A Balancing Equation for Social Media Publication Notice

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INTRODUCTION

Imagine that a court allows a social media site and its users to settle a suit about whether the site improperly tracked its users' online behavior.[1] As part of approving the settlement, the court requires the parties to publish notice in the print editions of *The New York Times* and *The Wall Street Journal*. Several months after the court approves the settlement, an individual user of the site, unaware of the settled class action, brings her own claim against the social media site. Unfortunately, this plaintiff reads only *New York Times* articles that her colleagues post on Facebook and *Wall Street Journal* articles that her friends retweet on Twitter, so she never saw the parties' print ads. The court now must decide whether the parties complied with Federal Rule of Civil Procedure (FRCP) 23, which governs class action notice. If the court holds that publishing print ads in two nationwide newspapers satisfies FRCP 23 because "that's the way it has always been done,"[2] then the parties' settlement binds this plaintiff. If, on the other hand, the court decides that FRCP 23 requires the parties to publish notice using new forms of technology—even if such notice reaches individuals outside the class—then the plaintiff can still pursue her claim.[3]

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1 This hypothetical draws on the facts of *Lane v Facebook, Inc*, 696 F3d 811, 816–18 (9th Cir 2012), and the procedural posture of *Hecht v United Collection Bureau, Inc*, 691 F3d 218, 220–21 (2d Cir 2012).

2 *In re Scotts EZ Seed Litigation*, 2015 WL 5502053, *2 (SDNY) (critiquing the defendants' argument that the court should require newspaper publication).

3 See *Hecht*, 691 F3d at 224–25 (finding that the plaintiff was not bound by the settlement because mere newspaper announcement did not meet due process requirements, and adopting the argument that "the defendant could have also undertaken a more extensive notification campaign—including electronic media").

Because an individual has a property interest in her right to bring a claim,[4] the Fifth and Fourteenth Amendments prevent the government from disposing of her suit without due process.[5] But, because parties often cannot notify—or even identify—each member of a class, courts must weigh the trade-off between providing notice on the one hand and moving forward with litigation on the other.[6] To that end, *Mullane v Central Hanover Bank & Trust Co*[7] (which establishes the relationship between notice and due process[8]) and FRCP 23 allow courts and parties to consider the facts and circumstances of the class action when crafting their notice plans. FRCP 23 requires parties to provide "the best notice that is practicable" to class members.[9] This includes contacting any individual "members who can be identified through reasonable effort."[10] Otherwise, parties may meet FRCP 23's requirement by publishing notice in a form that "is not substantially less likely to bring home notice than other of the feasible and customary substitutes."[11]

Traditionally, parties complied with FRCP 23's publication notice requirement by running newspaper advertisements.[12] As new technologies allowed parties to publish notice using other "feasible and customary substitutes,"[13] however, courts determined whether the rule required parties to do more to provide adequate publication notice.[14] Most recently, courts have addressed whether FRCP 23 allows—or even requires—parties to

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4 *Phillips Petroleum Co v Shutts*, 472 US 797, 807 (1985) ("[A] chose in action is a constitutionally recognized property interest."). See also Martin H. Redish and Nathan D. Larsen, *Class Actions, Litigant Autonomy, and the Foundations of Procedural Due Process*, 95 Cal L Rev 1573, 1589–90 (2007) ("A legal claim has long been recognized as a form of property.").

5 US Const Amend V; US Const Amend XIV, § 1.

6 See *Hansberry v Lee*, 311 US 32, 41–42 (1940) (noting that actual notice for all class members is impracticable and restricting due process violations to cases in which notice procedures do not "fairly insure[ ] the protection of the interests of absent parties").

7 339 US 306 (1950).

8 See id at 314.

9 FRCP 23(c)(2)(B).

10 FRCP 23(c)(2)(B).

11 *Mullane*, 339 US at 315.

12 See id at 309–10 (describing the newspaper publication strategy utilized by the defendant in the case); *Mirfasihi v Fleet Mortgage Corp*, 356 F3d 781, 786 (7th Cir 2004) ("When individual notice is infeasible, notice by publication in a newspaper of national circulation . . . is an acceptable substitute.").

13 *Mullane*, 339 US at 315.

14 See, for example, *Baidoo v Blood–Dzraku*, 5 NYS3d 709, 715 (NY Sup 2015) (arguing that, in the context of service of process, publication notice "is almost guaranteed *not* to provide a defendant with notice of the action"); *Mirfasihi*, 356 F3d at 786 ("[I]n this

publish notice using the Internet and social media. Many notice plans now include a social media component,[15] and most courts allow parties to provide publication notice using targeted social media banner ads.[16] In contrast, courts only sometimes allow or compel parties to provide native or integrated social media notice[17] by, for example, posting information to their Facebook pages

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age of electronic communications, newspaper notice alone is not always an adequate alternative to individual notice."); *In re "Agent Orange" Product Liability Litigation*, 818 F2d 145, 167–68 (2d Cir 1987) (discussing additional forms of substitute notice, including advertisements on radio and television). For examples of commentators arguing that, in light of new technologies, courts should reconsider whether newspaper publication satisfies FRCP 23's "best notice that is practicable" standard, see Jennifer Lee Case, Note, *Extra! Read All about It: Why Notice by Newspaper Publication Fails to Meet* Mullane*'s Desire-to-Inform Standard and How Modern Technology Provides a Viable Alternative*, 45 Ga L Rev 1095, 1118–24 (2011) (suggesting that due to population mobility, declining newspaper readership, and increasing internet usage, newspapers no longer provide constitutionally adequate methods of notice); Jordan S. Ginsberg, Comment, *Class Action Notice: The Internet's Time Has Come*, 2003 U Chi Legal F 739, 753 ("Courts mistakenly assume . . . that print media publication is the most accessible, fair, and efficient means of appealing to a large group of geographically diverse individuals."); Brian Walters, *"Best Notice Practicable" in the Twenty-First Century*, 7 UCLA J L & Tech *1, 7–16 (2003), archived at http://perma.cc/TJ4L-5AR4 (arguing that the Internet, not newspapers, provides the "best notice practicable").

15 See Erin Coe, *Social Media Class Notices Gain Traction but Carry Risks* (Law360, Apr 24, 2015), archived at http://perma.cc/JKZ6-DHGG (reporting an estimate that 15 percent to 20 percent of current class action settlements include a "social media or digital notice component").

16 Traditional banner advertisements typically appear in standard-sized rectangles located above the main body of a website. All users see the same banner advertisements. Targeted banner ads rely on "a vast infrastructure designed to track [users'] movements across the web to improve the effectiveness of ads." Farhad Manjoo, *Fall of the Banner Ad: The Monster That Swallowed the Web* (NY Times, Nov 5, 2014), online at http://nytimes.com/2014/11/06/technology/personaltech/banner-ads-the-monsters-that-swallowed-the-web.html (visited Oct 11, 2016) (Perma archive unavailable).

17 In contrast to banner ads, which are distinct from the website's body and content, integrated or native social media advertisements appear "seamlessly" on social media websites alongside stories about a user's "friends, family and the things they care about." *How People See Ads* (Facebook), archived at http://perma.cc/5KGK-SZHX. See also *Native Advertising: A Guide for Businesses* (FTC, Dec 2015), archived at http://perma.cc/CRU4-QURX (defining native advertising as "content that bears a similarity to the news, feature articles, product reviews, entertainment, and other material that surrounds it online," and providing guidance for when businesses should disclose that integrated content is native advertising); Tony Hallett, *What Is Native Advertising Anyway?* (The Guardian), archived at http://perma.cc/GL2N-2P6N ("The difference between display ads online . . . and native ads is that the latter are in the flow of editorial content.").

to cause fans or followers to receive updates[18] or purchasing an ad integrated into a user's Dashboard on Tumblr.[19]

Taken together, these decisions raise questions about how courts do and should weigh the costs of over- and underinclusive FRCP 23 publication notice, creating uncertainty for litigants who propose novel notice plans and for courts faced with new technologies. For example, current case law fails to systematically explain why courts allow parties to publish notice on Facebook using targeted banner ads, but courts sometimes prevent parties from updating their Facebook pages to notify class members using native social media ads. Similarly, these decisions do little to help litigants predict why courts prohibit some parties from publishing notice using native social media ads, but allow other litigants to publish native social media notice by sending Facebook notifications to their fans. More generally, existing cases fail to explain how courts evaluate whether the new forms of publication notice satisfy FRCP 23. As courts evaluate more social media notice plans, litigants need to know when courts will allow parties to publish notice using new technologies and when they will not.[20]

This Comment answers these questions—and in so doing, provides guidance to future litigants and courts trying to decide whether a new form of publication notice satisfies FRCP 23—by developing, testing, and applying a predictive model of when courts will and should decide that publication notice ensures due process.[21] Part I explains FRCP 23's notice requirements and introduces both *Mullane*'s two-pronged notice test and the *Mathews*

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[18] See *Marketing on Facebook Starts with a Page* (Facebook), archived at http://perma.cc/J247-A7A4 (describing how businesses can promote content so that customers see the information in their "News Feed—the constantly updating list of stories on Facebook").

[19] See *Hello, Brands.* (Tumblr), archived at http://perma.cc/WU5S-J3BF (describing how companies can create sponsored posts targeted to appear to specific demographics of users). For examples of how courts have decided cases involving native social media notice, see Part III.B.2.

[20] See *April 2015: Class Action Litigation Update* (Quinn Emanuel Urquhart & Sullivan, LLP), archived at http://perma.cc/6TVJ-T3T9 ("As the number of social networking sites and users continues to grow, we expect courts to further develop additional innovations and parameters for the role of social media in Rule 23.").

[21] The methodology borrows from and loosely follows the use of in-sample and out-of-sample data in predictive modeling. See generally Peter Reinhard Hansen and Allan Timmermann, *Choice of Sample Split in Out-of-Sample Forecast Evaluation* (Feb 7, 2012), archived at http://perma.cc/25HJ-K8PA. The Comment builds a model using cases that do not involve native social media ads, then tests the model using a *different*, out-of-sample set of native social media cases.

v Eldridge[22] balancing equation. Part I also compares *Mullane* and *Mathews* and argues that even after the Supreme Court's decision in *Dusenbery v United States*,[23] courts can, must, and do balance the costs of over- and underinclusive notice. Part II analyzes past decisions to model *how* courts balance the costs of over- and underinclusion. Based on how courts already think about publication notice, Part II builds a predictive model and hypothesizes that courts implicitly use that model to weigh the costs of over- and underinclusive publication notice. Part III first provides an overview of social media, differentiates between traditional banner advertisements and native social media ads, and uses existing cases involving social media publication notice to identify several puzzling results. To evaluate this Comment's hypothesis, Part III then tests whether this Comment's predictive model reconciles or explains such cases. Because this Comment's balancing equation successfully explains past decisions, Part IV uses the balancing equation to make predictions and normative claims about how courts will and should decide whether to approve future publication notice plans.

