or spared, that discretion must be suitably directed and limited so as to minimize the risk of wholly arbitrary and capricious action."[5] To ameliorate the risk of arbitrary and capricious sentencing, the Supreme Court has required that a capital sentencing statute "genuinely narrow the class of persons eligible for the death penalty and ... reasonably justify the imposition of a more severe sentence on the defendant compared to others found guilty of murder."[6] Moreover, such direction and limitation must be provided by statute to limit the discretion of individual prosecutors to charge capital defendants and that of judges and juries to impose death sentences.[7]

Over a decade after *Gregg*, the Supreme Court in *Lowenfeld v. Phelps* explained the ways in which a statute may satisfy the narrowing requirement:

> It seems clear to us from this discussion that the narrowing function required for a regime of capital punishment may be provided in either of these two ways: The legislature may itself narrow the definition of capital offenses, as Texas and Louisiana have done, so that the jury

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[1]408 U.S. 238 (1972).

[2]Id. at 313 (White, J., concurring); see also Maynard v. Cartwright, 486 U.S. 356, 362 (1988); Godfrey v. Georgia, 446 U.S. 420, 427–28 (1980) (plurality opinion).

[3]428 U.S. 153 (1976).

[4]Jurek v. Texas, 428 U.S. 262 (1976); Proffitt v. Florida, 428 U.S. 242 (1976).

[5]*Gregg*, 428 U.S. at 189 (plurality opinion); see also Zant v. Stephens, 462 U.S. 862, 878 (1983) (explaining the purpose of the narrowing requirement); *Furman*, 408 U.S. 238, 313 (White, J. concurring) (recognizing that a death-sentencing procedure is unconstitutional if it provides "no meaningful basis for distinguishing the few cases in which [death] is imposed from the many cases in which it is not").

[6]Lowenfield v. Phelps, 484 U.S. 231, 244 (1988) (quoting *Zant*, 462 U.S. at 877).

[7]*Gregg*, 428 U.S. at 207 (plurality opinion) (noting that the selection of the persons eligible to be sentenced to death be "circumscribed by ... legislative guidelines"); see also Hidalgo v. Arizona, 583 U.S. __, 138 S. Ct. 1054, 1054 (2018) (Breyer, J., statement respecting the denial of certiorari). ("To satisfy the 'narrowing requirement,' a state legislature must adopt 'statutory factors which determine death eligibility' and thereby 'limit the class of murderers to which the death penalty may be applied.'") (quoting Brown v. Sanders, 546 U.S. 212, 216, & n. 2 (2006)).

> finding of guilt responds to this concern, or the legislature may more broadly define capital offenses and provide for narrowing by jury findings of aggravating circumstances at the penalty phase.[8]

California, like several other states, has chosen to implement the narrowing requirement by broadly defining capital offenses and then requiring the sentencer to find at least one statutory aggravating factor that subjects the defendant to a death sentence.[9] Since the 1970s, however, states increasingly have adopted more statutory aggravating factors that qualify as capital offenses.[10] Given these expansions of the application of the death penalty, the question is whether the current statutes sufficiently narrow the class of persons eligible for the death penalty.[11]

The U.S. Supreme Court recently considered this question with respect to Arizona's death penalty statute when it reviewed the petition for a writ of certiorari in *Hidalgo v. Arizona*.[12] The petitioner in *Hidalgo* sought Supreme Court review of "[w]hether Arizona's capital sentencing scheme, which includes so many aggravating circumstances that virtually every defendant convicted of first-degree murder is eligible for death, violates the Eighth Amendment."[13] Seeking an evidentiary hearing prior to trial, Mr. Hidalgo proffered evidence that 98 percent of first-degree murder defendants charged in Maricopa County, which encompasses the City of Phoenix and its surrounding suburbs, were eligible for a death sentence.[14] Mr. Hidalgo argued that this evidence demonstrated that Arizona failed to comply with the constitutional requirement set forth in *Furman* and *Gregg*. Although the Supreme Court unanimously denied certiorari in *Hidalgo*, three justices joined Justice Breyer's statement that such evidence "warrants

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[8] *Lowenfield*, 484 U.S. at 246.

[9] See, e.g., Cal. Penal Code §§ 189, 190.2 (West 2019) (requiring the finding of the presence of an enumerated "special circumstance" before a defendant is subject to a capital sentence).

[10] See, e.g., Daniel Ross Harris, Capital Sentencing After *Walton v. Arizona*: A Retreat from the "Death is Different" Doctrine, 40 Am. U. L. Rev. 1389 (1990); Jonathan Simon & Christina Spaulding, Token of Our Esteem: Aggravating Factors in the Era of Deregulated Death Penalties, in The Killing State: Capital Punishment in Law, Politics and Culture 81 (Austin Sarat, ed. 1999).

[11] *Lowenfield*, 484 U.S. at 244 (quoting *Zant*, 462 U.S. at 877).

[12] Hidalgo v. Arizona, 583 U.S. __, 138 S. Ct. 1054 (2018) (denying certiorari).

[13] Petition for Certiorari, Hidalgo v. Arizona, No. 17-251, 2017 WL 3531089 at *1 (Aug. 14, 2017). Following *Gregg*, Arizona provided nine statutory aggravators. At the time of Hidalgo's conviction, the Arizona statute contained 10 aggravators. By the time Mr. Hidalgo filed his petition for certiorari, Arizona had 14. Subsequently, on April 10, 2019, the Arizona Governor signed legislation that removed or significantly modified three of the statutory aggravators: (1) if the defendant created a grave risk of death to another person in addition to the person murdered; (2) if the offense was committed in a cold, calculated manner without pretense of moral or legal justification; and (3) if the defendant used a remote stun gun in the commission of the offense as defined in statute. Ariz. Rev. Stat. § 13-751 (2019).

[14] Hidalgo v. Arizona, 583 U.S. __, 138 S. Ct. 1054, 1056 (2018) (Breyer, J., statement respecting the denial of certiorari).

careful attention and evaluation."[15] Justice Breyer's statement signaled that four sitting justices share concerns about whether "states perform the 'constitutionally necessary' narrowing function at the stage of *legislative* definition" to prevent "a pattern of arbitrary and capricious sentencing."[16] Given that the record presented in *Hidalgo* "is limited and largely unexamined by experts and the courts below," these justices opined that a "fully developed record" would be "better suited for certiorari."[17]

This study, which originated before the litigation in *Hidalgo*, presents empirical analyses of California's death penalty scheme focusing on the issues raised in *Furman* and *Hidalgo*. Its first purpose is to evaluate the scope of death eligibility under California law following the decision in *Furman*. We document the rates of death eligibility under post-*Furman* California law among several categories of legally relevant homicide cases. We also evaluate the death eligibility of cases under pre-*Furman* Georgia law. This information enables us to document the extent to which post-*Furman* California law has narrowed the rate of death eligibility in homicide cases from the rate of death eligibility that existed under pre-*Furman* Georgia law. We also compare post-*Furman* California death-eligibility rates with post-*Furman* death-eligibility rates in other states. Finally, we compare the narrowing produced by post-*Furman* California law with the narrowing of death eligibility produced by post-*Furman* statutes in other states.

Second, the study evaluates capital charging and sentencing practices in post-*Furman* California death-eligible cases.[18] We examine the rates at which death-eligible post-*Furman* California cases are capitally charged and the rate at which they result in a death sentence. In that analysis, we compare post-*Furman* California death-sentencing rates to the death-sentencing rates in pre-*Furman* Georgia death-eligible cases. In addition, we compared post-*Furman* California capital charging and sentencing rates with comparable rates in other U.S. death-sentencing jurisdictions for which comparable data are available.

This article presents the results of our study. We begin with a review of the constitutional framework on narrowing and the requirement to establish clear distinctions between death-eligible and other first-degree murders. We then examine how these requirements have been implemented in California's statutory regime, as well as in other jurisdictions where there have been empirical and doctrinal challenges to the narrowing capacity of statutes. By showing the high rate of eligibility in California in contrast with the low sentencing rate, we show the substantial departure of the operation of the California statute from the *Furman* guidance and the *Gregg* aspirations.

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[15]Id. at 1057.

[16]Id. (quoting *Zant*, 462 U.S. at 878) (emphasis in original).

[17]Id.

[18]Our findings have been submitted on behalf of two California death row inmates who are challenging the constitutionality of the death sentences in part because the California statute fails to satisfy the *Furman* narrowing requirement. The inmates, Jerry Frye and Troy Ashmus, have presented our findings in federal habeas corpus proceedings challenging their capital judgments. Frye v. Warden, Case No. 2:99-cv-0628 (E.D. Cal.); Ashmus v. Wong, Case No. 93-cv-0594 (N.D. Cal.).

II. The Legal Framework Informing the Study

We begin by reviewing the legal framework that informed our study.

A. The Eighth Amendment's Narrowing Requirement

The Supreme Court first articulated the Eighth Amendment narrowing principle in *Furman*, most notably in the opinions of Justice Stewart and Justice White.[19] These opinions, as well as the others concurring in the judgments of the Court in *Furman*, held that infrequent and seemingly random imposition of the death penalty on only a small percentage of those eligible to receive it violates the Eighth Amendment's prohibition against cruel and unusual punishment.[20] The evidence before the *Furman* Court showed that "15% to 20% of those convicted of murder are sentenced to death in States where it is authorized."[21] The Court also relied on data showing the low number of California death sentences imposed upon those convicted of death-eligible murder.[22]

Justice Stewart and Justice White "focused on the infrequency and seeming randomness with which, under the discretionary state systems, the death penalty was imposed."[23] As Justice Stewart noted, the arbitrary imposition of the death penalty resulted from a legislative failure to properly limit the application of death sentences:

> [T]he death sentences now before us are the product of a legal system that brings them, I believe, within the very core of the Eighth Amendment's guarantee against cruel and unusual punishments. ... In the first place, it is clear that these sentences are "cruel" in the sense that they excessively go beyond, not in degree but in kind, the punishments that the state

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[19]See Walton v. Arizona, 497 U.S. 639, 657–58 (1990) (Scalia, J., concurring) (designating the opinions of Justice Stewart and Justice White as the "critical opinions" of *Furman*), overruled on other grounds by Ring v. Arizona, 536 U.S. 584 (2002); *Gregg*, 428 U.S. at 188 (plurality opinion) (recognizing the opinions of Justice Stewart and Justice White as the foundation for the holding in *Furman*); id. at 169 n.15 (recognizing these two opinions as the "holding of the Court" because they represented "that position taken by those Members who concurred in the judgments on the narrowest grounds"); see also *Furman*, 408 U.S. at 396 (Burger, C.J., dissenting) (noting that the "substantially similar concurring opinions" of Justice Stewart and Justice White are "necessary" to support the judgment setting aside the petitioners' death sentences).

[20]See *Gregg*, 428 U.S. at 188 (citing *Furman*, 408 U.S. at 313 (White, J., concurring); id. at 309–10 (Stewart, J., concurring)).

[21]*Furman*, 408 U.S. at 386–87 n.11 (Burger, C.J., dissenting); id. at 435–36 n.19 (Powell, J., dissenting) (citing Hugo A. Bedau, Death Sentences in New Jersey 1907–1960, 19 Rutgers L. Rev. 1 (1964) ("between 1916 and 1955, 157 out of 652 persons charged with murder received the death sentence in New Jersey—about 20%; between 1956 and 1960, 13 out of 61 received the death sentence—also about 20%")).

[22]See *Furman*, 408 U.S. at 386–87 n.11 (Burger, C.J., dissenting); id. at 435–36 n.19 (Powell, J., dissenting) (citing Richard A. McGee, Capital Punishment as Seen by a Correctional Administrator, 28 Fed. Probation 11–12 (1964) ("one out of every five, or 20%, of persons convicted of murder received the death penalty in California")).

[23]*Walton*, 497 U.S. at 658 (Scalia, J., concurring); see also *Furman*, 408 U.S. at 397 (Burger, C.J., dissenting) ("The critical factor" in Justice Stewart's and Justice White's opinions "is the infrequency with which the [death] penalty is imposed.").

> legislatures have determined to be necessary. In the second place, it is equally clear that these sentences are "unusual" in the sense that the penalty of death is infrequently imposed for murder, and that its imposition for rape is extraordinarily rare. ... [¶] These death sentences are cruel and unusual in the same way that being struck by lightning is cruel and unusual. For, of all the people convicted of rapes and murders in 1967 and 1968, many just as reprehensible as these, the petitioners are among a capriciously selected random handful upon whom the sentence of death has in fact been imposed. ... I simply conclude that the Eighth and Fourteenth Amendments cannot tolerate the infliction of a sentence of death under legal systems that permit this unique penalty to be so wantonly and so freakishly imposed.[24]

In concurring in the finding of an Eighth Amendment violation, Justice White also focused on the infrequency of the imposition of the death penalty upon those eligible to receive it:

> [A]s the statutes before us are now administered, the [death] penalty is so infrequently imposed that the threat of execution is too attenuated to be of substantial service to criminal justice. [¶] I need not restate the facts and figures that appear in the opinions of my Brethren. Nor can I "prove" my conclusion from these data. But, like my Brethren, I must arrive at judgment. ... That conclusion, as I have said, is that the death penalty is exacted with great infrequency even for the most atrocious crimes and that there is no meaningful basis for distinguishing the few cases in which it is imposed from the many cases in which it is not.[25]

Similarly, the relatively infrequent and arbitrary imposition of the death penalty upon those eligible to receive it was of concern to other members of the *Furman* Court who concurred in the judgments.[26] Although *Furman* produced nine separate opinions, a majority of the Court recognized that state statutes create too great a risk of arbitrary and capricious imposition of the death penalty by failing to suitably narrow the death-eligible class and thus violate the Eighth Amendment.[27] That conclusion was the basis of the holding that the Georgia statute violated the Eighth Amendment.

