Evidence by Any Other Name:
The Use of Statistics in Employment Discrimination Class Actions after *Tyson Foods*

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Last term, in his opinion for the Court in *Tyson Foods, Inc. v. Bouaphakeo*, Justice Kennedy invoked the unremarkable principle that “representative or statistical sample, like all evidence, is a means to establish or defend against liability. Its permissibility turns not on the form a proceeding takes—be it a class or individual action—but on the degree to which the evidence is reliable in proving or disproving the elements of the relevant cause of action.”¹ As Justice Kennedy explained, “Whether and when statistical evidence can be used to establish classwide liability will depend on the purpose for which the evidence is being introduced and on the elements of the underlying cause of action.”² To be admissible in a class case just as in a non-class case, then, such evidence must simply satisfy the requirements of Federal Rule of Evidence 702.³

The principle discussed in *Tyson Foods*—that statistical evidence offered in the class action context should be treated like other forms of evidence and accorded weight according to its relevance and probity—should not be controversial.⁴ Indeed, Justice

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² Id. (citation omitted).
³ *Tyson Foods*, 136 S. Ct. at 1048-49 (“Once a district court finds evidence to be admissible [under Rule 702], its persuasiveness is, in general, a matter for the jury.”). Rule 702 provides that “scientific, technical, or other specialized knowledge is admissible if it “will assist the trier of fact” and is offered by “a witness qualified as an expert by knowledge, skill, experience, training, or education.” Fed. R. Evid. 702. The Rule “imposes a special obligation upon a trial judge to ensure that any and all scientific testimony is not only relevant, but reliable,” which the judge does by evaluating whether the proposed testimony “has a reliable basis in the knowledge and expertise of the relevant discipline” before admitting the testimony. *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 147, 149 (1999) (quoting *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589, 592 (1993)) (alterations omitted).
⁴ *See, e.g.*, 28 U.S.C. §2072 (establishing that the Federal Rules “shall not abridge, enlarge or modify any substantive right”).
Kennedy’s opinion in *Tyson* was joined by five other Justices, including the Chief Justice. Nonetheless, in concluding that statistical evidence offered in class actions should be treated no differently from any other form of evidence, Justice Kennedy’s opinion conflicted with widely held beliefs that the Court’s prior decisions in cases such as *Wal-Mart Stores, Inc. v. Dukes*[^5] and *Comcast Corp. v. Behrend*[^6] established separate rules governing the use of statistical evidence in class actions[^7]. Rather than adopting “broad and categorical rules governing the use of representative and statistical evidence in class actions,” Justice Kennedy emphasized that the Court would continue to recognize that “[t]he fairness and utility of statistical methods . . . will depend on facts and circumstances particular to [each] case.”[^8]

Properly understood, then, Justice Kennedy’s opinion in *Tyson Foods* is ultimately quite modest. Justice Kennedy did not endorse the unrestrained use of statistical and representative testimony in class actions, or suggest that the existence of individualized damages inquiries could never preclude a showing that common issues “predominate” for the purposes of certification under Rule 23(b)(3). Instead, he simply reminded litigants and courts to focus on the particular purposes for which the statistical evidence is offered.

[^7]: See, e.g., *Tyson Foods*, 136 S. Ct. at 1048 (rejecting petitioner’s argument that *Dukes* “stand[s] for the broad proposition that a representative sample is an impermissible means of establishing classwide liability”); *compare id.* at 1045 (holding that “[w]hen one or more of the central issues in the action are common to the class and can be said to predominate, the action may be considered proper under Rule 23(b)(3) even though other important matters will have to be tried separately, such as damages or some affirmative defenses peculiar to some individual class members”) (quotation omitted); *with id.* at 1056 (Thomas, J., dissenting) (arguing that under *Comcast* “the lack of a common methodology for providing damages” will “inevitably” be fatal to class certification under Rule 23(b)(3)).
testimony is being offered, the particular facts the statistical evidence purports or does not purport to establish, and the underlying cause of action.9

Although this principle is easy to articulate and defend, its application to particular cases requires a careful consideration of the relevant facts and law, including the elements of the claim at issue, the data that forms the “input” for the statistical analysis, and the “output” of that analysis. Where courts and litigants err in their handling of such evidence, they often do so either by presuming that such evidence is qualitatively different from other forms of evidence (as the petitioner in Tyson Foods had done), or by failing to align the input and output of the statistical analysis with the elements of the claim at issue (as the Supreme Court concluded had occurred in both Dukes and Comcast). Accordingly, when considering the use of such evidence in employment discrimination class actions, it is important to remember the related but distinct purposes for which such evidence may be used and the need to ensure that the input and output of the statistical analysis are carefully structured to answer the questions that are relevant to each of those purposes.