I. NOTICE UNDER FRCP 23

When the drafters of the 1966 amendments to the FRCP rewrote FRCP 23, they chose to create an opt-out class action device.[24] Under this opt-out structure, a court's decision binds class members and prevents them from litigating their claims on their own.[25] In contrast to opt-out class actions under FRCP 23, *opt-in* actions, like those maintained under the Fair Labor Standards

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22 424 US 319 (1976).

23 534 US 161 (2002).

24 See FRCP 23, Advisory Committee Notes to the 1966 Amendments.

25 See FRCP 23(c)(3)(A) (requiring that judgments in certain class actions "include and describe those whom the court finds to be class members"); FRCP 23(c)(2)(B)(vii) (instructing courts to inform class members in other class actions of the "binding effect of a class judgment"); *LaChapelle v Owens–Illinois, Inc*, 513 F2d 286, 288 (5th Cir 1975) (per curiam) (noting that in FRCP 23 class actions, judgment binds all members of the class). See also Charles Alan Wright, Arthur R. Miller, and Mary Kay Kane, 7AA *Federal Practice and Procedure* § 1789 at 553 (West 3d ed 2005) ("The obvious implication of Rule 23(c)(3) is that anyone properly listed in the judgment should be bound by it absent some special reason for not doing so."); FRCP 23(c)(3), Advisory Committee Notes to the 1966 Amendments (emphasizing that a judgment in a class action, "whether it is favorable or unfavorable to the class," "embrace[s] . . . those to whom the notice prescribed by subdivision (c)(2) was directed, excepting those who requested exclusion or who are ultimately found by the court not to be members of the class").

Act of 1938[26] (FLSA), bind only those plaintiffs who have affirmatively chosen to become part of the class.[27] As a result, whereas notice in opt-in actions helps litigants and courts realize efficiency benefits by combining suits,[28] notice in opt-out class actions protects class members' due process rights.[29] Because the drafters of the 1966 amendments to the FRCP recognized that a court must provide notice to class members to ensure due process,[30] FRCP 23 allows or requires courts to notify potential class members at several crucial points during class action litigation.[31]

In its current form, FRCP 23 allows courts to certify three types of classes depending on the nature of the claims the class members assert.[32] FRCP 23(b)(1) and (b)(2) describe classes with members whose claims address the same legal question or who have suffered the same injury.[33] Members of (b)(3) classes, however, have each suffered their own individual injury and often

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26 52 Stat 1060, codified as amended at 29 USC § 201 et seq.

27 See 29 USC § 216(b) ("No employee shall be a party plaintiff to any such action unless he gives his consent in writing to become such a party."). See also *Schmidt v Fuller Brush Co*, 527 F2d 532, 536 (8th Cir 1975) (per curiam) (noting that actions under the FLSA bind only class members who opt in to the suit, notwithstanding the opt-out mechanism provided by FRCP 23).

28 See *Hoffmann-La Roche Inc v Sperling*, 493 US 165, 170 (1989) (noting that a "collective action allows . . . plaintiffs the advantage of lower individual costs").

29 See *Hansberry v Lee*, 311 US 32, 43 (1940) (holding that, in a class action or representative suit, "members of the class who are present are, by generally recognized rules of law, entitled to stand in judgment for those who are not" only if the "procedure . . . satisf[ies] the requirements of due process"). See also *In re Penthouse Executive Club Compensation Litigation*, 2014 WL 185628, *7 (SDNY) ("FLSA collective actions do not implicate the same due process concerns as Rule 23 actions.").

30 See FRCP 23(d)(2), Advisory Committee Notes to the 1966 Amendments (stating that the rule's notice requirements are "designed to fulfill requirements of due process to which the class action procedure is of course subject"). See also Benjamin Kaplan, *Continuing Work of the Civil Committee: 1966 Amendments of the Federal Rules of Civil Procedure (I)*, 81 Harv L Rev 356, 392 (1967) (arguing that FRCP 23's notice requirements "join[ ] with other features of the new rule in helping to justify the ultimate extension of the judgment in (b)(3) cases to all members of the class, except those who requested exclusion from the action").

31 See FRCP 23(c)(2)(A) (allowing class certification notice to (b)(1) and (b)(2) classes); FRCP 23(c)(2)(B) (requiring class certification notice to (b)(3) classes); FRCP 23(d)(1)(B) (allowing notice to class members about developments in the case); FRCP 23(e)(1) (requiring notice to class members who will be bound by a settlement, voluntary dismissal, or compromise); FRCP 23(h)(1) (requiring notice for an award of attorney's fees).

32 FRCP 23(b). See also *Amchem Products, Inc v Windsor*, 521 US 591, 613–19 (1997) (describing the three types of class actions under FRCP 23(b)). For an explanation of how FRCP 23(b) operates and additional details about each of FRCP 23(b)'s three class action types, see Wright, Miller, and Kane, 7AA *Federal Practice and Procedure* §§ 1772, 1775, 1777 (cited in note 25).

33 See FRCP 23(b)(1)–(2).

have strong incentives to litigate on their own.[34] Nonetheless, FRCP 23(b)(3) allows a court to certify a (b)(3) class when it "finds that the questions of law or fact common to class members predominate . . . and that a class action is superior to other available methods for fairly and efficiently adjudicating the controversy."[35]

This Part explains differences between the relevant notice provisions in FRCP 23, describes how FRCP 23 operates in practice, and analyzes how the Supreme Court's decisions about due process in general—and publication notice in particular—govern courts' evaluations of publication notice under FRCP 23. This Part concludes by arguing that, even in light of the Supreme Court's decision in *Dusenbery*, courts can, must, and do evaluate publication notice by balancing the costs of over- and underinclusion.

A. Class Certification Notice under FRCP 23(c)

Whether and how the court must notify potential class members depends on what type of class the court certifies.[36] The more closely a typical class representative in that type of class would share the interests of the other class members, the less notice FRCP 23 requires.[37] For example, members of (b)(1) and (b)(2) classes generally suffered the same injuries and seek the same relief.[38] Moreover, unlike members of a (b)(3) class, (b)(1) and (b)(2) class members have no opportunity to opt out of the class

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[34] See FRCP 23(c)(2), Advisory Committee Notes to the 1966 Amendments. See also Kaplan, 81 Harv L Rev at 389–94 (cited in note 30) (describing individual incentives in a (b)(3) class).

[35] FRCP 23(b)(3).

[36] See FRCP 23(c)(2) (differentiating between notice for (b)(1) and (b)(2) classes on the one hand and notice for (b)(3) classes on the other).

[37] See *Battle v Liberty National Life Insurance Co*, 770 F Supp 1499, 1515 (ND Ala 1991) (explaining that the notice provisions in FRCP 23 "are premised on th[e] notion that the less the interests of individual members coincide with those of other members or the representatives, the greater will be the class notice demanded by due process"). See also Wright, Miller, and Kane, 7AA *Federal Practice and Procedure* § 1786 at 496 (cited in note 25) (noting that because actions brought under FRCP 23(b)(1) and (b)(2) will have "more cohesive" classes, "there is less reason to be concerned about each member of the class having an opportunity to be present").

[38] See FRCP 23(b)(3), Advisory Committee Notes to the 1966 Amendments (noting that classes certified under FRCP 23(b)(1) and (b)(2) more clearly call for class action); FRCP 23(c)(2), Advisory Committee Notes to the 1966 Amendments (distinguishing (b)(3) classes from (b)(1) and (b)(2) classes because members of (b)(3) classes have strong individual interests); Kaplan, 81 Harv L Rev at 386–90 (cited in note 30) (implying that all (b)(1) and (b)(2) classes naturally call for class action). See also Wright, Miller, and Kane, 7AA *Federal Practice and Procedure* § 1786 at 496 (cited in note 25) (describing (b)(1) and (b)(2) classes as "generally . . . more cohesive").

and litigate on their own.[39] Because (b)(1) and (b)(2) class members share similar interests and have no opportunity to opt out, the FRCP and courts expect that the named class representatives likely protect the interests of the class as a whole.[40] As a result, FRCP 23 allows the court to exercise discretion in deciding whether to provide notice to such class members because class representatives already protect their interests.[41]

Whereas members of (b)(1) and (b)(2) classes share similar interests in a claim,[42] members of (b)(3) classes often suffered more individualized injuries and so may have strong incentives to litigate on their own.[43] In fact, potential (b)(3) class members might have such strong individual interests that the court declines to certify the class.[44] Even if the court agrees to certify the class, FRCP 23(b)(3) allows individual class members to opt out of the class and bring their own suits.[45] To protect these individual interests and ensure individual class members have the opportunity to opt out, the drafters of the 1966 amendments rewrote FRCP 23 to *require* courts to direct notice to potential (b)(3) class members.[46] According to the drafters, FRCP 23(c)(2)(B)'s notice provision "touches off the possibility" that a class member with injuries and claims for relief that differ from the rest of the class will pursue his claim on his own.[47] In particular, FRCP 23(c)(2)(B)

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39 See FRCP 23(e)(3), Advisory Committee Notes to the 2003 Amendments ("The opportunity to request exclusion from a proposed settlement is limited to members of a (b)(3) class.").

40 See FRCP 23(c)(2), Advisory Committee Notes to the 2003 Amendments (explaining that "[n]otice calculated to reach a significant number of class members often will protect the interests of all"). See also, for example, *Larionoff v United States*, 533 F2d 1167, 1186 (DC Cir 1976) (noting that (b)(1) class members likely have "little interest . . . in controlling and directing their own separate litigation" and so (b)(1) classes are "likely to be more unified"); Wright, Miller, and Kane, 7AA *Federal Practice and Procedure* § 1786 at 496 (cited in note 25) ("[I]t is reasonably certain that the named representatives [in (b)(1) or (b)(2) classes] will protect the absent members.").

41 See FRCP 23(c)(2)(A) (noting that "the court *may* direct appropriate notice" to classes certified under FRCP 23(b)(1) or 23(b)(2)) (emphasis added). See also Wright, Miller, and Kane, 7AA *Federal Practice and Procedure* § 1786 at 500 (cited in note 25) (discussing how FRCP 23(c)(2)(A) creates only a discretionary duty for courts to provide notice to (b)(1) and (b)(2) classes).

42 See Wright, Miller, and Kane, 7AA *Federal Practice and Procedure* § 1786 at 496 (cited in note 25).

43 See FRCP 23(c)(2), Advisory Committee Notes to the 1966 Amendments.

44 See FRCP 23(c)(2), Advisory Committee Notes to the 1966 Amendments. See also FRCP 23(b)(3)(A) (instructing courts to consider "class members' interests in individually controlling the [litigation]").