Four years after *Furman*, the U.S. Supreme Court reviewed state death penalty statutes enacted in an attempt to cure the constitutional deficiencies.[28] In *Gregg v. Georgia*, the Supreme Court recognized the relevant data relied upon in *Furman*, and reiterated the constitutional rule that legislatures must distinguish "the few cases in which [the

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[24]*Furman*, 408 U.S. at 309–10 (Stewart, J., concurring) (citing id. at 386–87 n.11 (Burger, C.J., dissenting) and id. at 291–93 (Brennan, J., concurring)) (footnotes and citations omitted).

[25]Id. at 313 (White, J., concurring).

[26]See *Furman*, 408 U.S. at 255–57 (Douglas, J., concurring); id. at 291–95 (Brennan, J., concurring); id. at 398–99 (Burger, C.J., dissenting) ("The decisive grievance of the concurring opinions ... is that the present system of discretionary sentencing in capital cases has failed to produce evenhanded justice; ... that the selection process has followed no rational pattern."); see also *Gregg*, 428 U.S. at 188 n.36.

[27]See *Gregg*, 428 U.S. at 188 (citing *Furman*, 408 U.S. at 313 (White, J., concurring); id. at 309–10 (Stewart, J., concurring)).

[28]*Gregg*, 428 U.S. 153; *Jurek*, 428 U.S. 262; *Proffitt*, 428 U.S. 242.

death penalty] is imposed from the many cases in which it is not.'"[29] The Court in *Gregg* rejected a facial challenge to the revised Georgia statute, assuming that it "narrow[ed] the class of murderers subject to capital punishment by specifying 10 statutory aggravating circumstances," which channeled the jury's discretion and protected against "a jury wantonly and freakishly impos[ing] the death sentence; [in that] it is always circumscribed by the legislative guidelines."[30] In his concurrence in *Gregg*, Justice White, joined by Chief Justice Burger and Justice Rehnquist, explained the rationale for requiring statutory narrowing:

> As the types of murders for which the death penalty may be imposed become more narrowly defined and are limited to those which are particularly serious or for which the death penalty is peculiarly appropriate ... it becomes reasonable to expect that juries even given discretion not to impose the death penalty will impose the death penalty in a substantial portion of the cases so defined. If they do, it can no longer be said that the penalty is being imposed wantonly and freakishly or so infrequently that it loses its usefulness as a sentencing device. There is, therefore, reason to expect that Georgia's current system would escape the infirmities which invalidated its previous system under *Furman*.[31]

Supreme Court cases subsequently interpreting *Furman* consistently have held that to "avoid [the] constitutional flaw" of arbitrary and capricious imposition of the death penalty, state death penalty statutes, by rational and objective criteria, "must genuinely narrow the class of persons eligible for the death penalty and must reasonably justify the imposition of a more severe sentence on the defendant compared to others found guilty of murder."[32] The Court has applied these requirements when resolving a facial challenge to a state statutory scheme[33] and in examining a particular narrowing device, such

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[29]428 U.S. at 182 n.26; id. at 188 (plurality opinion) (citing *Furman*, 408 U.S. at 313 (White, J., concurring)).

[30]Id. at 196–97, 207 (plurality opinion).

[31]Id. at 222 (White, J., concurring); cf. *Zant*, 462 U.S. at 878 ("Our cases indicate, then, that statutory aggravating circumstances play a constitutionally necessary function at the stage of legislative definition: they circumscribe the class of persons eligible for the death penalty.").

[32]*Zant*, 462 U.S. at 877; see also *Gregg*, 428 U.S. at 189 (stating the mandate of *Furman*); see also *Walton*, 497 U.S. at 660 (Scalia, J., concurring) ("Since the 1976 cases, we have routinely read *Furman* as standing for the proposition that 'channeling and limiting ... the sentencer's discretion in imposing the death penalty' is a 'fundamental constitutional requirement,' and have insisted that States furnish the sentencer with "'clear and objective standards' that provide 'specific and detailed guidance,' and that 'make rationally reviewable the process for imposing a sentence of death.'"") (quoting *Maynard*, 486 U.S. at 362; and *Godfrey*, 446 U.S. at 428 (plurality opinion)).

[33]See, e.g., *Lowenfield*, 484 U.S. at 244 ("To pass constitutional muster, a capital sentencing scheme must 'genuinely narrow the class of persons eligible for the death penalty and must reasonably justify the imposition of a more severe sentence on the defendant compared to others found guilty of murder.'") (quoting *Zant*, 462 U.S. at 877); *Jurek*, 428 U.S. at 268–76 (noting the Texas statute revised in light of *Furman*, through which the legislature "narrowed" the class of death-eligible offenses to intentional and knowing murders committed in five situations, appeared to address the concerns raised in *Furman*); *Proffitt*, 428 U.S. at 260–61 (White, J., concurring) (upholding scheme in which the sentencing judge is required to impose the death penalty on a statutorily narrowed subclass of first-degree murderers, and noting this provided "good reason to anticipate ... that as to [the narrowed] categories of murderers, the penalty will not be imposed freakishly or rarely but will be imposed with regularity").

as an aggravating factor.[34] The Supreme Court has been equally consistent in reaffirming the constitutional requirement that the Eighth Amendment requires states to reserve the application of the ultimate sanction to a narrow category of the most serious murders.[35]

Although the U.S. Supreme Court has approved state statues that "broadly define capital offenses and provide for narrowing by jury findings of aggravating circumstances at the penalty phase,"[36] such statutes may be challenged if empirical analysis demonstrates the failure of the statutory scheme to perform the requisite narrowing. In such schemes, the aggravating circumstances cannot "fail[] adequately to inform juries what they must find to impose the death penalty and as a result leave[] them and appellate courts with the kind of open-ended discretion which was held invalid in *Furman*."[37] The point of this entire set of Eighth Amendment rules designed to enforce the *Furman* narrowing principle is to assure that the selection of the smaller group of persons actually sentenced to death from among the larger group of persons who could have been so sentenced is regulated by legislatively prescribed criteria of sufficient certainty to guard against arbitrariness and caprice.[38]

Whether any particular statutory scheme satisfies the Eighth Amendment narrowing requirements depends on the breadth of the pool of persons who might potentially be sentenced to death and the manner in which that pool is "narrowed" to

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[34]See, e.g., Arave v. Creech, 507 U.S. 463, 474 (1993) ("Of course, it is not enough for an aggravating circumstance, as construed by the state courts, to be determinate. Our precedents make clear that a State's capital sentencing scheme also must 'genuinely narrow the class of persons eligible for the death penalty.'") (quoting *Zant*, 462 U.S. at 877); *Maynard*, 486 U.S. at 362 ("channeling and limiting of the sentencer's discretion in imposing the death penalty is a fundamental constitutional requirement for sufficiently minimizing the risk of wholly arbitrary and capricious action"); *Zant*, 462 U.S. at 879 (finding "the narrowing function [was] properly achieved" by legislatively defined aggravating factors in the Georgia statute that "adequately differentiate [a case in which the death penalty is imposed] in an objective, evenhanded, and substantively rational way from the *many Georgia murder cases* in which the death penalty may not be imposed") (emphasis added); *Godfrey*, 446 U.S. at 427–29 (plurality opinion) (finding the application of a broad and vague aggravating circumstance failed to satisfy *Furman*'s requirement that a state scheme must provide a meaningful basis for distinguishing the few cases in which the death penalty is imposed from the many cases in which it is not).

[35]See, e.g., Roper v. Simmons, 543 U.S. 551, 568–69 (2005) (reaffirming the "underlying principle" of *Furman* and its progeny that "the death penalty is reserved for a narrow category of crimes and offenders"); Atkins v. Virginia, 536 U.S. 304, 319 (2002) ("Since *Gregg*, our jurisprudence has consistently confined the imposition of the death penalty to a narrow category of the most serious crimes. ... [Demonstrating] culpability of the average murderer is insufficient to justify the most extreme sanction available to the State ...."); Johnson v. Texas, 509 U.S. 350, 359 (1993) ("The guiding principle that emerged from *Furman* was that States were required to channel the discretion of sentencing juries in order to avoid a system in which the death penalty would be imposed in a 'wanto[n]' and 'freakis[h]' manner.") (quoting *Furman*, 408 U.S. at 310 (Stewart, J., concurring)).

[36]*Lowenfield*, 484 U.S. at 246.

[37]*Maynard*, 486 U.S. at 361–62.

[38]Chelsea Creo Sharon, The "Most Deserving" of Death: The Narrowing Requirement and the Proliferation of Aggravating Factors in Capital Sentencing Statutes, 46 Harv. C.R.-C.L. L. Rev. 223, 247 (2011) ("The narrowing requirement's primary aim is to reduce arbitrariness by confining the discretion of jurors and prosecutors to a particularly heinous group of offenders, making it more likely that culpability rather than caprice will drive their decision making.").

arrive at those individuals actually sentenced to death. For instance, a statute will pass constitutional muster if it narrowly defines the crime or crimes for which a death sentence is possible, even though no further legislatively guided narrowing *within* the class of persons convicted of that crime or of those crimes is required.[39] Conversely, a statute that makes a broader pool of cases subject to the death penalty satisfies the narrowing requirement if, but only if, it provides for further meaningful narrowing.[40]

As evidenced by the variety of capital statutes upheld by the U.S. Supreme Court, the test for constitutionally adequate narrowing is not a rigid, numerical one. Rather, in reviewing a challenge to a state's death penalty scheme, a court begins by determining the breadth of the class of persons convicted of the crime or crimes punishable by death. The court must then examine the degree and kind of narrowing effected by any additional statutorily prescribed preconditions of "eligibility" for a death sentence, such as the requirement of finding at least one "aggravating" or "special" circumstance.

The analysis next considers the amount and nature of guidance, if any, provided by any legislatively prescribed standards for making further differentiating judgments at the "selection stage" (i.e., among death-eligible defendants). Finally, a reviewing court examines the infrequency with which death sentences are actually imposed upon persons convicted of crimes that could be punished by death. The central issue in assessing these stages is whether a death sentence is so rarely and inexplicably applied that it is "cruel and unusual in the same way that being struck by lightning is cruel and unusual."[41]

B. The Operation of the California Death Penalty Statute

The California death penalty statute defines death eligibility as the commission of a first-degree murder with the presence of one or more enumerated special circumstances.[42] California defines and specifies degrees of murder as:

> (a) All murder that is perpetrated by means of a destructive device or explosive, a weapon of mass destruction, knowing use of ammunition designed primarily to penetrate metal or armor, poison, lying in wait, torture, or by any other kind of willful, deliberate, and premeditated killing, or that is committed in the perpetration of, or attempt to perpetrate, arson, rape,

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[39]See, e.g., *Lowenfield*, 484 U.S. at 246 (finding that an overlap between aggravating factors and first-degree murder definitions did not render the Louisiana capital statute infirm where first-degree murder was narrowly defined); *Jurek*, 428 U.S. at 270 (describing the Texas statute upheld there as "narrowing the categories of murders for which a death sentence may ever be imposed").

[40]See, e.g., *Creech*, 507 U.S. at 475 (reviewing additional narrowing components contained in Idaho's statute, which broadly defines capital crimes to include all first-degree murders, which is itself broadly defined under Idaho law); *Lowenfield*, 484 U.S. at 246 (describing the methods by which a state may satisfy the narrowing requirement).

[41]*Furman*, 408 U.S. at 309 (Stewart, J., concurring).

[42]Cal. Penal Code §§ 189, 190.2 (West 2019).

> carjacking, robbery, burglary, mayhem, kidnapping, train wrecking, or any act punishable under Section 206, 286, 288, 288a, or 289, or murder that is perpetrated by means of discharging a firearm from a motor vehicle, intentionally at another person outside of the vehicle with the intent to inflict death, is murder of the first degree.
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> (b) All other kinds of murders are of the second degree.[43]

The modern development and application of special circumstances has unfolded in several discrete stages.[44] The first stage began in 1977 when the California Legislature enacted a relatively narrow statute that enumerated several types of murders as capital crimes.[45] A year later, the second stage began when the 1977 statute was replaced with the Briggs Initiative, which significantly expanded the scope of California's special circumstances. The drafters of the Briggs Initiative intended for California's death penalty to apply to "all homicides committed while the defendant was engaged in, or was an accomplice in, the commission of, the attempted commission of, or the immediate flight after committing or attempting to commit serious felonies, as well as all willful and intentional homicides," including all first-degree murders.[46] Donald Heller, the attorney assigned to draft the initiative, has confirmed that he complied with Senator John Briggs's instruction to be "as broad and inclusive as possible" and without applying the narrowing requirement recognized in *Furman*.[47] As a result, the sponsors of the Briggs Initiative promised California voters in campaign and ballot materials that the statute would expand the applicability of the death penalty to "every murderer."[48]

The Briggs Initiative sought to achieve this result in two ways: first, by expanding the scope of Penal Code Section 190.2 to more than double the number of special circumstances delineated in the prior law, and second, by substantially broadening the definitions of the prior law's special circumstances by eliminating the homicide mens rea

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[43]Cal. Penal Code § 189 (West 2019). An interesting feature of the California statute, which in part results in its breadth, is its treatment of premeditation. The statute provides that to "prove that the killing was 'deliberate and premeditated,' it is not necessary to prove the defendant maturely and meaningfully reflected upon the gravity of his or her act." Cal. Penal Code § 189(d) (West 2019).

[44]Following the decision in *Furman*, the California Legislature enacted a death penalty statute in 1973 that mandated imposition of the death penalty for individuals found guilty of first-degree murder when one of 10 special circumstances were present. 1973 Cal. Stat. c. 719, §§ 1–5. In 1976, the California Supreme Court invalidated the mandatory statute pursuant to the decision in Woodson v. North Carolina, 428 U.S. 280 (1976). Rockwell v. Superior Court, 18 Cal. 3d 420 (1976).

[45]S.B. 155, 1977–78 Reg. Sess. (Cal. 1977).

[46]Declaration of Donald H. Heller, at 1–2, submitted as Exhibit 183, in Ashmus v. Wong, Case No. 93-cv-0594 (N.D. Cal.) (statement of drafter of Briggs Initiative); see also W.E. Barnes, Sen. Briggs: "Your Life is in Danger", S.F. Examiner & Chronicle, Apr. 2, 1978, at A10.