The first purpose served by statistical evidence in employment discrimination class actions is perhaps the most crucial: Statistics play an important and sometimes indispensable role in establishing the defendant’s liability. In a disparate impact class action, for example, the plaintiff must first establish that the challenged practice or policy has a statistically significant adverse impact on members of a protected class.10 Similarly, in cases alleging a classwide pattern or practice of intentional discrimination, statistical

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9 Tyson Foods, 136 S. Ct. at 1049.

evidence showing that members of a protected class are generally treated less favorably than others is often highly probative.\textsuperscript{11}

In making this showing, the plaintiff’s statistical evidence must be tailored to the practice or policy at issue and to the group of individuals purportedly favored or disfavored by that practice of policy. In \textit{Wards Cove Packing Co. v. Atonio},\textsuperscript{12} for example, the Supreme Court concluded that the plaintiff could not establish a disparate impact claim challenging the defendant salmon cannery’s hiring and promotion practices by showing that jobs in the cannery were mostly held by nonwhites while non-cannery jobs were mostly held by whites.\textsuperscript{13} The dispositive statistical issue was not how the racial makeup of the cannery workforce compared to the non-cannery workforce, or how the racial makeup of either workforce compared to the general population, but instead how the racial makeup of those actually hired for or promoted to particular positions compared to the racial makeup of the individuals seeking those positions—“the qualified persons in the labor market.”\textsuperscript{14} Because the core question in employment discrimination cases is whether members of a protected group have been treated worse than others, statistics showing the impact of a challenged hiring or promotion practice on the actual pool of applicants for the positions (known as “applicant flow data”) will generally be the most powerful form of evidence that the practice was discriminatory, although evidence comparing the pool of successful applicants to the overall pool of potentially qualified


\textsuperscript{12} 490 U.S. 642 (1989).

\textsuperscript{13} Id. at 650-51.

\textsuperscript{14} Id.; see also \textit{Hazelwood Sch. Dist. v. United States}, 433 U.S. 299 (1977) (discussing principles governing use of workforce to population comparisons in employment discrimination cases).
individuals within the relevant labor market may be probative where applicant flow data is not available or where the defendant’s practices may have discouraged otherwise qualified applicants from applying,\textsuperscript{15} and evidence comparing the pool of successful applicants to the general population may be probative where the job at issue does not require any particular qualifications and it is reasonable to assume that the applicant pool reflects the general population.\textsuperscript{16} The statistical analysis should also ensure that individuals within the groups being compared are similarly situated. If the group of individuals not selected contains individuals who were disqualified for reasons other than the challenged practice or policy, for example, the statistical analysis may be unable to reveal whether the challenged policy or practice, as opposed to some other cause, resulted in disproportionate harm to members of a protected class.

\textit{Dukes} applied these principle in the context of a nationwide challenge to Wal-Mart’s promotion practices, which plaintiffs claimed disadvantaged all female employees within Wal-Mart’s stores.\textsuperscript{17} The Supreme Court concluded that the plaintiffs’ statistical evidence was inadequate because plaintiffs challenged Wal-Mart’s policy “of allowing discretion by local supervisors” on a store-by-store basis, but their statistical evidence did not analyze such store-by-store disparities.\textsuperscript{18} Because plaintiffs’ claims involved decisions made at the store level but their statistical evidence (in the Court’s view) failed


\textsuperscript{16} See, \textit{e.g.}, \textit{Teamsters}, 431 U.S. at 337 & n.17 (relying in part upon evidence of disparity between African Americans in the population and African Americans employed by defendant); \textit{Griggs v. Duke Power Co.}, 401 U.S. 424, 430 n.6 (1971) (noting that defendant’s high school diploma requirement would disproportionately disqualify African American applicants based on statewide graduate rate statistics).

\textsuperscript{17} \textit{Dukes}, 564 U.S. at 344-45.