45 See FRCP 23(c)(2), Advisory Committee Notes to the 1966 Amendments.

46 See FRCP 23(c)(2), Advisory Committee Notes to the 1966 Amendments.

47 Kaplan, 81 Harv L Rev at 392 (cited in note 30).

mandates that courts "direct to [(b)(3)] class members the best notice that is practicable under the circumstances, including individual notice to all members who can be identified through reasonable effort."[48]

B. Settlement Notice under FRCP 23(e)

In addition to mandating that a court notify class members when it certifies a (b)(3) class, FRCP 23 also requires the court to notify class members when the parties settle, compromise, or agree to dismiss their claims.[49] In particular, FRCP 23(e)(1) cautions that before accepting "a proposed settlement, voluntary dismissal, or compromise," "[t]he court must direct notice in a reasonable manner to all class members who would be bound by the proposal."[50] As a result, by forcing the parties to *send* notice again, FRCP 23(e) affords absent class members an additional opportunity to *receive* notice, weigh their options, and decide whether to opt out.[51]

Although the drafters of FRCP 23 recognized the importance of guaranteeing class members a final chance to opt out,[52] FRCP 23(e)(1) demands less notice than does FRCP 23(c)(2)(B).[53] In practice, however, parties frequently seek certification and agree to settle in a single action.[54] In such settlement class actions, courts require parties to provide notice to potential members of the settlement class under the heightened notice requirements in FRCP 23(c)(2)(B).[55] Nonetheless, because the parties in

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48 FRCP 23(c)(2)(B).

49 FRCP 23(e)(1).

50 FRCP 23(e).

51 See FRCP 23(e)(3), Advisory Committee Notes to the 2003 Amendments (noting that once the parties have reached the stage of settlement, compromise, or dismissal, "[a] decision to remain in the class is likely to be more carefully considered and [ ] better informed").

52 See FRCP 23(e)(3), Advisory Committee Notes to the 2003 Amendments.

53 Compare FRCP 23(e)(1) ("The court must direct notice in a reasonable manner."), with FRCP 23(c)(2)(B) ("[T]he court must direct to [(b)(3)] class members the best notice that is practicable under the circumstances."). See also *Larson v Sprint Nextel Corp*, 2009 WL 1228443, *2–3 (D NJ) (differentiating the more stringent notice standard under FRCP 23(c)(2) from the more lenient notice contemplated by FRCP 23(e)(1)); *Zimmer Paper Products, Inc v Berger & Montague, PC*, 758 F2d 86, 90 (3d Cir 1985) (noting that FRCP 23(c)(2) establishes a "higher notice standard" than FRCP 23(e)).

54 See *Amchem*, 521 US at 618 (noting that "the 'settlement only' class has become a stock device"). For an overview of such actions, see Charles Alan Wright, Arthur R. Miller, and Mary Kay Kane, 7B *Federal Practice and Procedure* § 1797.2 (West 3d ed 2005).

55 See, for example, *Larson v AT&T Mobility LLC*, 687 F3d 109, 123–31 (3d Cir 2012) (analyzing settlement notice under FRCP 23(c)(2)(B)); *In re Warfarin Sodium Antitrust Litigation*, 391 F3d 516, 536–37 (3d Cir 2004) (same); *Larson*, 2009 WL 1228443 at *2–3;

a settlement class action have, by definition, reached agreement, the parties rarely disagree about how to notify potential class members.[56] Instead, objections to settlement notice usually come from absent class members who later argue that, because the parties provided insufficient notice, they should not be prevented from litigating claims on their own.[57]

C. FRCP 23, Publication Notice, and Due Process

The Advisory Committee on Rules of Civil Procedure and the Supreme Court agree that the Due Process Clauses in the Fifth and Fourteenth Amendments govern class action suits.[58] Nonetheless, courts must trade off class members' due process right to receive notice on the one hand and the prompt resolution of the class action suit on the other. So, in some circumstances, FRCP 23(c)(2)(B) only requires parties to provide publication notice. In *Mullane* and *Mathews*, the Supreme Court developed two tests for courts to evaluate these types of due process trade-offs. This Section describes *Mullane* and *Mathews*, explains how *Mullane* established the due process standard courts use to evaluate class action publication notice, and introduces the *Mathews* balancing test. Although the Supreme Court distinguished *Mullane* and *Mathews* in *Dusenbery*, this Section follows the tradition of applying *Mathews* outside its administrative law origins[59] to suggest that, when courts consider whether publication notice satisfies FRCP 23, *Mathews* and *Mullane* create the same balancing test. In particular, this Section argues that, because *Dusenbery* applies

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Grunewald v Kasperbauer, 235 FRD 599, 609 (ED Pa 2006); *Thomas v NCO Financial Systems, Inc*, 2002 WL 1773035, *7 (ED Pa).

56 See *Judges' Class Action Notice and Claims Process Checklist and Plain Language Guide: 2010* *2 (Federal Judicial Center), archived at http://perma.cc/PPM9-RPZP (cautioning courts to be wary of notice plans submitted "in the diminished adversarial posture" of a settlement class action).

57 See, for example, *Hecht v United Collection Bureau, Inc*, 691 F3d 218, 221, 224–26 (2d Cir 2012) (applying the notice standards for FRCP 23(c)(2)(B) to allow a member of a (b)(2) class to litigate individually because the parties failed to provide constitutionally adequate settlement notice). See also Kaplan, 81 Harv L Rev at 396 n 154 (cited in note 30) (describing the circumstances in which an absent class member can challenge the constitutionality of notice after a court has approved settlement).

58 See FRCP 23(d)(2), Advisory Committee Notes to the 1966 Amendments (explaining that the notice provisions in FRCP 23 are "designed to fulfill requirements of due process to which the class action procedure is of course subject"); *Hansberry*, 311 US at 40 (noting that it is the Court's duty "to ascertain whether the litigant whose rights have thus been adjudicated has been afforded such notice and opportunity to be heard as are requisite to the due process which the Constitution prescribes").

59 See text accompanying notes 87–92.

only when parties can identify and locate individual class members, when class members cannot be located with reasonable effort, *Mullane* requires courts to balance the costs and benefits of different forms of publication notice. As a result, this Section concludes that, even after *Dusenbery*, when parties cannot locate individual class members, they can, must, and do use a *Mathews*-like balancing approach to evaluate publication notice under FRCP 23.

1. Using *Mullane* and *Mathews* to evaluate due process.

In *Mullane*, the Supreme Court developed a test to evaluate whether a plan to provide notice to parties absent from collective litigation satisfies the Fourteenth Amendment's due process guarantee.[60] Central Hanover Bank and Trust Company established a common trust fund and sought to resolve a total of 113 trusts by filing a petition for judicial settlement.[61] Abiding by the procedures required by New York law, Central Hanover Bank notified the members of the trust that it had applied to settle their accounts by publishing notice in a single local newspaper.[62] Kenneth Mullane, the court-appointed guardian for members of the trust with interests in the income, brought suit, arguing that this notice failed to satisfy due process.[63]

To resolve Mullane's suit, the Supreme Court articulated and applied two distinct standards for courts to use to evaluate whether notice satisfies due process.[64] When a party knows the names and addresses of other absent, interested parties, it must provide individual notice in a manner "reasonably calculated to reach interested parties."[65] Because individuals read notices in a newspaper through "[c]hance alone,"[66] the Court concluded that, if Central Hanover Bank knew the names and addresses of trust

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60 *Mullane*, 339 US at 314–15.

61 Id at 309.

62 Id.

63 Id at 310–11.

64 *Mullane*, 339 US at 315 ("[T]he constitutional validity of any chosen method may be defended on the ground that it is in itself reasonably certain to inform those affected . . . or, where conditions do not reasonably permit such notice, that the form chosen is not substantially less likely to bring home notice than other . . . substitutes.").

65 Id at 318.

66 Id at 315.

holders, the Fourteenth Amendment required it to send them individual notice.[67] In contrast, when a party cannot identify or locate interested parties, due process requires the party to publish notice in a "form . . . not substantially less likely to bring home notice than other of the feasible and customary substitutes."[68] As a result, the Court concluded that, if Central Hanover Bank could not reasonably locate certain trust members, it could notify them by publication in a newspaper.[69]

When the Advisory Committee amended FRCP 23 in 1966, it expected *Mullane* to govern the due process standard for class notice—and specifically cited *Mullane* in its advisory notes.[70] Following the Advisory Committee's lead, courts apply *Mullane*'s two-pronged test to determine whether a class action notice plan satisfies due process.[71] When parties can identify the names and .addresses of class members "through reasonable effort," courts interpret FRCP 23(c)(2)(B) to require the class representative to provide individual notice, no matter how great the cost.[72] On the other hand, when parties cannot locate or identify potential class members, as long as parties provide the "best notice that is practicable under the circumstances," courts approve publication notice plans under FRCP 23 even if not all class members will be notified.[73] Although the FRCP place the burden on the court to

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67 Id at 318.

68 *Mullane*, 339 US at 315.

69 Id at 317.

70 See FRCP 23(d)(2), Advisory Committee Notes to the 1966 Amendments (explaining that Rule 23 "fulfill[s the] requirements of due process" and citing *Mullane*, among other cases, as evidence and explanation of those requirements). See also Kaplan, 81 Harv L Rev at 396 (cited in note 30) (describing that Rule 23 recognizes that "[n]otice which is fair in the circumstances of the case is a constitutional requirement" and citing *Mullane* for the proposition that "perfect notice" becomes unnecessary when a sufficiently large and diverse set of the population receives notice).

71 See, for example, *Eisen v Carlisle & Jacquelin*, 417 US 156, 173–75 (1974) (citing FRCP 23 and *Mullane* and concluding that "[i]ndividual notice must be sent to all class members whose names and addresses may be ascertained through reasonable effort"). See also *In re "Agent Orange" Product Liability Litigation*, 818 F2d 145, 168 (2d Cir 1987) (discussing how *Mullane* impacts the court's assessment of notice under Rule 23).

72 *Eisen*, 417 US at 173–77.

73 *Mullins v Direct Digital, LLC*, 795 F3d 654, 665 (7th Cir 2015) (noting that, "[w]hen class members' names and addresses are [not] known or knowable, . . . alternative means" of notice are acceptable even if they will not provide "actual notice to all class members").

provide notice,[74] in practice, courts delegate to the parties the responsibility—and the cost, no matter how great[75]—of creating a notice plan and notifying potential class members.[76]

While in *Mullane* the Court directly confronted a notice plan, in *Mathews* the Court resolved a line of cases addressing whether the procedural due process components of the Fifth and Fourteenth Amendments require the government to hold administrative hearings before taking property.[77] The plaintiff argued that the Fifth Amendment's Due Process Clause required the Social Security Administration to hold a hearing before terminating his disability benefits.[78] According to the *Mathews* Court, when deciding whether due process requires a pretermination hearing, courts must weigh three factors:[79] First, courts must consider the party's private interest in the property at stake.[80] Second, courts must consider the risk that the existing procedure will result in an error and determine how much, if at all, the additional procedure will reduce the likelihood of error.[81] Third, courts must consider the costs to the government of mandating and carrying out the additional procedure.[82] Under this balancing test, once courts have measured each factor, they should require additional procedure when the party's private interest, multiplied by the increased probability of accurate adjudication, exceeds the government's cost.[83] In *Connecticut v Doehr*,[84] the Court adopted the

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74 FRCP 23(c)(2)(B) ("[T]he *court* must direct to class members the best notice practicable under the circumstances.") (emphasis added).