[47]Declaration of Donald H. Heller, supra note 46, at 1–2.

[48]Declaration of Gerald F. Uelmen, at 7, submitted as Exhibit 33, in Ashmus v. Wong, Case No. 93-cv-0594 (N.D. Cal.).

requirements of the 1977 law.[49] Under the Briggs Initiative, many special circumstances applied without any showing that the defendant intended to commit the murder.[50]

An interim stage lasting four years was created by the California Supreme Court's decision in *Carlos v. Superior Court*,[51] which held that the felony-murder special circumstances required the state to prove that a defendant possessed the intent to kill during the commission of the felony. The law during the "*Carlos* Window," however, only applied to murders committed between December 12, 1983, the date on which *Carlos* was decided, and October 13, 1987, the date on which it was overruled by *People v. Anderson*.[52] The fourth stage is the post-*Carlos* Window period, which continues to the present. Both before and after *Carlos*, the panoply of special circumstances continued to unfold over three decades in a recurring process of ritualized statute expansion.[53] As a result, California Penal Code Section 190.2 currently contains 32 special circumstances that define death eligibility.[54]

Defendants facing the death penalty have regularly challenged the constitutionality of the California death penalty law—including the failure to comply with the narrowing requirement—throughout its evolution.[55] The California Supreme Court consistently has held, however, that the California statute satisfied the constitutionally required narrowing function by the use of the special circumstances set forth in California Penal Code Section 190.2(a).[56] For example, in *People v. Bacigalupo*, the California Supreme Court

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[49]See Steven F. Shatz & Nina Rivkind, The California Death Penalty Scheme: Requiem for *Furman*? 72 N.Y.U. L. Rev. 1283, 1311–13 (1997).

[50]See, e.g., People v. Anderson, 43 Cal. 3d 1104 (1987) (holding that the Briggs Initiative did not require intent to kill as an element of the felony murder special circumstance).

[51]35 Cal. 3d 131 (1983). In *Carlos*, the California Supreme Court held that the robbery felony-murder special circumstance, Cal. Penal Code. § 190.2(a)(17)(i), required the state to prove that the defendant had the intent to kill or to aid in a killing. In *People v. Anderson*, the California Supreme Court overruled *Carlos*, holding that intent to kill is not a requirement to find a felony-murder special circumstance for a person who is the actual killer. 43 Cal. 3d 1104 (1987); see also People v. Musselwhite, 17 Cal. 4th 1216, 1265 (1998).

[52]People v. Anderson, 43 Cal. 3d 1104 (1987).

[53]Simon & Spaulding, Token of Our Esteem, supra note 10.

[54]Cal. Penal Code § 190.2 (West 2019). The special circumstances are enumerated in 22 code sections, one of which, Section 17, contains 12 subsections, each defining an independent basis for death eligibility. Id. Although Penal Code Section 190.2 contains 33 special circumstances, the California Supreme Court invalidated Section 190.2(a)(14) as unconstitutional. People v. Superior Court (Engert), 31 Cal. 3d 797, 806 (1982).

[55]Westlaw reports that, as of March 8, 2019, almost 2,000 opinions relating to Cal. Penal Code § 190.2 have been published by the California Supreme Court alone and more than 800 have been brought in federal courts.

[56]Cal. Penal Code § 190.2 (West 2019); see also, e.g., People v. Bacigalupo, 6 Cal. 4th 457 (1993); People v. Visciotti, 2 Cal. 4th 1, 74–75 (1992) (rejecting that under *Furman* and *Maynard*, the aggravating factors in Section 190.3 must limit "open-ended discretion" in the selection phase of the California death penalty scheme because it is instead the special circumstances in Section 190.2 that function "to channel jury discretion by narrowing the class of defendants who are eligible for the death penalty"); People v. Cornwell, 37 Cal. 4th 50, 102 (2005) ("The state death penalty scheme meets Eighth Amendment requirements through its listing of special circumstances; the aggravating and mitigating circumstances referred to in section 190.3 do not and need not perform a narrowing function.").

declared that under the California death penalty law, "the section 190.2 'special circumstances' perform the same constitutionally required 'narrowing' function as the 'aggravating circumstances' or 'aggravating factors' that some of the other states use in their capital sentencing statutes."[57] Nonetheless, the California Supreme Court has not resolved an Eighth Amendment challenge based on empirical evidence that the statute fails to narrow the application of capital punishment or that it produces seemingly arbitrary and capricious death sentences.

III. Empirical Studies on Narrowing

Furman, *Gregg*, and subsequent jurisprudence should have produced a narrow statutory architecture authorizing capital punishment that identifies those whose crimes are readily distinguished from other "ordinary murders." The evidence to date, however, suggests that this requirement has not been met. This section presents studies evaluating the extent to which state death penalty statutes satisfy the narrowing function required by the Eighth Amendment. As a starting point, it is useful to note that no jurisdiction of which we are aware tracks death-eligible homicides as a distinct class of homicides. Moreover, relatively few studies estimate the rate of death eligibility using research at the case level because of the vast scope and difficulty of such an undertaking, as demonstrated by the study below.

We have identified the few studies designed, like this one, to evaluate the selectivity of a death-sentencing statute and regime. Other studies begin with an estimate of death eligibility based either on underlying charging decisions that exclude cases that might be death eligible or rely on limited data that provide only partial information on candidate aggravators. Although these studies may not provide information on the rate of death eligibility, many provide evidence of the frequency with which death sentences are actually imposed in death-eligible cases. While differences in state statutory schemes limit the strict comparability of these studies, they provide useful information.

Steven Shatz and Nina Rivkind evaluated the death-eligibility rate as defined by the California death penalty scheme using first- and second-degree murder convictions in which an appeal was decided between 1988 and 1992.[58] The study found that 84 percent of first-degree murder cases were death eligible under the statute, and that 9.6 percent of those cases resulted in a death sentence.[59] They found a similar rate of death eligibility among samples of second-degree murder cases.[60] Based on their research, they conclude that the rate of death sentence per death-eligible murder was 11.4 percent.[61]

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[57]6 Cal. 4th 457, 468 (1993); see also id. at 477 (emphasizing that the Section 190.3 aggravating factors used in the selection phase of the California death penalty scheme "do not perform a 'narrowing' function").

[58]Shatz & Rivkind, Requiem for *Furman*? supra note 49, at 1326 (describing the study design).

[59]Id. at 1332.

[60]Id. at 1333–35 (explaining the findings in more detail). They found similar results in a review of 78 unappealed murder cases that were factually first-degree murder cases.

[61]Id.

A few studies of other jurisdictions also estimated death-eligibility rates following the example of David Baldus, George Woodworth, and colleagues, who found that 86 percent of murder cases in Georgia in the first five years of the post-*Furman* regime (1974–1979) were death eligible.[62] In Colorado, Justin Marceau and Sam Kamin evaluated the death eligibility of actual and factual first-degree murder convictions between January 1, 1999, and December 31, 2010.[63] Colorado's capital sentencing system defined 92 percent of factually or actually first-degree murder cases as death eligible (519/566).[64] Of those cases, prosecutors sought a death sentence in 3 percent and death sentences resulted in less than 1 percent of them.[65]

In Maryland, Ray Paternoster and colleagues found that approximately 21 percent of first- and second-degree murder cases between August 1978 and September 1999 were death eligible (1,311 of approximately 6,000).[66] Prosecutors sought a death sentence in 353 of the cases in the study or 31 percent of the death-eligible cases (353/1,131).[67] In Nebraska, David Baldus, George Woodworth, and colleagues found that 25 percent of homicides (175/689) were death eligible under the Nebraska death-sentencing system between 1973 and 1999.[68] Several of these studies are presented for comparative purposes in Table 4.

Several other studies provide state-specific estimates of death sentencing among death-eligible homicides, but do not document the rate of death-eligible homicides among homicides generally. For example, Barbara O'Brien, Catherine Grosso, George Woodworth, and Abijah Taylor estimated that death-eligible murder cases in North Carolina during the 1990–2009 study period resulted in a death sentence in an estimated 6 percent of the cases (285/4,929), but did not estimate the rate of death eligibility

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[62]David C. Baldus, George Woodworth & Charles A. Pulaski, Jr., Equal Justice and the Death Penalty: A Legal and Empirical Analysis 268, n.31 (1990).

[63]Justin Marceau & Sam Kamin, Death Eligibility in Colorado: Many Are Called, Few Are Chosen, 84 U. Colo. L. Rev. 1069, 1098 (2012) (explaining the study design). But see George Brauchlerd & Rich Ormand, Lies, Damn Lies, and Anti-Death Penalty Research, 93 Denv. L. Rev. 635, 637 (2016) (presenting the article as "in part, a rebuttal to" Marceau and Kamin).

[64]Marceau & Kanin, Death Eligibility in Colorado, supra note 63, at 1110, 1104, n.175.

[65]Id. at 1108–12, figs.1, 2.

[66]Raymond Paternoster, Robert Brame, Sarah Bacon, & Andrew Ditchfield, Justice by Geography and Race: The Administrative of the Death Penalty in Maryland, 1978–1999, 4 U. Md. L.J. on Race, Religion, Gender, & Class 1, 18–19, 52, fig. 1 (2004).

[67]Id. The Maryland study included 76 death sentences. This was 6.7 percent of death-eligible cases (76/1,131), or 21.5 percent of cases in which the prosecution sought death.

[68]David C. Baldus, George Woodworth, Catherine M. Grosso & Aaron M. Christ, Arbitrariness and Discrimination in the Administration of the Death Penalty: A Legal and Empirical Analysis of the Nebraska Experience (1973–1999), 81 Neb. L. Rev. 486, 541 & n.181 (2002).

generally.[69] Similarly, John Donohue's analysis of the Connecticut capital-sentencing scheme between 1993 and 2007 starts from the universe of death-eligible homicides and estimates that 5.8 percent of death-eligible homicides resulted in a death sentence (12/205).[70] The *Atlanta-Journal Constitution* used a similar method to estimate that the rate of capital-eligible cases among all first- and second-degree murders from 1994–2005 was 27.4 percent.[71]

A final group of studies has used the FBI Supplemental Homicide Reports (SHR) to estimate death-sentencing rates in a manner similar to that which will be presented in Section V.C. For example, Scott Phillips and Alena Simon estimated the death-sentencing rate in Texas between 2006 and 2010. The study reports 38 death sentences during the study period, and estimates the rate of death eligibility using carefully curated SHR reports on Texas homicides.[72] The study estimates a 3–5 percent death sentencing rate, depending on the treatment of unknowns in the SHR data.[73]

The totality of previous research on post-*Furman* practice raises serious and persistent questions about the ability of the post-*Furman* statutory schemes to meaningfully narrow the class of cases identified by state statutes as death eligible or the gap between that class of cases and those cases resulting in a death sentence. The estimates from other states suggest boundaries or parameters through which we can assess the success or failure of California's statute to narrow death eligibility as required by *Furman* and *Gregg*. The following section presents the study details.

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[69]Barbara O'Brien, Catherine M. Grosso, George Woodworth & Abijah Taylor, Untangling the Role of Race in Capital Charging and Sentencing in North Carolina, 1990–2009, 94 N.C. L. Rev. 1997, 2023, 2024, tbl.2 (2016) (presenting results based on weighted analyses).

[70]John J. Donohue, III, An Empirical Evaluation of the Connecticut Death Penalty System Since 1973: Are There Unlawful Racial, Gender, and Geographic Disparities, 11 J. Empirical Legal Stud. 637, 641, 645–47, tbl.1 (2014) (also estimating death-sentencing rate of "sustained" death sentences—those not reversed on appeal—4.4 percent (9/205); see also Katherine Beckett & Heather Evans, Race, Death, and Justice: Capital Sentencing in Washington State, 1981–2014, 7 Colum. J. Race & L. 77, 90 (2016) (estimating a death-sentencing rate among death-eligible homicides of 11.7 percent (35/298) but no estimate of death eligibility overall); David C. Baldus, Catherine M. Grosso, George Woodworth & Richard Newell, Racial Discrimination in the Administration of the Death Penalty: The Experience of the United States Armed Forces (1984–2005), 101 J. Crim. L. & Criminology 1227, 1229 (2011) ("Our database includes military prosecutions for all 'potentially death-eligible' murder cases known to us (n = 105), including all 'factually death-eligible' murder cases that resulted in a capital murder conviction (by plea or at trial) with one or more statutory aggravating factors found or present (n = 97). The sentencing dates of these cases range from July 16, 1984, to October 13, 2005. Fifteen of these cases resulted in a death sentence.").

[71]Bill Rankin, Heather Vogell, Sonji Jacobs & Megan Clarke, A Matter of Life and Death: Death Still Arbitrary, Atlanta J. Constitution, Sept., 23, 2008, available at https://www.myajc.com/news/state-regional/from-2007-matter-life-and-death-death-still-arbitrary/uQMik03eSLJ7VlI4wvUZnN/. See also Jeffrey Fagan & Raymond Paternoster, Social Context and Proportionality of Capital Punishment in Georgia after *McCleskey*," presented at the Annual Meeting of the American Society of Criminology, Nov. 2010.

[72]Scott Phillips & Alena Simon, Is the Modern American Death Penalty a Fatal Lottery? Texas as a Conservative Test, 3 Laws 85, 96 (2014).

[73]Id. at 97–98, 100, & tbl.4.

IV. METHODS

A. The Universe and Sample

Because we seek to assess the narrowing effect of California's post-*Furman* law among all willful homicide cases and relevant subgroups of those cases, we define our universe as all defendants convicted of first-degree murder (M1), second-degree murder (M2), and voluntary manslaughter (VM). The basis for defining this universe empirically was a machine-readable database maintained by the California Department of Corrections and Rehabilitation (CDCR). This database includes information on 27,453 cases with a date of offense between January 1, 1978, and June 30, 2002, classified by crime of conviction as follows: 32 percent M1, 29 percent M2, and 39 percent VM. For each case, the CDCR database includes information on the date of offense, crime of conviction, county of prosecution, county court case number, CDCR identifying number, date of conviction, and the gender and age of the defendant.