\textsuperscript{18} \textit{Id.} at 356.
to analyze the store-level impact of the discretionary decisions at issue, their evidence did not show “the uniform, store-by-store disparity” necessary to establish commonality for the purposes of class certification under Rule 23(a).^{19}

There is no question that Justice Scalia’s opinion in *Dukes* reflects a number of questionable assumptions about the extent and nature of workplace discrimination, such as his claim that “left to their own device most managers in any corporation . . . would select sex-neutral, performance-based criteria for hiring and promotion that produce no actionable disparity at all,” and that “without some common direction” “it is quite unbelievable that all managers would exercise their discretion” in a manner that disadvantages female employees.^{20} Nonetheless, *Dukes* does not preclude future class representatives from challenging a comparable corporate policy permitting discretionary promotional decisions by local managers on the basis of statistical evidence. Instead, *Dukes* simply requires that class representatives challenging such a policy prove both that the store managers’ exercise of their discretion had a disparate impact on a store-by-store basis and that the disparity was the result of discrimination rather than some legitimate basis—a showing that itself might be made using statistical evidence by taking into account the possibility that individual managers might exercise their discretion differently

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^{19} Id. at 357. In her partial dissent, Justice Ginsburg challenged Justice Scalia’s interpretation of the plaintiff’s statistical evidence, arguing that the plaintiffs’ regression analyses “showed there were disparities within stores” and that the majority was revisiting a factual dispute involving “an arcane disagreement about statistical method” that had been “resolved in the plaintiffs’ favor.” Id. at 372 n.5 (Ginsburg, J., dissenting).

^{20} Id. at 355; but see Brief of Amici Curiae American Sociological Association and the Law and Society Association in Support of Respondents at 17-20, in *Wal-Mart Stores, Inc. v. Dukes*, No. 10-277, 546 U.S. 338 (2011) (describing social science evidence showing “that excessive or unchecked subjective discretion invites biased decisions that can lead to sex-linked disparities among the individuals they supervise”).
and accounting for that variable in the statistical model.\textsuperscript{21} As the Supreme Court held in 
\textit{Bazemore v. Friday},\textsuperscript{22} a plaintiff may seek to establish that a particular employment decision was based on an unlawful criterion (such as race) through multiple regression analysis, which considers the effect of various independent variables (such as “race, education, tenure, and job title” in \textit{Bazemore}) on a dependent variable (such as salary).\textsuperscript{23} As with evidence regarding the discriminatory \textit{effect} of a defendant’s policies or practices, statistical evidence purporting to show a discriminatory \textit{cause} for certain outcomes must be carefully tied to the specific legal claim being pursued in a given case. In \textit{Dukes}, for example, the plaintiffs’ expert used a regression analysis to show that gender discrimination was the cause of promotional disparities between men and women within Wal-Mart.\textsuperscript{24} Justice Scalia concluded, however, that the expert’s regression analysis did not establish causation with respect to the plaintiffs’ challenge to discretionary, store-

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\item \textsuperscript{21} \textit{Dukes}, 564 U.S. at 357-58; see, e.g., \textit{Ellis v. Costco Wholesale Corp.}, 285 F.R.D. 492 (N.D. Cal. 2012) (distinguishing \textit{Dukes} and certifying nationwide class of women “subject to Costco’s [subjective and discretionary] system for promotion to Assistant General Manager and/or General Manager positions”).
\item \textsuperscript{22} 478 U.S. 385 (1986).
\item \textsuperscript{23} \textit{id.} at 398-99; \textit{id.} at 403 n.14 (explaining that “the very purpose of a regression analysis is to organize and explain data that may appear to be random”). Such an analysis should take into account relevant variables, but it need not include “all measurable variables.” \textit{id.} at 401 (“[I]t is clear that a regression analysis that includes less than ‘all measurable variables’ may serve to prove a plaintiff’s case.”). As long as the proposed regression analysis includes enough relevant variables to satisfy the requirements of Rule 702, “failure to include variables will affect the analysis’ probativeness, not its admissibility.” \textit{id.} at 400; see also \textit{id.} at 400 n.10 (noting that “[t]here may, of course, be some regressions so incomplete as to be inadmissible as irrelevant”).
\item \textsuperscript{24} \textit{Dukes}, 546 U.S. at 356.
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level decisions because it did not control for the possibility of store-by-store variations or show that the same results obtained in each store.\textsuperscript{25}