75 See *Eisen*, 417 US at 176 ("There is nothing in Rule 23 to suggest that the notice requirements can be tailored to fit the pocketbooks of particular plaintiffs.").

76 See *Oppenheimer Fund, Inc v Sanders*, 437 US 340, 354 & n 21 (1978) ("Although Rule 23(c)(2) states that 'the court shall direct' notice to class members, it commonly is agreed that the court should order one of the parties to perform the necessary tasks.").

77 *Mathews*, 424 US at 332–35.

78 Id at 323–24. Although the Due Process Clause protects only liberty and property interests, the Court held that George Eldridge had a "'property' interest protected by the Fifth Amendment" in his Social Security disability benefits. Id at 332–33.

79 Id at 334–35.

80 Id at 335.

81 *Mathews*, 439 US at 335.

82 Id.

83 In mathematical terms, then, *Mathews* instructs courts to provide additional procedure when Private Interest * Δp(Accuracy) > Cost. For a clear illustration of how courts calculate and then balance the *Mathews* factors, see *Van Harken v City of Chicago*, 103 F3d 1346, 1351–52 (7th Cir 1997). See also Richard A. Posner, *Economic Analysis of Law* § 21.1 (Aspen 8th ed 2011) (describing "[t]he [e]conomic [g]oals of [p]rocedure," including the *Mathews* balancing test, in terms of cost-benefit analysis); Andrew Blair-Stanek, Twombly *Is the Logical Extension of the* Mathews v. Eldridge *Test to Discovery*, 62 Fla L Rev 1, 15–17 (2010) (explaining how courts apply the *Mathews* balancing test).

84 501 US 1 (1991).

Mathews test for suits between individuals that raise procedural due process claims.[85] In such suits, the Court held that when courts apply the *Mathews* test, they should consider the cost to the opposing party, rather than the cost to the government.[86]

Although the *Mathews* test explicitly addresses only whether the Due Process Clause requires courts to provide pretermination hearings, courts apply *Mathews* more broadly in a variety of situations in which courts balance the costs and benefits of due process. In fact, three years after it decided *Mathews*, the Supreme Court described the *Mathews* test as a "general approach for testing challenged state procedures under a due process claim."[87] As a result, the Court has relied on the *Mathews* balancing framework to evaluate, for example, the state's burden of proof in proceedings to terminate parental rights[88] and those to civilly commit a patient.[89] Commentators have also read *Mathews* broadly, arguing that *Mathews* explains the Supreme Court's decision in *Bell Atlantic Corp v Twombly*[90] and that courts should use the *Mathews* balancing framework to evaluate whether due process requires courts to offer class members opt-out rights[91] and to decide whether Internet service of process satisfies FRCP 4.[92]

2. Comparing *Mathews* and *Mullane* in light of *Dusenbery*.

In *Dusenbery*, the Court considered the relationship between *Mathews* and *Mullane* in the context of individual notice.[93] After seizing Larry Dusenbery's property during a drug raid and determining that it would not use the property as evidence, the FBI initiated forfeiture proceedings.[94] Even though the FBI sent a certified letter to Dusenbery's prison address, there was no record that Dusenbery ever actually received the letter informing him that

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85 Id at 10–11.

86 See id at 11.

87 *Parham v J.R.*, 442 US 584, 599–600 (1979).

88 See *Santosky v Kramer*, 455 US 745, 758 (1982).

89 See *Addington v Texas*, 441 US 418, 425 (1979).

90 550 US 544 (2007). For an example of such commentary, see Blair-Stanek, 62 Fla L Rev at 17–32 (cited in note 83).

91 See Steven T.O. Cottreau, Note, *The Due Process Right to Opt Out of Class Actions*, 73 NYU L Rev 480, 513–28 (1998); Harvey Rochman, Note, *Due Process: Accuracy or Opportunity?*, 65 S Cal L Rev 2705, 2730–36 (1992).

92 See Rachel Cantor, Comment, *Internet Service of Process: A Constitutionally Adequate Alternative?*, 66 U Chi L Rev 943, 949–50 (1999). FRCP 4 establishes the standards for service of process in federal courts. See FRCP 4.

93 See *Dusenbery*, 534 US at 166–68.

94 Id at 163–64.

the FBI planned to dispose of his property.[95] Because Dusenbery contended that "the *Mathews* test is a distillation of the concerns identified in *Mullane*,"[96] Dusenbery urged the Court to apply *Mathews* to balance his interest in his property against the government's procedural burden.[97] In particular, Dusenbery effectively argued that the value of his interest in his property, multiplied by the reduction in "the likelihood of erroneous deprivation" caused by providing him with actual notice, exceeded how much the government would spend to ensure delivery of actual notice.[98]

Refusing to engage in *Mathews*-style balancing, the Court rejected Dusenbery's argument and adopted the *Mullane* approach instead.[99] In particular, the Court portrayed *Mathews* and *Mullane* as requiring distinct inquiries involving different "analytical framework[s]."[100] *Mathews*'s three-factor balancing test, for example, would require the Court to consider whether the government could have done more to ensure that its letter reached Dusenbery.[101] In contrast, *Mullane*'s "more straightforward test of reasonableness under the circumstances" would require the Court to ask only whether the notice was "reasonably calculated" to reach Dusenbery.[102] As a result, emphasizing that it "s[aw] no reason to depart from [its] well-settled practice" of "turn[ing] to [*Mullane*] when confronted with questions regarding the adequacy of the method used to give notice,"[103] the Court held that the FBI's personal notice scheme satisfied *Mullane*'s "reasonably calculated" standard.[104]

3. Even after *Dusenbery*, courts can, must, and do use a balancing test to evaluate publication notice.

In *Dusenbery*, the Court distinguished *Mathews* and *Mullane* in the context of notice to individuals with a known address.[105] As a result, some read *Dusenbery* as broadly rejecting the argument

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95 Id at 164–67.

96 Reply Brief for Petitioner, *Dusenbery v United States*, No 00-6567, *5 (US filed Aug 14, 2001) (available on Westlaw at 2001 WL 950934) ("Dusenbery Reply Brief").

97 *Dusenbery*, 534 US at 167.

98 Dusenbery Reply Brief at *5–10 (cited in note 96).

99 See *Dusenbery*, 534 US at 167–68.

100 Id at 167.

101 See id, citing *Mathews*, 424 US at 335 (considering, as part of its second factor, the "probable value of additional safeguards").

102 *Dusenbery*, 534 US at 167–68.

103 Id at 168.

104 Id at 172–73.

105 See id at 166–68.

that courts should use a *Mathews*-style balancing test to evaluate the sufficiency of notice under *Mullane* in any context.[106] Because courts use *Mullane* to evaluate publication notice under FRCP 23,[107] then, a broad reading of *Dusenbery* suggests that courts should not balance the costs and benefits of different forms of FRCP 23 publication notice. Continuing the "ever-expanding application"[108] of *Mathews*'s "general multifactor analysis,"[109] however, this Section argues that courts implicitly use a *Mathews*-style equation to conduct the cost-benefit balancing mandated by *Mullane* and FRCP 23. Although *Mathews* and *Mullane* use different language, both cases create the same cost-benefit test for courts to evaluate whether parties provided the best notice practicable. Indeed, under either *Mullane*'s "not substantially less likely to bring home notice than other of the feasible and customary substitutes" test[110] or *Mathews*'s three-part balancing equation,[111] a notice plan is best when its marginal benefits just equal its marginal costs. In fact, "*Mullane*, as applied by the [Supreme] Court [to evaluate notice], is notably similar to *Mathews*."[112] As a result, at least one court evaluating the constitutional sufficiency of notice under *Mullane* has explicitly noted that its holding would be the same if it used *Mathews* instead.[113]

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106 For examples of such broad readings, see W. Alexander Burnett, Casenote, Dusenbery v. United States*: Setting the Standard for Adequate Notice*, 37 U Richmond L Rev 613, 625–26 (2003) ("In *Dusenbery*, the Court affirmed—in no unclear terms—that the *Mullane* standard is the appropriate analytical framework for determining whether a method of delivery of notice satisfies the due process requirements in the Fifth and Fourteenth Amendments."); *Snider International Corp v Town of Forest Heights, Maryland*, 739 F3d 140, 146 (4th Cir 2014), citing *Dusenbery*, 534 US at 168 (emphasizing that because "[n]otice and the hearing are two distinct features of due process, and are thus governed by different standards," *Mullane*—rather than *Mathews*—"is the appropriate guidepost" for evaluating notice); *Grayden v Rhodes*, 345 F3d 1225, 1242 (11th Cir 2003) (noting that, under *Dusenbery*, when called on to evaluate a notice plan, the court "eschew[s] the balancing test in *Mathews*" in favor of *Mullane*); *Salt Lake City Corp v Jordan River Restoration Network*, 299 P3d 990, 1034 (Utah 2012) (Lee dissenting) ("After *Dusenbery*, we are not at liberty to interject *Mathews*-based balancing into our evaluation of the notice required under the Due Process Clause.").

107 See note 71 and accompanying text.

108 Blair-Stanek, 62 Fla L Rev at 4 (cited in note 83).

109 Cottreau, Note, 73 NYU L Rev at 512 (cited in note 91).

110 *Mullane*, 339 US at 315.

111 See text accompanying notes 79–82.

112 *Jordan River Restoration Network*, 299 P3d at 1007 n 9.

113 See *James v City of Dallas*, 2003 WL 22342799, *15 (ND Tex).

According to that court, "the choice of test d[id] not affect the outcome of the analysis" in that case.[114] Because a *Mathews*-style balancing test gives courts a form and structure to evaluate one publication notice plan relative to another, this Section argues that even after *Dusenbery*, courts can, must, and do balance the costs and benefits of publication notice.

a) Because Dusenbery *does not apply when the parties cannot identify class members, courts can balance the costs and benefits of publication notice.* Recall that *Mullane* established two distinct standards for courts to evaluate notice plans depending on whether the parties can identify class members.[115] Despite *Dusenbery*'s broad language, however, the *Dusenbery* Court explicitly addressed only one of *Mullane*'s notice standards: how *Mullane* and *Mathews* relate in the context of providing notice to an individual with a known address.[116] In fact, the *Dusenbery* Court answered a narrow question: the Court granted certiorari to resolve a split in the circuits over whether the Fifth Amendment requires the government to provide actual notice to inmates with known addresses when it intends to forfeit their property.[117] By declining to engage in *Mathews*-style balancing, the *Dusenbery* Court implicitly emphasized the absolute nature of *Mullane*'s "reasonably calculated" test for notice to individuals whom the parties can reasonably locate.[118] *Dusenbery* said nothing, however, about whether courts can engage in *Mathews*-style balancing when the whereabouts of the parties are unknown. As a result, even following *Dusenbery*, when the parties cannot identify class members "through reasonable effort,"[119] courts can balance costs and benefits to ensure that the parties provide notice in a form that "is not substantially less likely to bring home notice than other of the feasible and customary substitutes."[120]

b) Under Mullane*, courts must balance the costs and benefits of FRCP 23 publication notice.* Consider a court evaluating a class action notice plan under FRCP 23 after *Dusenbery*. First,

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114 Id.