From this universe, we selected a stratified random sample of 1,900 cases, or 6.9 percent (1,900/27,453) of the pool of eligible cases. The sample was determined by available time and resources, and considerations of statistical validity. Using the CDCR database, we stratified the sample on three dimensions to produce a sample of the cases more representative than would have been produced by simple random sampling. The first dimension, the crime of conviction, provides proportionate representation for the M1, M2, and VM conviction cases (three levels). The second dimension is the population density per square mile of the county of prosecution.[74] We designed this dimension to obtain a representative sample of smaller and more rural counties. Our goal was to include 25 percent of the sample from Los Angeles (which accounts for 42 percent of the cases in the universe), and 25 percent of the sample from each of the three other groups of counties ranked in terms of population density.[75] The third was time. We stratified the sample on the basis of four time periods that would enable us to overrepresent in the sample cases from the *Carlos* Window,[76] during which time Mr. Frye and Mr. Ashmus—the habeas corpus petitioners raising the challenge—were sentenced to

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[74]The data source was County Population per Square Mile: 2000—Department of Finance, California Statistical Abstract, Sec. A, Table A-1 (county land square miles), Sec. B, Table B-3 (county population) (2001).

[75]The counties in the four population density levels from low (1) to high (4) density are as follows. Level 1 has 41 counties with a population density per square mile of fewer than 200 people (Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Imperial, Inyo, Kern, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Placer, Plumas, San Benito, San Bernardino, San Luis Obispo, Santa Barbara, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba). Level 2 has nine counties with a population per square mile larger than 200 and smaller than 700 (Marin, Riverside, San Diego, San Joaquin, Santa Cruz, Solano, Sonoma, Stanislaus, and Ventura). Level 3 has seven counties with a population per square mile between 700 and 3,400 people (Alameda, Contra Costa, Orange, Sacramento, San Francisco, San Mateo, and Santa Clara). Level 4 is Los Angeles.

[76]See Section II.B.

Table 1: Description of the Sample by Sentence Outcome

	A		*B*		*C*		*D*		*E*
	Conviction Level		*Death*		*LWOP*		*Term of Years*		*Total*
			%	n	%	n	%	n	n
1.	Total	Sample	3	61	10	193	87	1,646	1,900
		Weighted	3	705	9	2,364	89	24,384	27,453
2.	First degree murder	Sample	8	61	25	193	67	510	764
		Weighted	8	705	27	2,364	65	5,642	8,711
3.	Second degree murder	Sample	—		—		100	491	491
		Weighted	—		—		100	7,900	7,900
4.	Voluntary manslaughter	Sample	—		—		100	645	645
		Weighted	—		—		100	10,842	10,842

death (four levels).[77] Our goal was a sample with 57 percent of the cases from the *Carlos* Window.

The final sample consisted of 48 strata: 3 offense categories × 4 county population density categories × 4 time periods. Within each stratum, we identified the sequence in which we would request case information from the state.[78] For each stratum, we weighted the cases in the sample on the basis of the ratio of the number of cases in the universe and the sample. For example, if a stratum contained 100 cases in the universe and 20 cases in the sample, the weight for each case in the sample from that stratum would be 5.0 (100/20).

Table 1 presents the final sample and estimated universe overall, by conviction and by sentence outcome. Each row of information includes the number of cases in the 1,900 case analysis sample and in the 27,453 case-weighted universe. Row 1 reports that the sample includes 61 death sentenced cases, 193 life without the possibility of parole (LWOP), and 1,646 cases that resulted in a sentence less than LWOP. Rows 2–4 report the distribution of these sentencing outcomes by conviction. Column E reports that 764 of the cases in the sample resulted in a first-degree murder conviction, 491 in a second-degree murder conviction, and 645 in a voluntary manslaughter conviction.

B. Data Sources

Our primary source of information on each case was the probation report prepared by the county probation officer with jurisdiction over the case. California law requires the preparation of a probation report for each homicide regardless of the crime of

[77]The four time periods are: (1) 01/01/78–12/11/83, (2) 12/12/83–10/13/87 (the *Carlos* Window), (3) 10/14/87–12/31/92, and (4) 01/01/93–6/30/02.

[78]The state was directed by the federal district courts in Mr. Frye's and Mr. Ashmus' habeas corpus proceedings to produce (1) the database used to construct the stratified random sample, and (2) probation reports for the cases that we identified as part of the sample.

conviction and sentence.[79] The purpose of the report is to justify the probation officer's recommendation on the appropriateness of probation as a sentencing alternative in the case. These reports, which are routinely relied upon by California courts, are subject to examination and correction by both the prosecuting authorities and defendants.[80]

One limitation of the probation reports is that they may not contain sufficient information concerning the ultimate crime of conviction. When the probation report did not contain sufficient information about the criminal judgment, we consulted the crime of conviction reported in the CDCR database. On other occasions, the probation report contained insufficient "procedural" information because it failed to report the crime charged, the basis of the conviction (by verdict or plea), or both, information that may be essential to assess the death eligibility of a case. A number of probation reports also included insufficient "substantive" information about the facts of the crime to support a valid assessment of its death eligibility. Missing procedural or substantive information occurred in 16 percent of the cases for which we received a probation report from the state.[81]

Although, federal court orders in the habeas corpus proceedings required the state to provide probation reports,[82] the state failed to produce some reports while others contained insufficient information.[83] In these situations, we replaced the

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[79]Cal. Penal Code § 1203 (West 2019).

[80]Cal. Penal Code § 1203.01 (West 2019).

[81]When either of these information insufficiency situations occurred, we provisionally removed the case from the sample and sought a cure for the insufficiency by requesting counsel from the California Habeas Corpus Resource Center (HCRC) to obtain the trial and appellate court records in the case and report the missing information if it was available. (The HCRC represented Mr. Ashmus in his federal habeas corpus proceedings.) When the HCRC was able to provide us with documents containing the information needed about a case, it was coded accordingly and the case was returned to the active sample of cases. For example, when a defendant is charged with California Penal Code Section 187 murder generally and is convicted of M2, a coder needs to know if the basis of the decision was a guilt trial conviction or a guilty plea in order to apply our controlling fact-finding rule of interpretation (CFF). If it were a guilt trial decision the CFF rule would authoritatively classify the case as factually M2 and not death eligible. However, if the conviction was based on a guilty plea, the prosecutor's decision to accept that plea would not foreclose a coder's classification of factual M1 liability and the factual presence of a special circumstance because a prosecutor's decision to accept a plea bargain is not a controlling finding of fact. See infra text accompanying notes 88–89, for a discussion of the controlling fact-finding rule and the role that procedural information plays in its application. The HCRC cured the insufficiency in 106 cases, thus reducing the percentage of cases with missing information to 11 percent.

[82]See footnote 78 (describing the basis of the state's obligation to provide us with probation reports for use in the conduct of this study).

[83]The specific reasons for these shortfalls included the following. (1) The probation report produced by the state was not a homicide conviction. (2) The probation report produced by the state reported the facts of a conviction for involuntary manslaughter or less. (3) The probation report relates to the defendant named in the sample but the crime of the defendant reported in the report is not in the sample. (4) The requested probation report was not produced by the state or it is unusable because it was substantially incomplete. (5) The probation report produced by the state was illegible or unusable because of incomplete or missing pages.

probation report with a substitute report that was randomly selected from the sampling lists.[84]

C. The Coding Process for Individual Cases

The Data Collection Instrument

Data for each case were coded using a detailed data collection instrument (DCI). A "thumbnail" sketch of each case was created during the recording process, which enhanced the process of reviewing the original coding decisions. The data cleaners, who reviewed each case file, also had the probation reports available to compare with the coding decisions. The information in the probation reports provided the basis for all the final coding decisions on death eligibility. If we encountered a file with insufficient information, we obtained additional information from the Habeas Corpus Resource Center (HCRC), the California judicial branch agency assigned to represent Mr. Ashmus. We also consulted appellate judicial opinions when applicable. The coding was conducted by 13 University of Iowa law students and eight recent University of Iowa law graduates.[85]

The DCI consists of four substantive sections. Part IV documents charging and sentencing decisions in the case under the post-*Furman* law applicable on the date of the offense. If the case was capitally charged, this part of the DCI documents any special circumstances alleged, found, or rejected. It also documents sentencing outcomes reported in the probation report. The balance of the DCI focuses on assessments of the death eligibility of the case under (1) pre-*Furman* Georgia law, and (2) post-*Furman Carlos* Window California law and 2008 California law.[86]

The Coding Protocol and the Standards Used to Identify Factual First-Degree Murder Status in the Cases and the Factual Presence of Special Circumstances in the Cases

The HCRC provided a detailed summary of the law concerning the elements of murder liability under pre-*Furman* Georgia law and M1 liability and special circumstances under

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[84]The information insufficiency problem in these situations differs from the shortfall of procedural and substantive information in that we either had no probation report for the case in the sample or the severity of the missing information problem (e.g., illegible) was not curable with supplemental information sources.

[85]The Iowa law students are Sadad Ali, Peter D'Angelo, John Magana, Jacob Natwick, Fangzhou Ping, Thomas Farrens, Folke Simons, Erin Snider, Jason Stoddard, James Vaglio, Porntiwa Wijitgomen, Fei Yu, and Weiyan Zhang. The recent law graduates are Rebecca Bowman, Edward Broders, Theresa Dvorak, David Franker, Luke Hannan, Beth Moffett, Amanda Stahle, and Kristen Stoll.

[86]Part V of the DCI focuses on the factual presence of special circumstances in M1 conviction cases that were not capitally charged. Part VI of the DCI focuses on the factual presence of M1 liability and special circumstances in the case in the absence of a factfinder's M2 or VM decision that would foreclose a determination that the case is factually M1 under the controlling fact-finding rule described in the section. Part VII summarizes the coder's judgments of the death eligibility of the case under each of the three legal regimes.

post-*Furman* California law.[87] When legal questions arose under the terms of the coding protocol, we certified legal questions to HCRC counsel to which they would reply in writing. These memoranda were then added to the coding protocol.

We applied two core principles of interpretation in this research to assess the factual death eligibility of each case.

The controlling fact-finding rule: The first principle is the "controlling fact-finding" rule (CFF). Its purpose is to narrowly limit the coders' discretion to override authoritative fact findings of juries and judges in particular cases.[88] The rule holds, first, that if an authoritative factfinder (judge or jury) with responsibility for finding a defendant liable for M1 convicts the defendant of a crime less than M1 (i.e., M2 or VM), that finding is considered to be a CFF and the coder will code the case at the reduced level of homicidal liability in the absence of overwhelming evidence of jury nullification. The rule also holds that an authoritative fact finding of M1 liability or a M1 guilty plea is a CFF, and the case will be coded at that level of liability. The same rule applies with respect to allegations and findings of the presence or absence of special circumstances in the case and the defendant's admissions of their presence.[89]

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[87]These summaries were provided to the California Attorney General's Office, which represents the state in the federal habeas corpus proceedings, and were also entered into evidence at the evidentiary hearing conducted by the district court in *Ashmus v. Wong.*

[88]David Baldus, George Woodworth, David Zuckerman, Neil Alan Weiner & Catherine M. Grosso, Empirical Studies of Race and Geographic Discrimination in the Administration of the Death Penalty: A Primer on the Key Methodological Issues in The Future of America's Death Penalty: An Agenda for the Next Generation of Capital Punishment Research 153, 164–65 (C. Lanier, W. Bowers, & J. Acker eds., 2009) (explaining the rationale of the CFF rule).

[89]In this research, prosecutors are not viewed as controlling factfinders in the same way as jurors and judges in guilt trials. For this reason, the CFF does not apply when a defendant is charged with a crime less than M1 or when a M1 charge is reduced by the prosecutor to a lesser charge. The CFF rule also does not apply when the prosecutor does not allege a special circumstance that is factually present in the case or when a special circumstance is alleged but withdrawn by the prosecutor before or during trial. When any of these situations occurs, a prosecutorial decision not to charge M1 or a special circumstance or a prosecutorial decision to withdraw a M1 charge or a special circumstance allegation does not limit a coder's discretion to find factual M1 liability or a special circumstance if either or both is factually present in the case. The same rule applies when a prosecutor reduces the charge or withdraws a special circumstance. An issue arises when the relevant law applied in a sample case was different under *Carlos* Window California law than it was under 2008 California law or vice versa. For example, assume that in a case involving a drive-by shooting, which implicates the special circumstance contained in California Penal Code Section 190.2(a)(21), a jury applying 2008 law found the special circumstance present. This CFF decision would control the coder's discretion in her coding of the case under 2008 law. However, because that special circumstance was not extant during the *Carlos* Window, the jury's Section 190.2(a)(21) decision under 2008 law would not control the coder's classification under *Carlos* Window law. Similarly, if under *Carlos* Window law, a jury rejected a robbery special circumstance (Section 190.2(a)(17)(A)) for lack of proof of intent to kill for the actual killer, which was required under *Carlos* Window law for all defendants, that decision would not affect the coder's classification of the robbery special circumstance case under 2008 law, which does not require proof of intent to kill to establish it as to actual killers. A "jury nullification" exception to the controlling fact-finding rule arises when a general California Penal Code Section 187 or M1 charge results in a M2 or VM jury or bench conviction and the evidence of M1 liability is "overwhelming." The same rule applies to a special circumstance rejected by a factfinder in the face of overwhelming evidence that the special circumstance is present in the case.

The legal sufficiency rule: The second core principle of interpretation, known as the "legal sufficiency" standard, is whether a California appellate court would affirm a jury M1 conviction in the case or a jury's finding of the presence of a special circumstance in the case if a jury had made either of those findings and the finding was challenged on appeal for a lack of sufficient evidence. In our application of this principle, exculpatory evidence offered by the defendant (as reported in the probation report) is given no weight, but incriminating evidence offered by the defendant is credited.