In addition to being used to establish liability, statistical evidence may be used to establish the damages owed to members of a class. Indeed, although a plaintiff need not prove that damages can be established on a classwide basis in order to establish that common issues predominate over individual issues for the purposes of Rule 23(b)(3),\textsuperscript{26} predominance will be far easier to establish where the party seeking certification provides a model for establishing damages on a classwide basis, such as through an expert’s statistical analysis.\textsuperscript{27} Again, that statistical model must be tailored to the specific claims at issue: “[A] model purporting to serve as evidence of damages in [a] class action must measure only those damages attributable to [plaintiff’s] theory of liability.”\textsuperscript{28} In \textit{Comcast}, for example, the Supreme Court concluded that the regression model used by the

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\item \textit{See} 564 U.S. at 356; \textit{cf. Comcast Corp. v. Behrend}, 133 S. Ct. 1426, 1433-34 (2013) (regression analysis by plaintiff’s expert was inadequate where it “failed to measure damages resulting from the particular antitrust injury on which [defendant’s] liability in [the] action is premised”). As noted already, Justice Ginsburg disagreed with the majority’s interpretation of the \textit{Dukes} plaintiffs’ regression analysis. \textit{Supra} note 19; \textit{see also Comcast}, 133 S. Ct. at 1439-40 (Ginsburg, J., dissenting) (accusing the majority of overturning two lower courts’ factual findings regarding “what [plaintiffs’] econometric multiple-regression model is about, what it proves, and how it does so”). The Court’s far more generous approach to the statistical evidence at issue in \textit{Tyson Foods} suggests that the \textit{Dukes} and \textit{Comcast} majority’s willingness “to disturb [the] trial court’s handling of factual disputes” regarding plaintiffs’ regression analyses, \textit{Dukes}, 564 U.S. at 372 n.5 (Ginsburg, J., dissenting), should be understood as reflecting the high stakes of the particular cases before the Court—which involved “one of the most expansive class actions ever,” \textit{id}. at 342, on the one hand, and an antitrust case in which the potential damages award could have exceeded $2.6 billion, on the other, \textit{see Comcast}, 133 S. Ct. at 1431 (calculating damages in excess of $870 million); 15 U.S.C. § 15(a) (providing for treble damages in antitrust cases)—rather than any specialized approach to the use of statistics in class actions generally.

\item \textit{Tyson Foods}, 136 S. Ct. at 1045.
\item \textit{See, e.g., Comcast}, 133 S. Ct. at 1433.
\item \textit{Id}.
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plaintiffs’ expert to calculate classwide damages was insufficient because it “assumed the validity of all four theories of antitrust impact initially advanced by respondents,” even though the trial court had in fact rejected three of those four theories.”29 Because the damages model “failed to measure damages resulting from the particular . . . injury on which [defendant’s] liability in [the] action was premised,” it did not provide a valid basis for establishing damages on a classwide basis.30

The foregoing discussion has focused primarily on the use of statistics to establish facts relating to the merits of employment discrimination claims brought on a class basis. Of course, however, statistical evidence may also be used to establish that a case should be certified as a class action. Indeed, because the “[s]ettlement pressure exerted by class certification may prevent judicial resolution of [merits] issues,”31 many of the most significant recent decisions regarding the use of statistical evidence in class actions—including both Dukes and Comcast—involving interlocutory appeals from class certification rather than appeals from a final judgment on the merits.

In the certification context, statistical evidence is most frequently used to establish the existence of “questions of law or fact” that are common to the class.32 Because “a common question is one where the same evidence will suffice for each member to make a prima facie showing or the issue is susceptible to generalized, class-wide proof,”33

29 Id.
30 Id. at 1433-35.
33 Tyson Foods, 136 S. Ct. at 1045.
statistical evidence establishing such a prima facie case or providing such class-wide proof often provides the most important evidence in support of class certification.