115 See notes 64–73 and accompanying text.

116 See *Dusenbery*, 534 US at 168–69.

117 See id at 166–67.

118 Id at 171–73 (rejecting Justice Ruth Bader Ginsburg's dissenting argument that the Court should evaluate the FBI's individual notice plan relative to the Bureau of Prison's current procedure).

119 FRCP 23(c)(2)(B).

120 *Mullane*, 339 US at 315.

the court asks whether the parties can identify and locate individual class members. If they can, then FRCP 23 requires the parties to provide individual notice and *Dusenbery* prevents the court from balancing one notice plan against another. If the parties cannot locate class members "through reasonable effort," however, then FRCP 23 instructs the court to provide "the best notice that is practicable under the circumstances";[121] *Dusenbery* no longer controls.

At this second step, *Mullane* and FRCP 23 dictate that the court balance the costs and benefits of different publication notice plans. The Supreme Court's language in *Mullane* requires lower courts to evaluate whether publication notice satisfies due process relative to other possibilities. For example, by instructing courts to approve publication notice "not substantially less likely" to reach unknown parties, *Mullane* mandates that courts weigh possible alternative notice plans.[122] Likewise, by requiring courts to consider other "customary substitutes," *Mullane* forces courts to evaluate whether publication notice satisfies due process in light of the technology of the day.[123] Finally, *Mullane* requires courts to weigh the costs and benefits of alternative notice plans by directing them to consider only "feasible . . . substitutes."[124]

When the Advisory Committee amended FRCP 23 in 1966, it intentionally incorporated *Mullane*'s mandate that courts weigh the costs and benefits of publication notice relative to other possible notice plans.[125] Consider the language of FRCP 23: FRCP 23(c)(2) instructs courts to provide "the best notice that is practicable under the circumstances,"[126] not just notice that exceeds a "reasonably calculated" threshold.[127] By using the superlative "best," FRCP 23(c)(2)(B) requires courts to weigh alternative notice plans and approve the proposal most likely to inform class members about their rights. The qualifying "practicable under the circumstances" language, however, reminds courts to balance the costs and benefits of any notice plan.[128]

c) Courts use a Mathews*-style balancing test to evaluate FRCP 23 publication notice.* Regardless of the actual reach of

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121 FRCP 23(c)(2)(B).

122 *Mullane*, 339 US at 315.

123 Id.

124 Id.

125 See note 70 and accompanying text.

126 FRCP 23(c)(2)(B).

127 *Mullane*, 339 US at 314.

128 See Ginsberg, Comment, 2003 U Chi Legal F at 745–47 (cited in note 14).

Dusenbery's holding, as a descriptive matter, courts continue to implicitly[129]—and sometimes explicitly[130]—use a *Mathews*-like balancing framework to evaluate publication notice. To see why, suppose that courts read *Dusenbery* to apply when parties could not locate individual class members and asked only whether the parties proposed a publication notice scheme that was "reasonably calculated" to inform class members. Such courts would evaluate the parties' publication notice plans in the absolute, without considering alternative proposals. Once a notice plan exceeded *Mullane*'s "reasonably calculated" threshold, the courts would not consider what else the parties could have done.[131] Instead, when courts determine whether class action publication notice satisfies due process, they measure parties' proposals against alternatives; when the parties' proposals come up short, the courts "push the parties to do better."[132]

To illustrate how courts apply *Mullane* and *Mathews* to evaluate FRCP 23 notice after *Dusenbery*, consider, for example, *Shurland v Bacci Café & Pizzeria on Ogden, Inc*.[133] In *Shurland*, the plaintiff brought a class action suit against a local pizzeria for violating the Fair Credit Reporting Act by printing full credit card numbers and expiration dates on its customers' receipts.[134] The plaintiff asked the court to approve a notice plan consisting of a single advertisement in *The Chicago Sun-Times* and additional publication notice on the class counsel's website.[135] The court evaluated the plaintiff's notice proposal using *Mullane*'s two distinct standards. First, because the court determined that the parties could not identify the names and addresses of individual class

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[129] See text accompanying notes 133–43. For other examples of courts implicitly applying *Mullane* and *Mathews* in the way described, see *Mirfasihi v Fleet Mortgage Corp*, 356 F3d 781, 786 (7th Cir 2004) (acknowledging that "notice by publication in a newspaper of national circulation" satisfies *Mullane*, but emphasizing that changing technologies might require the parties to do more); *In re Scotts EZ Seed Litigation*, 2015 WL 5502053, *1–2 (SDNY) (approving the plaintiff's plan to publish notice using only targeted Internet banner advertisements because the defendant failed to convince the court that the plaintiff would reach more class members by also publishing notice in a newspaper).

[130] See text accompanying note 157.

[131] See text accompanying notes 101–04.

[132] *Kaufman v American Express Travel Related Services, Inc*, 283 FRD 404, 407–08 (ND Ill 2012) (declining to approve the parties' notice plan without consulting an independent notice expert because other cases "requiring or approving more extensive notice plans . . . exemplif[ied] the type of effort the court expects").

[133] 271 FRD 139 (ND Ill 2010).

[134] Id at 141.

[135] Id at 147.

members,[136] it cited *Mullane* to emphasize that FRCP 23 did not require the parties to provide individual notice.[137] The court then moved to *Mullane*'s second prong and considered whether the parties provided the best practicable notice.[138] The court acknowledged that, according to precedent, running a single newspaper advertisement would comply with *Mullane*.[139] Under a broad reading of *Dusenbery*, the court's analysis would end there: once the court determined that a single advertisement in a newspaper satisfies *Mullane*, the court would not consider whether the plaintiff could provide *better* notice.

Yet in *Shurland*, the court proceeded to balance the costs and benefits of "a variety of other means and methods" for publishing notice.[140] Although the court did not cite *Mathews*, it implicitly used a *Mathews*-style framework to balance these other notice plans.[141] For example, the court discussed the class's relatively small size and geographic concentration, hinting that the marginal benefits of additional localized notice outweighed its costs.[142] As a result, the court suggested that the plaintiff, in addition to publishing notice in a citywide newspaper, advertise in neighborhood publications and in the restaurant itself.[143] Because the court declined to end its analysis at publication notice that exceeded *Mullane*'s "reasonably calculated" threshold, it directed the plaintiff to propose a new notice plan that would provide the best notice practicable given the size of the class and the nature of the claim.[144]

Moreover, just four years after it decided *Dusenbery*, the Supreme Court again considered, in *Jones v Flowers*,[145] whether a state's procedure for providing notice before it seized property satisfied the Due Process Clause.[146] Although the Court emphasized

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136 Id at 142.

137 See *Shurland*, 271 FRD at 144–45.

138 See id at 147.

139 See id, citing *Mirfasihi*, 356 F3d at 786.

140 *Shurland*, 271 FRD at 147.

141 See id (suggesting that providing notice through "local publications," "posting the class notice at Bacci, and posting a link to the class notice on Bacci's website" would be cost-effective means of ensuring widespread notice). For additional analysis of *how* courts use *Mathews* to balance the costs and benefits of FRCP 23(c)(2) publication notice, see Part II.

142 See *Shurland*, 271 FRD at 147.

143 Id at 147–48 (requiring the plaintiff to "propose a new plan for notifying the class" based on the court's suggestions).

144 See id at 148.

145 547 US 220 (2006).

146 See id at 223.

that it had "no intention to depart" from the basic constitutional principles embodied in *Mullane* and *Dusenbery*,[147] it assessed the adequacy of the state's notice by "balancing the interest of the State against the individual interest sought to be protected."[148] According to the Court's balancing, the Due Process Clause requires a state to "take additional reasonable steps" after it mails notice of a tax sale and the notice is returned unclaimed.[149] In contrast, the Court concluded that the Due Process Clause does not force the state to search its records for new addresses because doing so "imposes burdens . . . significantly greater than [other] relatively easy options."[150] By balancing the individual's interest against the government's and by considering the costs of one notice plan relative to others, the *Jones* Court employed a *Mathews*-style test, even if it did not do so in name.

Whereas the courts in *Shurland* and *Jones* implicitly turned to *Mathews* to balance costs and benefits, other courts more explicitly rely on *Mathews* in considering whether the parties have provided the best practicable notice. In *Salt Lake City Corp v Jordan River Restoration Network*,[151] for example, the Supreme Court of Utah considered whether Salt Lake City satisfied due process requirements when it published notice about bond validation procedures in several specialized newspapers and websites.[152] The case arose outside the class action context, but the court evaluated the city's notice under the same *Mullane* test courts use to evaluate class action notice under FRCP 23.[153] Although the court cited *Dusenbery*, which would presumably foreclose it from engaging in *Mathews*-style balancing, it evaluated whether the city's notice plan satisfied due process by "balancing the individuals' interest, the government's interest, and the likely benefit of additional or substitute notice."[154] Applying this *Mathews*-style balancing test, the court concluded that the city's notice plan satisfied the Due Process Clause.[155] Even more strikingly, in *Mullins v Direct Digital, LLC*,[156] the Seventh Circuit explicitly cited *Mathews* in the class

147 Id at 238.
148 Id at 229 (quotation marks omitted).
149 See *Jones*, 547 US at 225.
150 Id at 236.
151 299 P3d 990 (Utah 2012).
152 Id at 996–97.
153 Id at 1006.
154 Id at 1016.
155 See *Jordan River Restoration Network*, 299 P3d at 1015–19.
156 795 F3d 654 (7th Cir 2015).

action notice context to argue that the type of publication notice should correspond to the stakes of the litigation.[157]

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Although "[n]otice is crucial to the entire scheme of Rule 23(b)(3),"[158] this Part demonstrated that FRCP 23 does not require parties to provide actual notice to each class member. Instead, when the parties cannot identify members of the class, FRCP 23 allows courts to provide publication notice. Yet not just any form of publication notice will do. To comply with FRCP 23, courts must provide "the best notice that is practicable under the circumstances."[159] To figure out which notice is best, courts must balance one notice plan against another. To the extent that *Dusenbery* forecloses courts from using *Mathews* to balance, it does so in name only. Because *Mathews* and *Mullane* establish the same test to evaluate FRCP 23 publication notice, courts continue to rely on *Mathews*.