In their application of the legal sufficiency test, coders relied on three forms of authority to support their judgments that the facts in a case did or did not satisfy the "legal sufficiency" test. The strongest level of authority was a factually comparable case in which a jury or trial court's M1 or special circumstance finding of fact was sustained or reversed by a California appellate court when challenged with a claim of evidentiary insufficiency. The second level of authority was a factually comparable case in this study in which a factfinder returned a finding of fact on M1 liability or the presence of a special circumstance that was not disturbed on appeal. The third level of authority was the case law and legal memorandum provided by HCRC.

Measuring death eligibility in individual cases: We measured the death eligibility of each case under three legal regimes: pre-*Furman* Georgia law, *Carlos* Window California law, and 2008 California law. Each of these bottom-line variables is coded 1 for clearly present, 0 for clearly not present, and 2 for a close call. Close-call classifications arise when a M1 liability or special circumstance classification is not determined by a controlling finding of fact and the circumstances of the offense are not sufficiently well understood to support coding under the legal sufficiency test. When we were uncertain how an appellate court would rule on a finding of the presence of M1 liability or a special circumstance in the case, we coded it a close call.

These distinctions produced two measures of death eligibility—a conservative measure that limited death eligibility to "clearly present" classifications and a liberal measure that classified a case as death eligible if that status was clearly present or a close call. We note these distinctions in our results and report both the conservative and liberal estimates.

Measuring the comparative expansion and narrowing of death-eligibility rates between different legal regimes: An important purpose of this project involves comparisons of death-eligibility rates among different jurisdictions and within individual jurisdictions under different legal regimes. We compared death-eligibility rates first within California. This analysis compares pre-*Furman* death eligibility to *Carlos* Window and 2008 rates. It also compares *Carlos* Window rates and 2008 rates to each other. We begin by looking nationally, comparing other state jurisdictions to California during the *Carlos* Window and with California in 2008.

We measure expansion and narrowing effects in two ways. The first is the arithmetic difference between two death-eligibility rates. The second measure is the "percentage" change represented by the absolute disparity, which we characterize as the expansion or narrowing rate. For example, if within a jurisdiction, the pre-*Furman* death-eligibility rate was 30 percent compared to a 20 percent rate in the post-*Furman* period, the absolute difference in the two rates would be 10 percentage points (30% – 20%). The proportionate narrowing rate would be 33 percent, the 10 percentage point absolute disparity in the two rates divided by the pre-*Furman* rate of 30 percent (10%/30%).[90]

V. Death-Eligibility Rates in California and Other States

A. California Death-Eligibility Rates Under Carlos *Window Compared to 2008 California Law*

We first compare rates of death eligibility in post-*Furman* California cases under the *Carlos* Window and 2008 California law. Table 2 presents death-eligibility rates for all cases. Part I, Column B, Row 4 indicates that the rate of death eligibility for all cases under *Carlos* Window law was 55 percent, while the comparable rate under 2008 law in Column C is 60 percent. This represents a 9 percent rate of expansion (5/51).[91] This expansion under 2008 law is principally explained by the large number of cases in the system that implicate the drive-by shooting (Section 190.2(a)(21)) and street gang murder (Section 190.2(a)(22)) special circumstances, which were adopted after the *Carlos* Window.[92]

Part I of Table 2 also breaks down the death-eligibility rates by the level of homicide conviction in Rows 1–3. Row 1 documents for the first-degree murder conviction cases a 91 percent rate under *Carlos* Window law in Column B and a 95 percent rate under 2008 law in Column C, which represents a 4 percent (4/91) expansion of death eligibility. The death-eligibility rates reported in Rows 2 and 3 are lower for second-degree murder and voluntary manslaughter conviction cases. For the second-degree murder cases, the documented rates in Row 2 of Part I are 34 percent under *Carlos* Window law and 38 percent under 2008 law, which represents a 12 percent (4/34) death-eligibility expansion under 2008 law. For the voluntary manslaughter cases, the

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[90]Similarly, if the death-eligibility rate expanded under two different legal regimes, say from 20 percent to 30 percent, the rate of expansion would be 50 percent (the 10 percentage point difference between the two legal regimes divided by the 20 percent rate for the first legal regime). If the rate rose from 20 percent to 50 percent, the expansion rate would be 150 percent (the 30 percentage point disparity divided by the 20 percent rate for the first legal regime).

[91]These rates are based on our conservative death-eligibility estimates. The rates based on the liberal estimates are reported in a footnote in Table 3.

[92]March 27, 1996, and March 8, 2000, respectively.

Table 2: Death-Eligibility Rates by Crime of Conviction (Part I) and Among All Factual First-Degree Murders (Part II) Under California *Carlos* Window and 2008 Law: 1978–2002

A	B			C		
	Carlos *Window Law*			*2008 Law*		
	%	*95% CI*	SE	%	*95% CI*	SE
I. Crime of Conviction						
1. First-degree murder	91% 7,921/8,711	87, 94	0.0172	95% 8,240/8,711	91, 97	0.0135
2. Second-degree murder	34% 2,655/7,900	28, 40	0.0322	38% 3,002/7,900	32, 45	0.0332
3. Voluntary manslaughter	42% 4,548/10,842	36, 48	0.0292	47% 5,142/10,842	42, 53	0.0294
4. All cases	55% 15,124/27,453	52, 58	0.0158	60% 16,385/27,453	57, 63	0.0156
II. Factual Crime						
First-degree murder	81% 15,124/18,737	77, 84	0.0171	86% 16,385/18,982	83, 89	0.0140

NOTE: The 95 percent confidence intervals and linearized standard errors reflect the confidence in the weighted estimates used to calculate each death eligibility rate. We generated them using STATA tabulate for survey data on the estimation sample for each line in the table.

respective rates documented in Row 3 are 42 percent under *Carlos* Window law and 47 percent under 2008 law, which represents a 12 percent (5/41) expansion.

Of particular interest are death-eligibility rates among cases that are factually first degree, based on the operation of the statutes, as distinguished from the smaller number of cases that resulted in a first-degree murder conviction based on outcomes and decisions by jurors. Part II of Table 2 documents those results. It reports an 81 percent death-eligibility rate for cases that are factually M1 under *Carlos* Window law and an 86 percent rate for cases that are factually M1 under 2008 law, which represents a 6 percent (5/81) expansion of the rate under 2008 law.

*B. Comparisons of Death Eligibility Rates under Post-*Furman *California Law and Pre-*Furman *Georgia Law*

We next compare the rate of death eligibility of the post-*Furman* California cases under post-*Furman* California law with their rate of death eligibility under pre-*Furman* Georgia law. The comparison raises an interesting question of whether the conditions that gave rise to the constitutional infirmities recognized in *Furman* were remedied in a state such as California with a wide swatch of aggravators, and in turn whether *Furman*'s guidance produced meaningful change in subsequent statutes. Part I of Table 3 presents the narrowing rates under *Carlos* Window law, first broken down by the crime of conviction and then for all cases. Part I, Row 4 presents the results for all cases in the sample, while Rows 1–3 report separate results for first- and second-degree murder, and voluntary manslaughter convictions.

Part I, Column E, Row 4 of Table 3 shows a 40 percent narrowing rate under the *Carlos* Window law for all cases. When the focus shifts to the three different crimes of conviction, Column E reports respective narrowing rates of 9 percent for the first degree murder cases, 66 percent for the second degree murder cases, and 45 percent for the voluntary manslaughter cases.

Part II of Table 3 shows similar findings under 2008 law. Column E reports narrowing rates of 5 percent for the first degree murder cases and 62 percent and 39 percent respectively, for the second-degree murder and voluntary manslaughter cases. The overall narrowing rate shown in Row 4 for all cases under 2008 law in Column E is 34 percent.

*C. Post-*Furman *Death Eligibility and Death-Eligibility Narrowing Rates in Other States*

Rates of death eligibility under the capital punishment laws in other states reported in Table 4 shed important light on the breadth of California's post-*Furman* statute. Part I of the table first presents death-eligibility rates in two states, New Jersey and Maryland, where death eligibility is principally defined by the Model Penal Code's aggravating circumstances, which have been commonly used in state death-sentencing jurisdictions. For both New Jersey and Maryland, we show empirical assessments of death-eligibility rates for first- and second-degree murder convictions. As discussed above, the review of all potentially death-eligible cases to generate these estimates in New Jersey[93] and Maryland[94] were similar to the methods used for the California analysis.

Column A, Part I of Table 4 identifies the three comparison states while Column B lists the death-eligibility rates for each. Rows 1 and 2 of Column B indicate that the post-*Furman* death-eligibility rates for New Jersey and Maryland are identical at 21 percent. In contrast, Row 3a of Column B reports California death-eligibility rates of 64 percent under *Carlos* Window California law, which is 3.0 (64%/21%) times higher than the New Jersey and Maryland rates, and 68 percent under 2008 California law, which is 3.2 (68%/21%) times higher than the New Jersey and Maryland rates. Expressed as expansion rates, the *Carlos* Window California law rate represents a 205 percent (43/21) expansion over the New Jersey and Maryland rates, while the 68 percent death-eligibility rate under 2008 California law represents a 224 percent (47/21) expansion over the New Jersey and Maryland rates.

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[93]When Professor Baldus was the New Jersey Supreme Court's Special Master for Proportionality Review (1988–1991), he and Professor Woodworth, with substantial assistance from the staff of the New Jersey Supreme Court, conducted an empirical study of the operation of the New Jersey death penalty system from 1983 through 1991 based on the methodology of our Georgia research. See Hon. David Baime, Report to the New Jersey Supreme Court Systemic Proportionality Review Project. Trenton, NJ: New Jersey Supreme Commission (2001), available at https://static.prisonpolicy.org/scans/baimereport.pdf.

[94]Raymond Paternoster, Robert Brame, Sarah Bacon & Andrew Ditchfield, Justice by Geography and Race: The Administration of the Death Penalty in Maryland,1978–1999, 4 Margins: Md. L.J. on Race, Religion, Gender, and Class 1 (2004). To obtain a database of "death-eligible" cases his research assistants screened "approximately 6,000" first- and second-degree homicide convictions based on a substantial file of information maintained for each prisoner in the Department of Corrections. Id. at 15. Professor Paternoster provided Professor Baldus with more precise number of cases screened than is reported in Table 4.

Table 3: Factual Death-Eligibility Narrowing Among California Post-*Furman* First-Degree Murder, Second-Degree Murder, and Voluntary Manslaughter Under Post-*Furman* California Law Compared to Pre-*Furman* Georgia Law, by Crime of Conviction

Part I: Carlos *Window Law*					
A	*B*	*C*	*D*	*E*	*F*
Crime of Conviction	*Pre*-Furman	Carlos *Window*	*Absolute Disparity (B – C)*	*Narrowing Rate (D/B)*	*95%, CI*
1. First-degree murder (n = 8,711)	100%	91%	9 pts.	9%	6, 12
2. Second-degree murder (n = 7,900)	99%	34%	65 pts.	66%	60, 73
3. Voluntary manslaughter (n = 10,842)	77%	42%	35 pts.	45%	40, 53
4. All cases (n = 27,453)	91%	55%	36 pts.	40%	36, 43
Part II: California Law—January 1, 2008					
A	*B*	*C*	*D*	*E*	*F*
Crime of Conviction	*Pre*-Furman	*2008 Law*	*Absolute Disparity (B – C)*	*Narrowing Rate (D/B)*	*95%, CI*
1. First-degree murder (n = 8,711)	100%	95%	5 pts.	5%	3, 8
2. Second-degree murder (n = 7,900)	99%	38%	61 pts.	62%	55, 68
3. Voluntary manslaughter (n = 10,842)	77%	47%	30 pts.	39%	33, 46
4. All cases (n = 27,453)	91%	60%	31 pts.	34%	31, 38

NOTE: When the narrowing rates in Part I are based on our liberal measure of death eligibility, the narrowing rates in Column E are as follows: Row 1 – 9 percent; Row 2 – 66 percent; Row 3 – 46 percent; and Row 4 – 40 percent. When the narrowing rates in Part II are based on our liberal measure of death eligibility, the narrowing rates in Column E are as follows: Row 1 – 5 percent; Row 2 –62 percent; Row 3 – 39 percent; and Row 4 – 35%. The 95 percent confidence intervals reflect the confidence in the weighted estimates used to calculate each death eligibility rate. We generated them using STATA tabulate for survey data on the estimation sample for each line in the table.

The New Jersey and Maryland post-*Furman* death-eligibility rates can also be usefully compared with California in terms of their rates of death eligibility under pre-*Furman* law. Under New Jersey and Maryland pre-*Furman* law, all first-degree murder was death eligible.[95] The breadth of death eligibility in these states was greatly narrowed with post-*Furman* legislative requirements of one or more aggravating circumstances in M1 cases and the additional New Jersey legislative requirement limiting death eligibility to actual killers.[96] However, we cannot empirically quantify the rate of death eligibility of New Jersey's and Maryland's post-*Furman* cases under their pre-*Furman* statutes because the relevant studies did not provide the necessary information.

[95]See Edward Devine, Marc Feldman, Lisa Giles-Klein, Cheryl A. Ingram & Robert F. Williams, Special Project: The Constitutionality of the Death Penalty in New Jersey, 15 Rutgers L.J. 261, 270, 274 (1984); Roann Nichols, *Tichnell v. State*—Maryland's Death Penalty: The Need for Reform, 42 Md. L. Rev. 875 (1983).

[96]State v. Bobby Lee Brown, 138 N.J. 481, 509 (1994) (examining the history of New Jersey's "own conduct" requirement).