In considering the use of statistical evidence in the particular context of class certification, two principles are particularly important. First, “Rule 23 does not set forth a mere pleading standard,” but instead requires the party seeking certification to “affirmatively demonstrate his compliance with the Rule.”34 The Supreme Court has instructed trial courts to undertake a “rigorous analysis” to ensure that Rule 23’s requirements for class certification are satisfied.35 Accordingly, although the Supreme Court has yet to determine whether the specific gatekeeping requirements for expert testimony established by Rule 702 and Daubert apply at the class certification phase,36 counsel seeking certification should make every effort to ensure that any statistical model relied upon to establish Rule 23’s requirements is adequate to survive a “rigorous analysis” by the trial court.

Second, the class certification inquiry is related to but distinct from the merits inquiry. Because class certification “generally involves considerations that are enmeshed in the factual and legal issues compromising the plaintiff’s cause of action,” the class certification analysis will often “entail some overlap with the merits of the plaintiff’s underlying claim.”37 Dukes and Comcast provide examples of such overlap: In both cases, the failure of the plaintiffs’ statistical evidence was directly related to the elements

34 Dukes, 564 U.S. at 350.
35 Id. at 350-51 (quotation omitted).
36 See, e.g., Comcast, 133 S. Ct. at 1435-36 (Ginsburg, J., dissenting) (noting that Court granted certiorari in Comcast to decide that issue but found that it was not properly presented by the case).
37 Dukes, 564 U.S. at 351 (quotation omitted).
of their underlying claims—in Dukes, the fact that the plaintiffs were challenging discretionary decisions made by store managers on a store-by-store basis, and in Comcast, the fact that the plaintiffs could pursue only one of their four theories of antitrust impact.

At the same time, however, the Supreme Court has emphasized that the scope of the merits inquiry that may be undertaken as part of the class certification analysis is limited. “Rule 23 grants courts no license to engage in free-ranging merits inquires at the certification stage. Merits questions may be considered to the extent—but only to the extent—that they are relevant to determining whether the Rule 23 prerequisites for class certification are satisfied.”38 The “rigorous analysis” requirement mandates that the district court “resolve any factual disputes necessary to determine whether there was a common pattern and practice that could affect the class as a whole,” but the district court need not (and should not) determine whether the class “could actually prevail on the merits of their claims.”39 Where statistical evidence is offered by a plaintiff as “common, classwide proof” and the failure of that evidence would “end[] the case for the class and for all individuals alleged to compose the class” rather than merely requiring the introduction of individualized rather than classwide proof, class certification may be appropriate even though there are significant questions regarding whether that classwide evidence will ultimately be sufficient for plaintiffs to succeed on the merits.40

Finally, when considering the use of statistical evidence in employment discrimination class actions for any purpose, it is important to note that although Tyson Foods establishes that statistical evidence may be used to establish liability, damages, or

38 Amgen, 133 S. Ct. at 1194-95.
40 Amgen, 133 S. Ct. at 1199; see also Tyson Foods, 136 S. Ct. at 1047.
the prerequisites for class certification, *Dukes* is nonetheless important in holding that defendants must be provided with an opportunity to rebut such statistical evidence through either classwide or individualized evidence. In a portion of the *Dukes* opinion joined by all nine Justices, Justice Scalia rejected the Ninth Circuit’s suggestion that Wal-Mart’s “liability for sex discrimination and the backpay owing as a result” could be determined exclusively by evaluating the claims of a “sample set of the class members” and applying the results generated from that sample to the class as a whole—an approach that the Supreme Court characterized as “Trial by Formula.”41 The Court explained that such an approach was impermissible because Wal-Mart was “entitled to litigate its statutory defenses to individual claims.”42 While an employment discrimination class action plaintiff may use reliable statistical evidence to establish liability, damages, or the propriety of class certification, the trial plan should permit the defendant to raise any individualized defenses that may be available to the class claims, such as by showing that particular employees or groups of employees were not harmed or are not eligible for particular forms of relief. Of course, however, the trial court need not permit the defendant to call every single class member as a witness at trial; the court can instead impose reasonable trial time limits on both sides.43

41 564 U.S. at 367.

42 *Id.*

43 See, e.g., *Manual for Complex Litigation, Fourth* §12.35 (“Limits on time and evidence are ordinarily set at the pretrial conference so that counsel can plan accordingly before the trial begins.”); *Butler v. Home Depot*, No. C–94–4335 SI (N.D. Cal.) (Ilston, J.) (setting limit of 100 hours per side in gender discrimination class action involving job assignments, compensation, and promotions).