II. A BALANCING TEST FOR PUBLICATION NOTICE

The previous Part argued that, because FRCP 23 and *Mullane* require parties to provide "the best notice that is practicable"[160] in a "form . . . not substantially less likely to bring home notice than other of the feasible and customary substitutes,"[161] courts can, must, and do use a *Mathews*-style balancing test to weigh the costs and benefits of publication notice plans. But that only partially explains how courts decide whether to approve a notice plan. If litigants and courts want to predict whether and in what cases future courts will decide to approve new forms of publication notice, they need to know *how* courts weigh costs and benefits to identify the best practicable notice.

This Part analyzes publication notice decisions to develop a model that explains how courts balance the costs and benefits of alternative publication notice plans. Part II.A describes the costs of over- and underinclusion and explains how courts use details about the class, the defendant, the claims, and the next best notice plan to compare one notice plan to another. Part II.B uses the

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157 See id at 665.

158 Wright, Miller, and Kane, 7AA *Federal Practice and Procedure* § 1786 at 492 (cited in note 25).

159 FRCP 23(c)(2)(B).

160 FRCP 23(c)(2)(B).

161 *Mullane*, 339 US at 315.

variables identified in Part II.A, which courts already consider to compare notice plans, to build a model that predicts when courts will approve alternative forms of publication notice.

A. Balancing Over- and Underinclusion

Ideally, publication notice would reach all the individuals in a class and none of the individuals outside it. Unless the parties can perfectly identify and target class members, however, the parties must publish notice to more non–class members to reach more class members. To determine whether a proposed publication notice plan provides the best notice *practicable*, courts weigh the benefits of reaching more class members against the costs of notifying individuals outside the class.[162] In doing so, courts seek to ensure that a publication notice plan strikes the right balance between over- and underinclusion. This Section discusses how courts measure the benefits of reaching more class members and the costs of reaching more individuals outside the class.

1. Measuring the benefits of reaching more class members.

The drafters of the 1966 FRCP amendments recognized that a class action's constitutional legitimacy turns on providing notice to class members because notice "touches off the possibility" that a class member will opt out.[163] Publication notice that fails to reach potential class members leaves them in the dark and robs them of this opportunity.[164] In contrast, when class members do receive notice, they can make informed decisions about whether to continue litigating as a member of the class.[165]

Because of these clear due process benefits, courts focus on ensuring that publication notice reaches a sufficient portion of the class.[166] For example, the Federal Judicial Center (FJC), the congressionally established "education and research agency for the federal courts,"[167] urges judges to consider whether publication

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[162] See, for example, *Tylka v Gerber Products Co*, 182 FRD 573, 578 (ND Ill 1998).

[163] Kaplan, 81 Harv L Rev at 392 (cited in note 30).

[164] See Barbara J. Rothstein and Thomas E. Willging, *Managing Class Action Litigation: A Pocket Guide for Judges* *26 (Federal Judicial Center, 3d ed 2010), archived at http://perma.cc/5QKD-REH4 ("Opt-out notice binds class members by their silence, so you will want to focus on ensuring adequate notice.").

[165] See text accompanying notes 43–47.

[166] In advising judges on how to evaluate notice plans, the Federal Judicial Center suggests that they first determine whether notice "[w]ill [ ] effectively reach the class." *Claims Process Checklist* at *1 (cited in note 56).

[167] *Home* (Federal Judicial Center, 2015), archived at http://perma.cc/B9ZR-ZDKE.

notice covers a "broad" geographical area and to closely scrutinize the publication notice plan's "reach."[168] In particular, the FJC cautions that courts should approve notice plans only after evaluating how many potential class members will be exposed to publication notice, and that reasonable notice plans often reach 70 percent to 95 percent of the class.[169] When courts determine that a notice plan fails to reach enough class members, they reject the plan for being underinclusive.[170]

When parties want to reach more class members, they choose between alternative publication notice plans. To determine whether one form of publication notice is likely to generate more benefits than another, courts consider which of these alternate forms of publication notice is more likely to reach class members. To make this comparison, courts look to the demographics of the class and its baseline level of awareness about the class action. The FJC, for example, instructs judges that "[t]he notice plan should include an analysis of the makeup of the class," including its educational background, gender ratio, and socioeconomic status, before it is approved.[171] Following the FJC's recommendation, courts consider, for example, where class members live,[172] what types of publications they read,[173] and the nature of the claim[174] before deciding whether to approve a notice plan. In addition, courts consider whether the media extensively covered the class action suit to determine whether and how much publication notice the class must provide.[175]

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168 *Claims Process Checklist* at *1–3 (cited in note 56).

169 Id at *3.

170 See, for example, *Hecht v United Collection Bureau, Inc*, 691 F3d 218, 225 (2d Cir 2012) (holding that a settlement class failed to satisfy FRCP 23 by publishing notice in a single issue of *USA Today*).

171 *Claims Process Checklist* at *2 (cited in note 56).

172 See, for example, *Shurland*, 271 FRD at 147 (recommending that, because most of the class lived in Berwyn, Illinois, the parties publish notice in local publications in addition to publishing notice in *The Chicago Sun-Times*); *Jermyn v Best Buy Stores, LP*, 2010 WL 5187746, *5 (SDNY) (requiring the plaintiff to publish notice in newspapers with a readership outside New York City because the class encompassed the entire state).

173 See, for example, *In re Warfarin Sodium Antitrust Litigation*, 391 F3d 516, 526 (3d Cir 2004) (approving a plan to publish notice in *USA Today*, *USA Weekend*, *Parade Magazine*, *Modern Maturity*, and *Reader's Digest* because the class members "are generally over the age of 50").

174 See, for example, *Evans v Linden Research, Inc*, 2013 WL 5781284, *1, 3 (ND Cal) (finding it appropriate to provide notice by e-mail and through various websites for a class action involving an Internet role-playing game).

175 See, for example, *The Authors Guild v Google Inc*, 770 F Supp 2d 666, 676 (SDNY 2011) (finding notice adequate in part because "the case has received enormous publicity, and it is hard to imagine that many class members were unaware of the lawsuit"); *Santos*

Nonetheless, the benefits of providing notice are not the same in each case.[176] The more at stake in the litigation—or the more any individual's claim differs from the class's—the greater the benefits of reaching more class members. In *Hughes v Kore of Indiana Enterprise, Inc*,[177] for example, the Seventh Circuit considered the class members' financial interest in a class action litigation in determining whether to approve a notice plan.[178] A class of plaintiffs who had withdrawn money from the defendant's ATMs in Indianapolis brought suit because the defendant failed to post notices on its machines that they charged a withdrawal fee.[179] Making certain assumptions about the number of class members and the number of ATM transactions per class member, the court estimated that each class member stood to gain a maximum of $3.57 per transaction if the class action succeeded, and a likely award of $100 if he opted out and successfully litigated on his own.[180] The court acknowledged that the proposed publication notice plan—stickers on the ATMs, an ad in the leading Indianapolis newspaper, and a class website—might never reach all of the class members.[181] Given each class member's small stake and the small difference between litigating as a member of the class and bringing suit alone, however, the court held that the publication notice plan was "adequate [under] the circumstances."[182]

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v Camacho, 2008 WL 8602098, *14 (D Guam) (taking judicial notice of the extensive press coverage of the class action in determining whether to reduce the standards for publication notice); *Nilsen v York County*, 382 F Supp 2d 206, 211–12 (D Me 2005) (approving a notice plan because class members not reached by publication notice might have become aware of the suit through the media or the plaintiffs' lawyers' live press conference).

176 See *Battle v Liberty National Life Insurance Co*, 770 F Supp 1499, 1515 (ND Ala 1991) ("[T]he less the interests of individual members coincide with those of other members or the representatives, the greater will be the class notice demanded by due process.").

177 731 F3d 672 (7th Cir 2013).

178 Id at 677.

179 Id at 674.

180 Id at 674–75.

181 *Hughes*, 731 F3d at 677.

182 Id.

2. Measuring the costs of reaching more non–class members.

Although the FJC[183] and notice consulting firms[184] caution courts to closely analyze whether a notice plan reaches *enough* potential class members, neither the FJC nor notice consultants worry much about reaching *too many* individuals outside the class. Nonetheless, overinclusive publication notice imposes several subtle but important costs on the courts, the parties, and the public. First, additional overinclusive notice forces the parties to spend money and time printing more notice forms, mailing notice more broadly, or purchasing additional advertisements.[185] Second, courts worry that overbroad notice confuses non–class members, forcing them to incur costs to determine whether they belong to a potential class.[186] Similarly, the more frequently individuals outside a class receive notice, the more time courts and parties spend sorting out claims and questions from non–class members.[187] Third, overbroad notice likely results in a "boy who cried wolf" dilemma: the more often individuals receive notice about classes they do not belong to, the less likely they may be to respond to notice that actually concerns them.[188] Finally, courts

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[183] See, for example, Rothstein and Willging, *A Pocket Guide for Judges* at *27 (cited in note 164) (noting that a judge's "primary goals are that the notice reach as many class members as possible, preferably by individual notification," and that the class members understand and act on the notice).

[184] Notice consulting firms like Kinsella Media promise to help parties achieve "across the board reach." *Notice Program Design and Implementation* (Kinsella Media), archived at http://perma.cc/72KH-SESZ (emphasis omitted). Parties hire consultants "to disseminate and administer the proposed notice plan." *Flynn v Sony Electronics, Inc*, 2015 WL 128039, *1 (SD Cal) (reporting that the plaintiffs hired Kurtzman Carson Consultants). The FJC recommends that a judge require the class to submit a notice plan "from a qualified professional" or rely on the judge's own expert report. See *Claims Process Checklist* at *1–2 (cited in note 56). For an example of a judge declining to approve a notice plan without consulting her own independent notice expert, see *Kaufman v American Express Travel Related Services, Inc*, 283 FRD 404, 408 (ND Ill 2012).

[185] See, for example, *Martin v Weiner*, 2007 WL 4232791, *3, 5 (WDNY) (imposing on the defendant the direct costs of updating its website to notify potential class members of pending litigation).

[186] See *In re Domestic Air Transportation Antitrust Litigation*, 141 FRD 534, 546 (ND Ga 1992) (worrying that overbroad notice "would most likely confuse the recipients and encourage claims by non-class members"); *Macarz v Transworld Systems, Inc*, 201 FRD 54, 64 (D Conn 2001).

[187] See *Flynn*, 2015 WL 128039 at *3 ("[I]t is clear that mailing a notice of a class action directly to a non-class member would likely lead to inquiries by non-class members.").