Table 4, Part I: Post-*Furman* Death-Eligibility Rates in Maryland, New Jersey, and California Among First- and Second-Degree Murder Convictions

A *State*	*B* *Death-Eligibility Rate*		*C* *95% CI*
1. New Jersey (1982–1999)	21%	433/2,104	NA
2. Maryland (1978–1999)	21%	1,311/6,150	NA
3. California (1978–2002)			
a. *Carlos* Window law	64%	10,576/16,611	60, 67
b. 2008 law	68%	11,242/16,611	64, 71

NOTE: The New Jersey rates were reported in David Baime, *Report of the New Jersey Supreme Court Proportionality Review Project* 28 (April 28, 1999). The Maryland rates were reported in Raymond Paternoster et al., "Justice by Geography and Race: The Administration of the Death Penalty in Maryland, 1978–1999," 4 *Univ. of Maryland Law Journal of Race, Religion, Gender & Class* (*MARGINS*) 1, 18 (2004). These studies did not report confidence intervals because they are based on the universe of first- or second-degree convictions in the state. When the California death-eligibility rates reported in Row 3 are estimated with our liberal measures of death eligibility, the rate in Column B, Row 3a is 63 percent and the rate in Row 3b is 68 percent. The 95 percent confidence intervals for California reflect the confidence in the weighted estimates used to calculate each death-eligibility rate. We generated them using STATA tabulate for survey data on the estimation sample for each line in the table.

Table 4, Part II: Death-Eligibility Rates in Nebraska and California Among First-Degree Murder, Second-Degree Murder, and Voluntary Manslaughter Conviction Cases

A *State*	*B* *Death-Eligibility Rate*		*C* *95% CI*
1. Nebraska (1973–1999)	25%	175/689	NA
2. California (1978–2002)			
a. *Carlos* Window law	55%	15,013/27,453	52, 58
b. 2008 law	60%	16,298/27,453	56, 62

NOTE: The Nebraska results were reported in David C. Baldus, George Woodworth, Catherine M. Grosso, and Aaron M. Christ, "Arbitrariness and Discrimination in the Administration of the Death Penalty: A Legal and Empirical Analysis of the Nebraska Experience (1973–1999)," 81 *Nebraska L. Rev.* 486, 542 (2002). There are no confidence intervals reported for Row 1 because the rate is based on the universe of first- and second-degree murder and voluntary manslaughter convictions in the state. When the California death-eligibility rates reported in Row 2 are estimated with our liberal measure of death eligibility, the rate in Column B, Row 2a is 55 percent and the rate in 2b is 60 percent. The 95 percent confidence intervals reflect the confidence in the weighted estimates used to calculate each death-eligibility rate. We generated them using STATA tabulate for survey data on the estimation sample for each line in the table.

Table 4, Part III: Death-Eligibility Rates for California, Nationwide, New Jersey, Maryland, and Nebraska Based on the Percent of Death-Eligible Homicides Among All Homicides Reported in the FBI Supplemental Homicide Reports (SHR) (1978–2003)

A *State*	*B* *Death-Eligibility Rate*	*C* *95% CI*
1. California	37.8%	36, 40
2. Nationwide	23.8%	23.0, 24.6
3. New Jersey	25.5%	24, 27
4. Maryland	21.9%	20, 23
5. Nebraska	28.9%	25, 32

NOTE: These findings are based on FBI, Supplemental Homicide Report (SHR) data, which document all murder and non-negligent manslaughter reported to the FBI by state law enforcement officials. Jeffrey Fagan, Franklin E. Zimring, & Amanda Geller, Capital Punishment and Capital Murder: Market Share and the Deterrent Effects of the Death Penalty, 84 *Texas Law Rev.* 1803, 1819 (2006). The nationwide rates range from 37.8 percent (California) to 13.1 percent (Alabama). See Table 5, Part II. We calculated the SHR confidence intervals using tabstat in Stata.

What we can determine with considerable certainty, however, is the rate of death eligibility of Maryland's and New Jersey's first- and second-degree post-*Furman* murder cases under pre-*Furman* Georgia law. These comparisons again tell us the extent to which *Furman*'s design led to narrowing in death eligibility in several states. Recall that pre-*Furman* law classified common-law murder as death-eligible murder, a classification that, with rare exceptions, would have embraced all first-degree and second-degree murder convictions under post-*Furman* Maryland and New Jersey law. Accordingly, it is fair to say that close to 100 percent of Maryland's and New Jersey's post-*Furman* first-degree murder and second-degree conviction cases would have been death eligible under pre-*Furman* Georgia law.[97]

A conservative estimate, therefore, would put the rate of death eligibility of the post-*Furman* Maryland and New Jersey cases under pre-*Furman* Georgia law at 95 percent. The 21 percent rate of post-*Furman* death eligibility in these two states conservatively suggests a 78 percent narrowing of death eligibility (74/95) compared to their death-eligibility status under pre-*Furman* Georgia law. The comparable California narrowing rate among M1 and M2 cases as a group is 36 percent under *Carlos* Window law and 31 percent under 2008 law,[98] which are, respectively, 54 percent (42/78) and 60 percent (47/78) lower narrowing rates than the New Jersey and Maryland rates.

Part II of Table 4 explores a post-*Furman* comparison between Nebraska (1973–1999) and California (1978–2002). Both of the death-eligibility rates reported in Column B are based on a screen for death eligibility of M1, M2, and VM cases in Nebraska that employed the same methodology that we used to screen California M1, M2, and VM cases for this project.[99] The reported death-eligibility rates are 25 percent for Nebraska compared to 55 percent for California during the *Carlos* Window and 60 percent under 2008 law.[100] Those two California rates are, respectively, 2.2 (55%/25%) and 2.4 (59%/25%) times higher than the Nebraska rate. Moreover, the California rates represent a 120 percent (30/25) expansion over the Nebraska rate under *Carlos* Window California law and a 140 percent (35/25) expansion under 2008 California law.

Part III of Table 4 reports death-eligibility rates nationwide and for the four states whose rates are reported in Parts I and II of Table 4. The method to produce the Column B estimates in Part III differs from the method used to produce the estimates reported in Parts I and II. Specifically, the Part III estimates were produced in an analysis of death eligibility in each state among all murder and non-negligent manslaughter

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[97]This is exactly what we see in California. Table 2, Parts I and II, Column B document pre-*Furman* death-eligibility rates of 100 percent for M1 and 99 percent for M2 California convictions in our sample.

[98]We estimated these narrowing rates in a replication of the analysis that produced the results reported in Table 3, Column E with all of the M1 and M2 cases combined for the procedure.

[99]The death-eligibility screen of the Nebraska cases was conducted under Professor Baldus's supervision in connection with the identification of death-eligible cases as the foundation for a study of the Nebraska death penalty system. David C. Baldus, George Woodworth, Catherine M. Grosso & Aaron M. Christ, Arbitrariness and Discrimination in the Administration of the Death Penalty: A Legal and Empirical Analysis of the Nebraska Experience (1973–1999), 81 U. Neb. L. Rev. 486, 542, tbl.2 (2002).

[100]See Table 2, Part I, Row 4, Columns B and D.

cases reported to the FBI in Supplemental Homicide Reports (SHR) by state law enforcement authorities from 1976–2003.[101] There is remarkable comparability of the results reported for New Jersey, Maryland, and Nebraska in Part III of Table 4, based on the SHR analysis, and the results reported for those states in Parts I and II, based on a screening of all M1, M2, and VM convictions in each jurisdiction. The estimated death-eligibility rates based on the two different methods and data sources (case screening method vs. SHR archives) are: New Jersey, 21 percent versus 25.5 percent; Maryland, 21 percent versus 21.9 percent; and Nebraska, 25 percent versus 28.9 percent. The comparability of these estimates enhances our confidence in the validity of both estimates for each state in Part III of Table 4. Their comparability also enhances our confidence in the validity of the SHR-based death-eligibility estimates reported in Table 5 for each death penalty state.

Table 5 again applies the SHR analysis model, this time to each death state that had a valid statute as of 2003. Part I of Table 5 reports the estimated state death-eligibility rate for each death penalty state classified by region and state, while Part II of the table rank orders these states by their estimated death-eligibility rates. In Part I of Table 5, California is in Region 9 (Pacific States) where its rate of 37.8 percent is 35 percent (9.8/28) higher than its two neighbors Oregon and Washington, each at 28 percent. Part II of Table 4, which rank orders the states from low to high in terms of their estimated death-eligibility rates, places California at the top of the list with a death-eligibility rate of 37.8 percent.

In assessing the death-eligibility rates reported in Part III of Table 4 and in Table 5, note that the reported California estimate of a 37.8 percent death-eligibility rate underestimates the actual rate. The reason is that the SHR-based method used to generate the Table 4, Part III and Table 5 estimates reflects a lesser rendering of the "lying in wait" aggravating circumstance in the California statute[102]—"sniper killings," the only species of "lying in wait" that is included in the FBI's SHR database. The broad scope of California's lying in wait special circumstance is simply not reflected in the SHR-based estimates of death eligibility. After adjusting for the scope of California's lying in wait and

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[101]Jeffrey Fagan, Franklin E. Zimring & Amanda Geller, Capital Punishment and Capital Murder: Market Share and the Deterrent Effects of the Death Penalty, 84 Tex. L. Rev. 1803, 1816–17 (2006). The authors describe their methodology as follows. "The SHR has the unique advantage of providing detailed, case-level information about the context and circumstances of each homicide event known to the police. This allows us to identify the presence of factors that map onto the statutory framework of the Texas murder statutes and more broadly onto the Model Penal Code aggravating factors." To generate a death-eligibility estimate for each state, the authors classified a murder or non-negligent homicide as death eligible based on the Texas capital punishment statute. Specifically, a case was classified as capital eligible if it included any of "the following elements that are part of the recurrent language of capital-eligible homicides across the states: (a) killings during the commission of robbery, burglary, rape or sexual assault, arson, and kidnapping; (b) killing of children below age six: (c) multiple-victim killings; (d) 'gangland' killing involving organized crime of street gangs; (e) institution killings where the offender was confined in a correctional or other governmental institution; (f) sniper killings ... (g) killings in the course of drug business." They also defined a law enforcement officer victim as a qualifying aggravating factor. When the defendant's age was known, cases were classified as not death eligible if the defendant was under 16 years of age at the time of the offense.

[102]Cal. Penal Code § 190.2(a)(15).

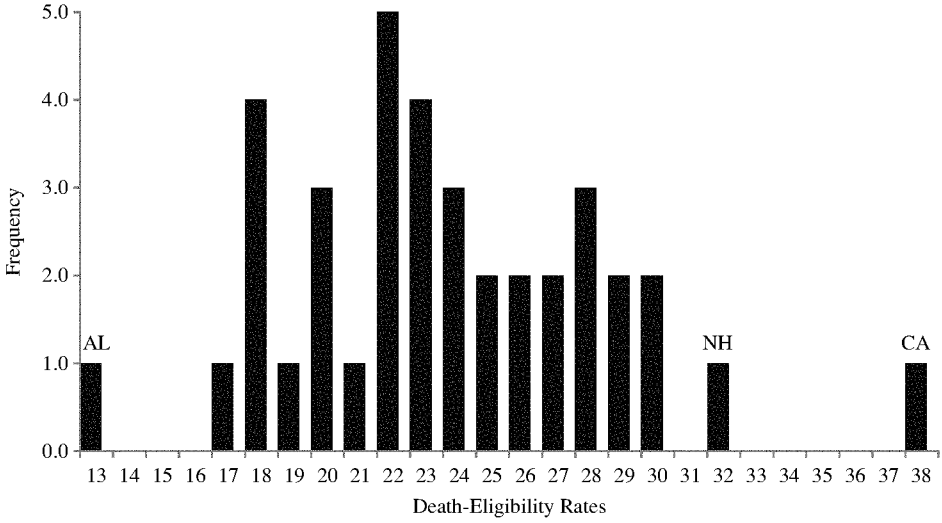
Table 5, Part I: Nationwide and State Death-Eligibility Rates Based on the Percentage of Death-Eligible Murders Among All Intentional Homicides (Murder and Non-Negligent Manslaughter) Broken Down by Region and State (1978–2003)

	A	*B*	*C*
	Region or State	*Percent of Homicides that Are Death Eligible*	*95% CI*
1.	National average	23.8	23, 24
2.	Northeast		
	Connecticut	23.2	21, 25
	New Hampshire	31.9	26, 38
	New Jersey	25.5	24, 27
	New York	20.4	18, 22
	Pennsylvania	25.0	24, 26
3.	East North Central		
	Illinois	28.9	27, 31
	Indiana	24.0	22. 25
	Ohio	22.0	21, 23
4.	West North Central		
	Kansas	23.9	20, 28
	Missouri	22.4	21, 24
	Nebraska	28.9	25, 32
	South Dakota	27.4	21, 34
5.	South Atlantic		
	Delaware	18.4	14, 23
	Florida	18.2	17, 20
	Georgia	20.3	18, 22
	Maryland	21.9	20, 23
	North Carolina	16.8	16, 18
	South Carolina	22.5	21, 24
	Virginia	20.6	20, 22
6.	East South Central		
	Alabama	13.1	12, 15
	Kentucky	18.2	16, 20
	Mississippi	19.7	18, 22
	Tennessee	18.7	17, 20
7.	West South Central		
	Arkansas	23.0	21, 25
	Louisiana	18.3	17, 19
	Oklahoma	28.3	25, 32
	Texas	21.7	20, 23
8.	Mountain		
	Arizona	23.8	22, 25
	Colorado	26.1	24, 28
	Idaho	29.7	25, 34
	Montana	26.5	20, 33
	Nevada	22.7	21, 24
	New Mexico	22.9	21, 25
	Utah	30.0	27, 33
	Wyoming	26.9	22, 32
9.	Pacific		
	California	37.8	36, 40
	Oregon	28.0	25, 30
	Washington	28.0	26, 30

Table 5, Part II: State Death-Eligibility Rates Rank Ordered from Low (Alabama) to High (California) (1978–2003)

A	*B*	*C*
State	*Percent of Homicides that Are Death Eligible*	*95% CI*
Alabama	13.1	12, 15
North Carolina	16.8	16, 18
Florida	18.2	17, 20
Kentucky	18.2	16, 20
Louisiana	**18.3**	**17, 19**
Delaware	18.4	14, 23
Tennessee	18.7	17, 20
Mississippi	19.7	18, 22
Georgia	20.3	18, 22
New York	20.4	18, 22
Virginia	20.6	20, 22
Texas	21.7	20, 23
Maryland	21.9	20, 23
Ohio	22.0	21, 23
Missouri	**22.4**	**21, 24**
South Carolina	22.5	21, 24
Nevada	22.7	21, 24
New Mexico	22.9	21, 25
Arkansas	23.0	21, 25
Connecticut	23.2	21, 25
Arizona	23.8	22, 25
Kansas	23.9	20, 28
Indiana	24.0	22, 25
Pennsylvania	25.0	24, 26
New Jersey	**25.5**	**24, 27**
Colorado	26.1	24, 28
Montana	26.5	20, 33
Wyoming	26.9	22, 32
South Dakota	27.4	21, 34
Oregon	28.0	25. 30
Washington	28.0	26, 30
Oklahoma	28.3	25, 32
Nebraska	**28.9**	**25, 32**
Illinois	28.9	27, 31
Idaho	29.7	25, 34
Utah	30.0	27, 33
New Hampshire	31.9	26, 38
California	37.8	36, 40

Figure 1: Number of states at each death-eligibility rate from Table 5, Part II, Column B, displayed in a histogram from Alabama with rate 13 to California with rate 38.



criminal street gang special circumstances, a valid estimate of California's rate of death eligibility under the SHR data is 50.3 percent rather than the 37.8 rate reported in Part II of Table 5.

Against this background, we estimate California's death-eligibility rate using the SHR-based death-eligibility rates for the states identified in Part III of Table 4. Compared to the states listed in Rows 2–5, the California rate of death eligibility is 54 percent (13.3/24.5) higher than the nation as a whole, 48 percent (12.3/25.5) higher than New Jersey, 73 percent (15.9/21.9) higher than Maryland, and 31 percent (8.9/28.9) higher than Nebraska.

The data in Table 5 and Figure 1 document California's outlier status in four ways.[103] First, Part II of Table 5 demonstrates that compared to the states with the second and third highest death-eligibility rates, California's death-eligibility rate of 37.8 percent is 18 percent (5.9/31.9) higher than New Hampshire's and 26 percent (7.8/30) higher than Utah's.

Second, all the major death penalty states have substantially lower death-eligibility rates than California. For example, we compare California's rate with

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[103]The estimates in Parts I and II of Table 5 are based on the number of death-eligible homicides reported to the FBI using the Fagan-Geller-Zimring estimation procedure described in footnote 102. An outlier is defined as "an observation that lies outside the overall pattern of a distribution." D.S. Moore & G.P. McCabe, Introduction to the Practice of Statistics (1999). See generally David C. Hoaglin & Boris Iglewicz, Fine-Tuning Some Resistant Rules for Outlier Labeling, 82 J. Am. Statistical Ass'n 1147–49 (1987).

representative states listed in bold font in the four quartiles of states in Part II of Table 5. Compared to Louisiana, the median state in the first quartile of states with a death-eligibility rate of 18.3 percent, California's rate is 107 percent (19.5/18.3) higher; compared to Missouri, the median state in the second quartile of states with a death-eligibility rate of 22.4 percent, California's rate is 69 percent (15.4/22.4) higher. Compared to New Jersey, the median state in the third quartile of states with a death-eligibility rate of 25.5 percent, California's rate is 48 percent (12.3/25.5) higher, and compared to Nebraska, the median state in the fourth quartile of states with a death-eligibility rate of 28.9 percent, California's rate is 31 percent (8.9/28.9) higher.

Third, the data in Part II of Table 5 and Figure 1 indicate that the 5.9 percentage point gap in death-eligibility rates between California and New Hampshire, California's (statistically) closest near neighbor, is 5 to 6 times larger than the gaps in rates between all of the other states in the second, third, and fourth quartiles of the distribution. Finally, the formal definition of "outlier" calls for a score of 38.5 to qualify as an outlier in the distribution presented in Figure 1.[104] The results in Part II of Table 5 show that California's rate of 37.8 falls slightly by 0.7 of a percentage point short of that qualifying number, even without considering the effects of the limited lying in wait data in the SHR database.

VI. Capital Charging and Sentencing Outcomes Among Factually Death-Eligible Post-*Furman* California Murder Cases

Figure 2 and Table 6 document capital charging and sentencing outcomes among all factually death-eligible post-*Furman* cases. A factually death-eligible case involves the factual presence of first-degree murder (M1) liability and the factual presence of one or more California special circumstances under *Carlos* Window or 2008 California law, as the case may be.[105] If the facts presented in the probation report for a case satisfy this test, the crime of conviction does not determine the factual death eligibility of the case.[106]

Figure 2 documents the flow of death-eligible cases through four decision points in the process in California. At Stage 1, the prosecutor determines whether to charge the case capitally by alleging one or more special circumstances, which occurred

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[104]"An outlier is an observation which deviates so much from the other observations as to arouse suspicions that it was generated by a different mechanism." Charu C. Aggarwal, Outlier Analysis, in Data Mining, 237–63 (2015). For this analysis, we adopt a standard defining an outlier as an observation that falls more than 1.5 times the interquartile range above the third quartile or that far below the first quartile, as the case may be. Id. In this case the interquartile range is 7—the difference between the 25th percentile of the death-eligibility rates, New York (20.4), and the 75th percentile of the death-eligibility rates, South Dakota (27.4).

[105]See text following note 89 for a discussion of the methodology we used to classify cases as factually M1 and death eligible.

[106]Id.

Figure 2: Capital charging and sentencing outcomes among death-eligible homicides: California, 1978–2002.

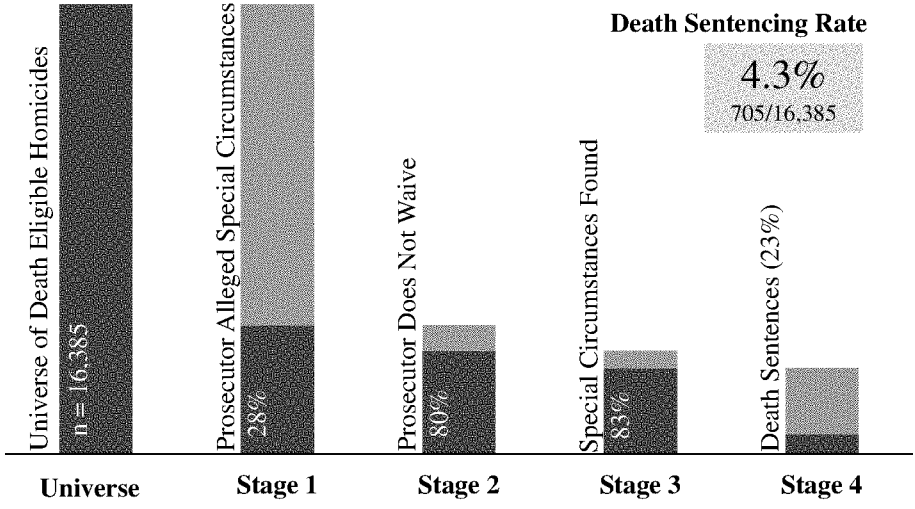

Table 6: Capital Charging and Sentencing Outcomes in Death-Eligible Cases 1978–2002 (Columns B and C), from January 1, 1978 Through the *Carlos* Window (Columns D and E), and from the End of the *Carlos* Window Through June 6, 2002 (Columns F and G)

A	*B*	*C*	*D*	*E*	*F*	*G*
Charging and Sentencing Outcome	*Outcome Rate*		*Outcome Under* Carlos *Window Law*		*Outcome Under 2008 Law*	
	Crimes dated 1978-2002	*95% CI SE*	*Crimes dated Dec. 12, 1983 to Oct. 13, 1987*	*95% CI SE*	*Crimes dated Oct. 14, 1987 to June 30, 2002*	*95% CI SE*
1. One or more special circumstances alleged	28% 4,609/16,385	25, 32 0.0153	24% 1,481/6,244	20, 28 0.0223	31% 3,105/9,842	27, 36 0.0246
2. One or more special circumstances found among those alleged	67% 3,069/4,609	48, 60 0.0314	58% 944/1,641	50, 65 0.0394	52% 1,879/3,601	44, 60 0.0421
3. LWOP sentence imposed	14% 2,364/16,385	12, 17 0.0141	10% 616/6,244	7, 13 0.0150	18% 1,748/9,842	14, 22 0.0204
4. Death sentence imposed	4% 705/16,385	3, 6 0.0086	7% 412/6,244	4, 10 0.0148	3% 293/9,842	1, 6 0.0104

NOTE: Column B reports analysis of all cases in the study (1978–2002), which were death eligible under 2008 law. Column D reports analysis of crimes committed during the Carlos Window (Dec. 12, 1983 to Oct. 13, 1987), which were death eligible under Carlos Window law. Column F reports analysis of cases committed after the Carlos Window (Oct. 14, 1987 to June 30, 2002), which were eligible under 2008 law. The 95 percent confidence intervals and linearized standard errors reflect the confidence in the weighted estimates used to calculate the universe for each death eligibility rate. We generated them using STATA tabulate for survey data on the estimation sample for each line in the table.

approximately 28 percent of the time. At Stage 2, the prosecutor may delete the special circumstances unilaterally or as part of a plea bargain with the defendant, which occurs in approximately 20 percent of the cases in which special circumstances had been alleged. At Stage 3, the court may dismiss the special circumstance allegations or the factfinder may reject them as not proved. These outcomes occurred in only a small percentage of the cases that advanced this far in the process. For cases in which a special circumstance is found present or admitted by the defendant, the prosecutor determines whether to advance the case to a penalty trial or to waive the death penalty and LWOP sentence, in which event the court will impose LWOP or term of years sentence, as the case may be. While the number of penalty trials is unknown, the data document at Stage 4 a distribution of sentencing outcomes with 23 percent (705/3,069) death sentences and 77 percent (2,364/3,069) LWOP sentences.[107] Figure 2 reports a 4.3 percent death-sentencing rate among all death eligible cases.

Table 6 presents similar findings with contrasts between the cases overall and in two subperiods. Column A of Table 6 identifies the charging and sentencing outcomes of interest and Column B reports the outcomes for the entire period of the study. Column D presents the rates during the *Carlos* Window, while Column F reports the results from the post-*Carlos* Window study period. Row 1, Column B, documents that between 1978 and 2002, special circumstances were alleged in 28 percent of the cases that were death eligible under the *Carlos* Window or 2008 California law. Columns D and F report that the rates were 24 percent and 31 percent, respectively, during the earlier and later periods.

We also have collateral evidence on this outcome. A 2007 study of cases documents that between August 1977 and December 31, 1986, prosecutors sought death sentences in 58 percent (11/19) of the felony-murder cases prosecuted in San Joaquin County.[108] This rate is comparable to the rates documented in our statewide data for robbery felony-murder cases, with an average rate of 50 percent (2,598/5,227).[109]

Row 2, Column B of Table 6 shows that from 1978–2002, special circumstances were found to be present by the judge or jury or admitted by the defendant in 67 percent of the death-eligible cases in which they were alleged, while Columns D and F report that those rates were 58 percent and 52 percent, respectively, during the earlier and later periods.

The data also indicate that the death penalty is ultimately waived in a large number of cases or in plea bargains, in which event the case does not advance to a penalty trial.

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[107]The data also suggest that approximately 9 percent of the cases with a special circumstance found or admitted by the defendant resulted in a term of years, which may be imposed when it is agreed to by the prosecutor or imposed by the court. Although we were able to identify all cases in our sample in which the defendant was sentenced to death, we have less confidence in our ability to identify all cases in which the defendant was sentenced to LWOP because some probation reports omit this information and we did not have access to alternate sources identifying all defendants who have or could have been sentenced to LWOP.

[108]Catherine Lee, Hispanics and the Death Penalty: Discriminatory Charging Practices in San Joaquin County, California, 35 J. Crim. Just. 17, 21, tbl.2 (2007).

[109]The rate was 40 percent (870/2,185) during and before the *Carlos* Window, and 56 percent (1,708/3,042) after the *Carlos* Window.

Unfortunately, our data do not squarely focus on the rate that death-eligible cases advance to a penalty trial.[110] However, we have a useful proxy measure for that outcome—the rate at which one or more special circumstances were found by a jury or judge or admitted by the defendant in death-eligible cases. We find that a special circumstance was found by a jury or court or admitted by the defendant in 17 percent (2,824/16,417) of the cases in which a special circumstance could have been alleged and prosecuted.

We realize that this measure overstates the rate that cases advance to a penalty trial because prosecutors often do not seek a death sentence after a special circumstance has been found in the guilt trial and proceed solely to a LWOP sentence. However, the measure does provide an upper limit of that rate, suggesting that many fewer than 17 percent of the death-eligible cases actually advanced to a penalty trial. This rate is substantially lower than the rates at which prosecutors in other jurisdictions have traditionally advanced cases to a penalty trial,[111] although those rates appear to have declined within the last two decades.[112]

Row 3, Column B of Table 6 shows a 14 percent LWOP sentencing rate for the entire 1978–2002 period. Columns D and F indicate that the rate increased from 10 percent during the earlier period to 18 percent during the later period, an 80 percent (8/10) increase.

Row 4, Column B of Table 6 shows a death-sentencing rate of 4 percent among all death-eligible cases in the universe. Columns D and E show rates of 7 percent for the earlier period and 3 percent for the later period, a difference that represents a 43 percent (3/7) decline in the death-sentencing rate in the later period. When we limit the documentation of death-sentencing rates to death sentences that were affirmed on appeal, the overall rate declines to 3.6 percent.[113]

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[110]Many of the probation reports used in this study were prepared before the guilt trial was conducted and, at best, the story typically ends with the guilt trial verdict.