[188] Richard H. Thaler, Cass R. Sunstein, and John P. Balz, *Choice Architecture* *9, archived at http://perma.cc/2434-9F7X.

worry that overbroad notice causes undue or excessive reputational harms to the defendant.[189] In *Tylka v Gerber Products Co*,[190] for example, the court rejected the plaintiff's plan to publish notice of a class action suit involving Illinois class members in nationwide newspapers.[191] According to the court, such overbroad notice appeared to be designed to "club [the defendant] into submission," not to actually notify potential class members of the plaintiff's claim.[192] As a result of the potential costs of providing overinclusive notice, courts refuse to approve notice plans that reach too many people outside the class.[193]

B. Building a Predictive Model

The previous Section showed that, to balance the trade-offs between over- and underinclusion, courts evaluate details about the class, the defendant, the claim, and the next best notice plan. This Section formalizes the variables identified in Part II.A, which courts already consider,[194] and adapts the *Mathews* balancing equation to describe when courts will decide that a publication notice plan satisfies FRCP 23's "best notice that is practicable" and *Mullane*'s "not substantially less likely" standards. In turn, Part III.C uses a new set of publication notice decisions about social media cases to test how accurately the equation models how courts decide.

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189 See, for example, *Yeoman v Ikea U.S. West, Inc*, 2013 WL 5944245, *4 (SD Cal) (rejecting the plaintiffs' request that the defendants "post[ ] [class action] notice at each point-of-sale location" because doing so "would encourage inquiries by non-class members, which could interfere with [the defendants'] reputation and business"); *Mark v Gawker Media LLC*, 2015 WL 2330079, *1 (SDNY) ("Mark III") (rejecting an overinclusive notice scheme in the context of an opt-in action under the FLSA because its primary effect would be to "advertise the alleged violations by Defendants").

190 182 FRD 573 (ND Ill 1998).

191 See id at 578–79.

192 Id at 578.

193 See, for example, *Yeoman*, 2013 WL 5944245 at *6 (refusing to approve the plaintiffs' request that the defendants send e-mail notice to an overbroad list of customers, noting that there was "no link between individuals who may have provided their email addresses" and the relevant class).

194 See R.H. Coase, *The Problem of Social Cost*, 3 J L & Econ 1, 22 (1960) ("The courts do not always refer very clearly to the economic problem posed by the cases brought before them but it seems probable that in the interpretation of words and phrases like 'reasonable' . . . there is some recognition, perhaps largely unconscious and certainly not very explicit, of the economic aspects of the questions at issue.").

1. Building a *Mathews*-style balancing equation.

As discussed in Part I.C, the *Mathews* Court introduced a general balancing test to evaluate procedural due process issues. According to the *Mathews* Court, the Fifth and Fourteenth Amendments require additional process when the marginal benefit of the process multiplied by the incremental increase in the probability of ensuring accurate judgment exceeds the incremental cost of the process.[195]

Extrapolating from *Mathews*, this Section argues that courts implicitly tend to allow parties to publish notice in a particular way when the marginal benefits of providing such notice multiplied by the increased probability of notice reaching the individual exceeds the marginal costs of providing the notice. That is, courts approve a form of publication notice when

$$(b - b^*)\,(x_2 - x_1) > C_2 - C_1 \qquad (1)$$

where b captures the individual's net benefit[196] from the claim if she opts out and litigates on her own, b^* represents the individual's net benefit from the claim as a member of the class,[197] x_2 measures the expected number of class members whom a proposed notice plan would notify, x_1 measures the expected number of class members whom the next best alternative publication notice would effectively notify, C_2 measures the cost of publishing notice in the proposed form, and C_1 measures the cost of the next best publication notice plan.[198]

As in *Mathews*, Equation (1) measures the incremental benefits and costs of providing additional *or* alternative notice.[199] For

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[195] See notes 77–92 and accompanying text.

[196] An individual's net benefit equals the settlement or judgment she receives, minus the time and money costs of litigating her case.

[197] For example, in *Hughes*, $b \approx \$100$, whereas $b^* = \$3.57$. Even if—as the statute at issue in *Hughes* requires—the defendant pays each plaintiff's attorney's fees regardless of whether she is a member of the class or whether she opts out of the class and litigates on her own, the individual statutory damage amounts do not exactly capture the plaintiff's *net* benefit because they do not account for the time costs of litigation. See text accompanying note 180.

[198] For simplicity, this model assumes that, because x_2 and x_1 measure the expected *number* of people a notice plan will notify, b does not differ across individuals. A more complicated model that measures the differences in the probabilities of two notice plans reaching any *given individual* would allow for variation in b. In such a model, to capture the total benefits of a notice plan and compare them to the total costs, the left-hand side of Equation (1) would be summed over all individuals.

[199] See *Mathews*, 424 US at 334–35.

example, if Notice Plan 1 (the next best plan) includes print advertisements in *The New York Times*, Notice Plan 2 (the proposed plan) might include print advertisements in *The New York Times* plus native social media advertisements, or alternatively Notice Plan 2 might include print advertisements in *The Wall Street Journal*. Likewise, C captures the *total* cost under each notice plan. As a result, if there is some baseline reputational harm to a defendant that it would suffer even in the absence of any FRCP 23 notice, C_1 includes this harm plus the additional costs associated with Notice Plan 1, whereas C_2 includes the baseline harm plus the additional direct and reputational costs associated with Notice Plan 2.

Either the parties or the court can propose alternative notice plans.[200] Typically, the certified class creates a notice plan and sends the plan to the opposing party, which notes any objections.[201] For example, the opposing party might object to the notice's content, to how widely (or narrowly) the class proposes to disseminate notice, or to which forms of media the class intends to use to contact potential class members.[202] In turn, the class representative responds and submits the plan to the court, which decides whether to approve the notice plan and resolves outstanding disputes between the parties.[203] Likewise, following a settlement class action, individual class members who failed to receive notice often suggest other ways in which the parties could have provided notice.[204] Alternatively, in both settlement and nonsettlement class actions, the court itself can propose and consider alternative notice plans.[205]

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[200] Because the plaintiff bears the cost of providing notice, the parties have incentives to engage in strategic behavior. See *Eisen v Carlisle & Jacquelin*, 417 US 156, 177 (1974) (establishing that the plaintiff pays the costs of FRCP 23 notice). For example, in *In re Scotts EZ Seed Litigation*, 2015 WL 5502053 (SDNY), the plaintiffs sought to provide notice using only the Internet, whereas the defendants sought to force the plaintiffs to also publish notice in a newspaper. Id at *1–2.

[201] See, for example, *Pitt v City of Portsmouth, Va*, 221 FRD 438, 452 (ED Va 2004) (describing the iterative process for creating a notice plan). See also Wright, Miller, and Kane, 7AA *Federal Practice and Procedure* § 1788 (cited in note 25).

[202] See, for example, *In re Scotts EZ Seed Litigation*, 2015 WL 5502053 at *1 (describing the defendants' objection to the class representative's plan to publish notice on the Internet).

[203] For an example of a court ruling on whether to approve a plaintiff's notice plan, see *Tylka*, 182 FRD at 575–76, 578–79.

[204] See, for example, *Hecht*, 691 F3d at 225 (describing other forms of notice identified by a plaintiff seeking to avoid being bound by a class decision).

[205] For an example of a court suggesting its own alternative notice plan in a nonsettlement class action, see *Shurland*, 271 FRD at 147. For an example of a court suggesting

2. Modeling the benefits of reducing underinclusion.

Part II.A.1 observed that courts measure the benefits of reducing underinclusion by evaluating the stakes of the litigation and the incremental increase in how likely a new form of notice is to reach class members. The left-hand side of Equation (1) captures these variables.

First, $b - b^*$ describes how courts already measure the benefit of providing notice. Because $b - b^*$ captures how an individual's net benefit changes if she receives notice and opts out,[206] $b - b^*$ depends crucially on how each class member values the class's claim. When evaluating whether a class certification publication notice plan satisfies FRCP 23(c)(2)(B), b^* depends on how much of the uncertain class settlement or judgment the court believes each class member will receive. That is, b^* depends on the expected value of an individual's claim within the class. When the court considers settlement publication notice under FRCP 23(e)(1), on the other hand, the uncertainty about the value of the class's claim has been resolved and b^* depends on the known settlement value.

Whereas b^* measures the value of the claim to an individual as a member of the class, b measures the value of the claim to each individual if she opted out and litigated alone. Because $b - b^*$ increases as the difference between the amount the individual would receive on her own and the value to her of the class settlement or expected class outcome increases, notice matters more when an individual class member would do much better bringing suit on her own.[207] In contrast, as the difference between

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an alternative form of notice in a settlement class action, see *In re National Collegiate Athletic Association Student-Athlete Concussion Injury Litigation*, 314 FRD 580, 603 (ND Ill 2016).

[206] This analysis assumes that if an individual's net benefit from opting out, including the costs of litigation, exceeds her benefit from remaining a class member—that is, if $b > b^*$—that individual will opt out if she receives notice. In contrast, if the individual expects to collect less on her own than she would as a class member—that is, if $b^* > b$—this analysis assumes that the individual who receives notice declines to opt out. Interestingly, when $b^* > b$, Equation (1) suggests that courts should provide *less* notice, such that the left-hand side of Equation (1) is positive. If bounded rationality causes some individuals who receive notice to inefficiently opt out of the class, it makes sense to limit the probability that individuals receive notice. The remainder of this Comment assumes that $b > b^*$, such that failing to provide notice presents a real due process concern.

[207] On the other hand, the more an individual class member expects to receive from litigating on her own, the greater the chance she already knows about the class action, even absent FRCP 23 notice. That is, $b - b^*$ might be correlated with the probability that each individual member would be notified under either notice plan.

how much an individual expects to receive as a member of a class and how much she expects to collect if she litigates on her own decreases—that is, as $b - b^*$ approaches zero—the value of notice also decreases. Intuitively, this result makes sense; the more similar any individual's claim is to all other class members' claims, the more likely it is that the class representative protects her interests and she has no need to opt out.[208]

Second, $x_2 - x_1$ captures how courts tend to determine whether one form of publication notice is more likely to achieve these benefits by reaching class members than is another form. To measure the incremental benefits of alternative forms of notice, courts consider the facts and circumstances of the case, characteristics of the class, and the other "feasible and customary"[209] forms of publication notice available to the parties. As a result, in Equation (1), the difference between x_2 and x_1 depends on the next best notice plan that parties could use to provide publication notice. The more likely the next best alternative form of publication notice is to actually notify potential class members, the smaller the difference between x_2 and x_1.[210]

To accurately measure the relative difference between publishing notice in a new form and relying on the next best alternative, courts consider at least two details about the class and the case. First, courts analyze the demographics of the class and the nature of the claim. If the class includes individuals who, based on demographics, are more likely to be reached using the proposed form of notice than they would be by the next best plan, the difference between x_2 and x_1 is likely to be larger. On the other hand, if the class includes individuals less likely to encounter publication in the proposed Notice Plan 2, or if the claim involves products or services typically associated with such a demographic, x_2 likely will differ little from x_1. Under such circumstances, the proposed form of publication notice likely will not change the expected number of potential class members actually receiving notice.