[111]David C. Baldus, George Woodworth & Charles A. Pulaski, Jr. Equal Justice and the Death Penalty: A Legal and Empirical Analysis 327, tbl. 56 (1990) (the rate in Georgia 1973–1980 was 32 percent (228/707)); David C. Baldus, George Woodworth, David Zuckerman, Neil Alan Weiner & Barbara Broffitt, Racial Discrimination and the Death Penalty in the Post-*Furman* Era: An Empirical and Legal Overview, with Recent Findings from Philadelphia, 83 Cornell L. Rev. 1638, 1677, tbl. 1 (1998) (the rate in Philadelphia County 1983–1993 was 54 percent (384/707)); David C. Baldus, George Woodworth, Catherine M. Grosso & Aaron M. Christ, Arbitrariness and Discrimination in the Administration of the Death Penalty: A Legal and Empirical Analysis of the Nebraska Experience (1973–1999), 81 U. Neb. L. Rev. 486, 547 (2002) (the rate in Nebraska in 1973–1999 was 48 percent (89/185)); Paternoster et al., supra note 95, at 52, Fig. 1 (the rate in Maryland in 1978–1999 was 14 percent (180/1311); Baime, supra note 94, Appendices and Tables, at tbl. 3 (the rate in New Jersey in 1983–1991 was 54 percent (132/246).

[112]David C. Baldus, George Woodworth & Catherine M. Grosso, Race and Proportionality Since *McCleskey v. Kemp* (1987): Different Actors with Mixed Strategies of Denial and Avoidance, 39 Col. Hum. Rights L. Rev. 143, 168 (2007) (the rate at which New Jersey prosecutors advanced cases to a penalty trial declined "from a rate of 52% in the 1980s to a rate of 10% in the period from 1999–2004").

[113]This outcome measure distinguishes between death sentence cases in which the sentence was affirmed on appeal and cases in which the sentence or murder conviction was vacated because of trial court error that drew into question the legitimacy of the conviction or sentence. Examples include ineffective assistance of counsel and the vacation of special circumstance findings for want of evidentiary sufficiency. Of the 61 death-sentenced cases in our sample, the death sentences of the following eight defendants were so classified: Sixto, Felipe Evanjelista, 48 Cal.3d 1247, 1252 (1989); Hunter, Michael Wayne, 2005 WL 1377738; Turner, Thaddaeus Louis, 2009 WL 2394152; Marshall, Ryan Michael, 566 F. Supp.2d 1053 (2008); Lucas, Larry Douglas, 33 Cal. 4th 682, 737 (2004); Duncan, Henry Earl, 528 F.3d 1222 (2008); Heard, James, Matthew, 31 Cal. 4th 946, 982 (2003), and Mayfield, Demetrie, 270 F.3d 915 (2001).

Also of note is the death-sentencing rate among a subset of cases that is not identified in Table 6—death-eligible cases that resulted in a M1 conviction at trial or by a guilty plea. The death-sentencing rate for death-eligible M1 conviction cases was 8.6 percent (705/8,240) with a (6 percent, 12 percent) 95 percent confidence interval. The death-sentencing rate for death-eligible M1 conviction cases in the *Carlos* Window is 9 percent (119/1,291) with a (7 percent, 12 percent) 95 percent confidence interval.

Although our data do not explicitly focus on the advancement of cases to a penalty trial, we can approximate the penalty trial death-sentencing rate with a proxy measure that computes the death-sentencing rate among all cases in which jurors and judges found or the defendant admitted to one or more special circumstances being present in the case. The statewide rate for this measure is 21 percent (705/3,354). This figure clearly underestimates the actual penalty trial death-sentencing rate because it overstates the number of cases that advanced to a penalty trial. However, it does suggest a lower limit of that rate. In addition, variation in the estimates of this measure over time are of interest. During the early period from 1978 through the *Carlos* Window, the rate was 40 percent (412/1,035) while during the post-*Carlos* Window period the rate was 13 percent (293/2,319), which represents a 67 percent (27/40) decline in this rate between the two periods.[114]

Of particular note is the death-sentencing rate among death-eligible cases in which the prosecutor actively sought a death sentence by filing an allegation of one or more special circumstances. For the entire 1978–2002 period, that rate was 16 percent (705/4,609).[115] The *Furman* Court optimistically thought that if state legislatures narrowed the pool of death-eligible defendants to the "worst of the worst," then most would

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[114]These findings are consistent with three empirical studies of California penalty trials of which we are aware. The first is a pre-*Furman* study that examined the outcomes of 238 unitary penalty trials between 1958 and 1966, documenting a 43 percent (103/238) death sentencing rate. Special Issue, A Study of the California Penalty Trial in First-Degree-Murder Cases, 21 Stan. L. Rev. 1297, 1299 (1969). The second is a post-*Furman* study that documents, between 1977 and 1984, a statewide penalty trial death-sentencing rate of 29 percent (144/496). Stephen P. Klein & John E. Rolph, Relationship of Offender and Victim Race to Death Penalty Sentences in California, 32 Jurimetrics J. 33, 38, tbl. 1 (1991). The third study is a survey by the California State Public Defender's Office that reviewed capital charging and sentencing outcomes for a five-year period from August 1977 to July 1983. It documents a 48 percent (148/309) penalty trial death-sentencing rate. William J. Kopeny, Capital Punishment—Who Should Choose, 2 W. State U. L. Rev. 383, 388, n. 33 (1985). The death sentencing rate estimated in our California data and the rates in these three studies are within the range of penalty trial death-sentencing rates observed in many states. Baldus et al. (Georgia), supra note 111, at 327, tbl.50 (the rate in Georgia 1973–1980 was 55 percent (140/253); David Baldus, When Symbols Clash: Reflection on the Future of the Comparative Proportionality Review of Death Sentences, 26 Seton Hall L. Rev. 1582, 1600, tbl. 4 (the rate in New Jersey 1983–1995 was 29 percent (48/168); Baldus et al. (Philadelphia), supra note 111, at 1702 (the rate in Philadelphia County 1983–1993 was 29 percent (110/384); Baldus et al. (Nebraska), supra note 111, at 545, fig. 2 (the rate in Nebraska 1978–1999 was 15 percent (29/185)); Paternoster et al., supra note 94 at 545, fig. 1 (the rate in Maryland 1978–1999 was 6 percent (76/1311)).

[115]The decision to invalidate the death penalty schemes in *Furman* rested in substantial part on the fact that "only 15–20% of convicted murderers who were death eligible were being sentenced to death." See Steven F. Shatz & Nina Rivkind, The California Death Penalty Scheme: Requiem for *Furman*, 72 N.Y.U. L. Rev. 1283, 1288–89, 1333 (1997) ("Although in *Furman* and *Gregg* the Court referred to the percentage of 'those convicted of murder' who were sentenced to death, the Justices had to be concerned with the percentage of death-eligible convicted murderers sentenced to death."); id. (noting that the relevant statistic is the percentage of first-degree murderers who were sentenced to death).

be sentenced to death, eliminating numerical arbitrariness. However, recent research suggests that numerical arbitrariness remains, as the death-sentence rate falls below the *Furman* threshold in Connecticut (4 percent) and Colorado (less than 1 percent).[116] For example, in an extensive study of death sentences imposed per 1,000 homicides (1973–1995) only Maryland with a rate of 5 is lower than California with a rate of 8. The median rate is 18.[117] In Texas, the death sentencing rate from 2006–2010 ranged from 3 percent to 6 percent.[118] Scott Phillips characterizes the death penalty under these conditions as a "fatal lottery," often with those being executed for crimes that were indistinguishable from those who received lesser sentences. California's broad applications of special circumstance invites just the type of arbitrariness that the *Furman* Court abhorred. Compounding these inchoate death sentences is the introduction of racial disparities through the wide stance of capital eligibility.[119]

California's very low death-sentencing rate among death-eligible cases, both relative to other states and simply by the *Furman* yardstick, is the product of decisions at the four stages in its capital charging and sentencing process outlined in Figure 2, which illustrates the rate with a hypothetical that assumes a population of 100 death-eligible cases. First, prosecutors seek death sentences in only 29 of those cases (Stage 1), and dismiss those allegations before trial (Stage 2) in about six of those cases (20 percent of 29). For 77 of the hypothetical defendants, therefore, the risk of a death sentence is completely off the table before trial. For the remaining 23 defendants facing special circumstance allegations, 19 (83 percent of 23) may advance to a penalty trial after a factfinder finds one or more special circumstances present in the case or the defendant admits to a special circumstance (Stage 3). For these defendants, the penalty trial results in four (23 percent of 19) defendants being sentenced to death who contribute to the overall 4.3 percent risk of a death sentence being imposed among all death-eligible offenders that is documented in Row 4, Column B of Table 6 and in Figure 2.

Finally, we highlight again the trend of LWOP and death-sentencing decision making. Table 6, Row 3, Columns D and F, document a 80 percent (8/10) increase in the LWOP sentencing rate between the early and later years. After the *Carlos* Window, the ratio of LWOP to death sentences increased to 6 to 1 (18%/3.0%) from the 1.4 to 1 (10%/7%) ratio that existed during the *Carlos* Window and before.

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[116]Scott Phillips & Alena Simon, Is the Modern Death Penalty a Fatal Lottery? Texas as a Conservative Test, 2014 Laws 85 (2014).

[117]John Blume, Theodore Eisenberg & Martin T. Wells, Explaining Death Row's Population and Racial Composition, 1 J. Empirical Legal Stud. 165, 172, tbl. 1 (2004).

[118]Id.

[119]Catherine M. Grosso, Jeffrey Fagan, Michael Laurence, David Baldus, George Woodworth & Richard Newell, "Death by Stereotype: Race, Ethnicity, and California's Failure to Implement *Furman*'s Narrowing Requirement," UCLA L. Rev. (2019) (forthcoming).

The low California death-sentencing rates documented in this study are consistent with the results of comparative studies which place California at the low end among death penalty states in terms of their death-sentencing frequencies.[120] It is also useful to compare the average post-*Furman* California death-sentencing rate of 4.3 percent with pre-*Furman* Georgia's 15 percent death-sentencing rate among all death-eligible murder trial conviction cases. The results of the comparison can be expressed in two ways. First, the pre-*Furman* rate[121] of 15 percent exceeds the post-*Furman* California rate by a factor of 3.4 (15/4.3). Second, California's post-*Furman* death-sentencing rate among all death-eligible cases is 71 percent (10.7/15) lower than the death-sentencing rate in pre-*Furman* Georgia murder trial conviction cases.

VII. Conclusions

In this study, we report the findings of an empirical study of 27,453 post-*Furman* California convictions for M1, M2, and VM cases with a date of offense between January 1978 and June 2002. The results are based on an analysis of a stratified random sample of 1,900 cases from the case universe.

Our findings support three principal conclusions. First, the rate of death eligibility among California homicide cases is the highest in the nation by every measure. This result is a product of the number and breadth of special circumstances under California law. A major contribution to this overbreadth is California's lying in wait special circumstance. Under *Carlos* Window law (1978–2002), it was factually present in 29 percent (7,915/27,453) of California's M1, M2, and VM cases and it was the sole special circumstance present in 21 percent (5,843/27,453) of them.[122]

Second, the post-*Furman* narrowing rate of death eligibility in California compared to the rate of death eligibility under pre-*Furman* Georgia law is substantially lower than it has been in the vast majority of U.S. death penalty states.

Third, in post-*Furman* California, prosecutors seek a death sentence and juries impose death sentences in only a small fraction of the death-eligible cases in which death

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[120]John Blume, Theodore Eisenberg & Martin T. Wells, Explaining Death Row's Population and Racial Composition, supra note 118. In another study of death-sentencing rates per murder committed in each state from 1977 through 1999, California was ranked in the fourth quartile with a rate of 0.013 death sentences per murder, with the highest rate of 0.060 in Nevada and the lowest rate of 0.004 in Colorado. James S. Liebman, Jeffrey Fagan & Valerie West, A Broken System: Error Rates in Capital Cases, 1973–1995, 87, fig. 17 (West 2000), available at http://www2.law.columbia.edu/instructionalservices/liebman/liebman_final.pdf.

[121]See Baldus et al. (Georgia), supra note 111, at 85, tbl. 5 (reporting a 15 percent (44/293) rate among death-eligible murder trial convictions in a study we conducted in 1982).

[122]Under 2008 law, the lying in wait special circumstance was factually present in 29 percent (7,996/27,453) of all cases and it was the sole special circumstance present in 15 percent (4,239/27,453) of those cases. Under *Carlos* Window law, the lying in wait special circumstance was factually present in 23 percent (714/3,069) of all cases in which a special circumstance was found. The comparable number for the robbery felony-murder special circumstance was 55 percent (1,702/3,069).

sentences are authorized under post-*Furman* law. As a result, the post-*Furman* California death-sentencing rate of 4.3 percent among all death-eligible cases is among the lowest in the nation and over two-thirds lower than the death sentencing rate in pre-*Furman* Georgia.

Justice Breyer's statement in *Hidalgo* signaled that four sitting justices share deep concerns about whether "states perform the 'constitutionally necessary' narrowing function at the stage of *legislative* definition" to prevent "a pattern of arbitrary and capricious sentencing."[123] The statement went a step further, suggesting a willingness to ask whether statutes, *in their operation*, are constitutionally suspect, and to apply empirical evidence to address this question. The *Hidalgo* litigation framed Arizona's statutory problem as a matter of gross overbreadth in the group eligible for capital prosecution. In fact, the Arizona Supreme Court assumed that the statute, *as applied*, converts almost every first-degree murder into a death penalty case.[124]

Our results show that these concerns are salient in California. The essential question, then, is whether the constitutionally flawed overbreadth that the dissenters in *Hidalgo* recognized, built on a capital sentencing regime whose statutory scaffold includes so many aggravating circumstances that virtually every defendant convicted of first-degree murder is eligible for a death sentence, violates the Eighth Amendment. The statutory construction in California instantiates a regime in which the death penalty can be wantonly and freakishly imposed at the same time. We point out the implications for the future of the death penalty in California and other states that have shown the same promiscuity in their statutory designs.

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[123]138 S. Ct. at 1057 (quoting *Zant*, 462 U.S. at 878) (emphasis in original).

[124]State v. Hidalgo, 241 Ariz. 543, 551, 390 P.3d 783, 791 (2017) (assuming that "Hidalgo is right in his factual assertion that nearly every charged first degree murder could support at least one aggravating circumstance").