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[208] In that sense, when $b - b^*$ approaches zero, FRCP 23(b)(3) class members are more like members of a (b)(1) or (b)(2) class. See notes 37–42 and accompanying text.

[209] *Mullane*, 339 US at 315.

[210] In fact, if the parties or court miscalculate and the next best notice plan would actually do better than the proposed plan and increase how many class members are likely to receive notice, then $x_2 - x_1$ would be negative.

Additionally, courts measure how likely class members are to be aware of the case in the absence of any FRCP 23 notice. Consider, for example, claims arising out of a large-scale disaster that receives significant press coverage. In such cases, FRCP 23 notice serves only a marginal role; potential class members know about pending litigation because of press conferences, news stories, and other media coverage. Because *both* x_2 and x_1 will be very close to the total number of potential class members—almost all potential class members will first receive notice elsewhere—x_2 likely differs very little from x_1. In contrast, in cases with very minimal press coverage, or limited coverage within the demographic that comprises the potential class, courts must more closely compare x_2 and x_1 to evaluate the number of potential class members whom different forms of notice will reach.

3. Modeling the costs of increasing overinclusion.

Part II.A.2 showed that, when courts evaluate the costs of reducing underinclusion, they measure the direct and indirect costs to the class, the defendant, and the public. Just as the left-hand side of Equation (1) models how courts already measure the benefits of reducing underinclusion, the right-hand side of Equation (1) captures how courts already estimate the costs of increasing overinclusion.

In particular, $C_2 - C_1$ formalizes both the direct and indirect costs of providing notice to more people outside the class. First, the party providing notice in a proposed form—most likely the class—must pay direct costs to create and publish the notice. Second, the party opposing the class suffers indirect costs of reputational harms, which depend on the general level of awareness of the suit and the scope of the next best notice plan. Consider a large class action suit against a major retailer in which the defendant proposes a baseline notice plan that requires it to take out advertisements in nationwide newspapers. Suppose that the plaintiff urges the court to require the retailer to also publish targeted banner ads on the Internet. The more people outside the class that already know about the suit before any notice is published by the parties—that is, the greater the baseline reputational cost captured in C_1 and C_2—the lower the reputational

costs of providing increasingly overinclusive notice.[211] Likewise, the more overinclusive the nationwide newspaper notice, the lower the incremental reputational costs of providing Internet publication notice that reaches more non–class members.

In addition to imposing costs on the parties, publishing notice using additional forms of media creates externalities that affect the broader public in at least two related ways.[212] First, increasingly overinclusive notice confuses individuals outside the class about whether class notice applies to them, forcing them to incur costs to determine whether they belong to advertised classes. Second, increasingly overinclusive notice creates a potential "boy who cried wolf" scenario: the more frequently individuals receive notice that does not apply to them, the less likely such notice may be to catch their eyes when they are potential members of a class.

* * *

This Section explained how courts balance the costs of publishing overinclusive notice with the benefits of reaching additional class members. Building on factors that courts already consider, the preceding Part adapted the *Mathews* balancing test to the context of FRCP 23 publication notice. Stated most simply, the adapted *Mathews* test predicts that courts will approve a notice plan when the marginal benefits of providing additional notice exceed the marginal costs.

III. TESTING THE MODEL: FRCP 23 AND SOCIAL MEDIA

Part II developed a predictive model that captures how courts tend to decide whether to approve alternative forms of publication notice. To do so, Part II analyzed how courts decided whether to approve alternative forms of publication notice in the past. This Part tests Part II's predictive model. It begins by providing an overview of social media and differentiating native social media advertisements from traditional online advertisements. Next, this Part surveys court decisions involving publication notice on social media. Based on this survey, this Part reports that courts

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[211] This assumes that the reputational harm exhibits diminishing marginal costs, such that informing the first non–class member about the suit is worse than informing the hundredth class member.

[212] *Mathews* suggests that courts should consider these externalities and "societal costs" when they decide whether to require additional procedure. See *Mathews*, 424 US at 347.

frequently allow parties to use targeted social media banner advertisements to publish FRCP 23 notice. In contrast, when courts evaluate plans involving native social media notice, they reach mixed results: courts allow parties to use their Facebook pages or Twitter feeds to publish notice in some cases, but they prohibit parties from tweeting notice in others. These results raise several questions: Why do courts frequently allow parties to post notice using banner advertisements on Facebook, but not using their own Facebook pages? Why do courts allow—or even require—parties to publish notice using native social media in some cases, but not in others? This Part concludes by testing whether the predictive model developed in Part II answers these questions and explains these results.

A. How Native Social Media Ads Differ from Traditional Advertising

Social media transformed the Internet by bringing social networks online, allowing Internet users to share content with their friends and relatives and to expand their own social circles by connecting with others.[213] Although each social media site has a different structure, purpose, and terminology,[214] most sites allow users to create a profile; connect to, share with, and stay updated on people, businesses, or interests; and expand their connections.[215] On most social media sites, users can communicate with connections by publicly leaving comments on their profiles, broadly sharing content, or using the site's private messaging system.[216]

Initially, companies advertised online using targeted banner ads—the standard-sized rectangular advertisements located above websites.[217] To more effectively reach potential customers with such banner advertisements, companies track how Internet users move around the web.[218] In turn, content providers sell banner space to outside advertisers; the price of the ad depends on

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213 See Laura Scaife, *Handbook of Social Media and the Law* § 1.2 (Informa Law 2015).

214 For a fairly comprehensive list of prominent social media platforms, see id § 1.5.2–4.

215 See danah m. boyd and Nicole B. Ellison, *Social Network Sites: Definition, History, and Scholarship*, 13 J Computer-Mediated Commun 210, 211 (2008). See also Scaife, *Handbook of Social Media and the Law* § 1.2.1 (cited in note 213).

216 See boyd and Ellison, 13 J Computer-Mediated Commun at 213 (cited in note 215).

217 See Manjoo, *Fall of the Banner Ad* (cited in note 16).

218 See id.

traffic to the website.[219] Despite auspicious beginnings,[220] banner ads now rarely capture people's attention; some studies estimate that less than 0.08 percent of Internet users who see a banner ad click on it.[221]

While some companies still advertise on social media sites using banner-type ads,[222] most companies now use their social media presence to integrate their advertisements into social media platforms.[223] These "native ads," many of which "look[ ] just as pretty as a photo from your friends," appear side-by-side with other content posted on social media.[224] Native ads are differentiated from other forms of online advertising because they are integrated into the surrounding content.[225] Although the definition of native advertisements is fuzzy, social media advertisements that appear in a user's feed—sponsored tweets, suggested Facebook posts, and Instagram advertisements, for example—are native ads; banner advertisements at the top or the side of social media pages are not. Facebook, for example, urges companies to purchase Facebook ads precisely because they are so well integrated: "People use Facebook to discover what's new with their friends, family and the things they care about. And your ads show up alongside these stories—seamlessly."[226] Moreover, by paying social media sites an additional fee, companies can increase the chances that users connected with the company—and users connected with those users—see their ads alongside pictures and content posted by friends.[227]

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219 See id.

220 For a fascinating account of how AT&T developed the first banner ad, see Rebecca Greenfield, *The Trailblazing, Candy-Colored History of the Online Banner Ad* (Fast Company, Oct 27, 2014), archived at http://perma.cc/AQ2N-TH7P.

221 See id (reporting estimated click-through rates). The low click-through rate is potentially problematic in the class action notice context, because class action banner advertisements link to websites with additional information. See, for example, *Brown v Sega Amusements, U.S.A., Inc*, 2015 WL 1062409, *2 & n 4 (SDNY).

222 For example, although Facebook's "Right Column" ads are not located at the top of the page like traditional banner advertisements, they are separate from the rest of the user's social content. See *Ads Guide* (Facebook), archived at http://perma.cc/W7P2-QBZG. For a fairly comprehensive catalogue of how different social media sites allow companies to advertise, see *Online Ads: A Guide to Online Ad Types and Formats* (WordStream), archived at http://perma.cc/HGG5-37PP.

223 See Manjoo, *Fall of the Banner Ad* (cited in note 16).

224 See id.

225 See *Native Advertising: A Guide for Businesses* (cited in note 17).

226 *How People See Ads* (cited in note 17). See also *Hello, Brands.* (cited in note 19) ("Sponsored Posts are just like regular Tumblr posts—just way more visible.").

227 See, for example, *Boost Your Posts* (Facebook), archived at http://perma.cc/7V4M-2RSE. See also Lauren Drell, *Can Promoted Posts Help Your Business?* (Mashable, July 8,

B. Social Media and Due Process

Because social media changed the way people and businesses interact,[228] parties increasingly seek to publish notice using the Internet and social media.[229] This Section analyzes cases in which courts have considered whether due process requirements allowed parties to use social media to publish notice. Although most courts allow parties to publish notice using targeted social media banner ads, courts allow or compel only some parties to provide notice using native social media advertisements. This Section examines two questions facing litigants seeking to publish notice using social media and future courts evaluating publication notice plans: Why do courts allow parties to publish notice using targeted social media banner ads more frequently than they allow parties to publish notice using native social media ads? And in what types of cases do courts allow parties to use native social media advertisements to publish notice?

1. Courts tend to allow parties to use targeted social media banner advertisements to publish FRCP 23 notice.

Despite some initial hesitation,[230] courts now consistently allow parties to publish Internet notice using banner advertisements, as long as the advertisements target the class's demographic.[231] In *Evans v Linden Research, Inc*,[232] for example, the plaintiffs, a class of individuals who participated in an Internet role-playing game called Second Life, brought suit against Linden, the company that operates the game, because they claimed that Linden terminated their accounts without compensating them for

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2013), archived at http://perma.cc/A8YY-KKQT (explaining promoted Facebook posts and measuring their impact).

[228] See Scaife, *Handbook of Social Media and the Law* § 1.1.1 (cited in note 213).

[229] See Coe, *Social Media Class Notices Gain Traction* (cited in note 15).

[230] See, for example, *Mangone v First USA Bank*, 206 FRD 222, 233 (SD Ill 2001) ("There is no requirement under due process or the federal rules requiring dissemination of [notice] over the Internet.").

[231] See, for example, *In re Pool Products Distribution Market Antitrust Litigation*, 310 FRD 300, 317–18 (ED La 2015) (concluding that advertising the settlement notice plan on Google and Facebook in the relevant region adequately made up for the lack of individual notice); *McCabe v Six Continents Hotels, Inc*, 2015 WL 3990915, *11–12 (ND Cal) (approving a notice plan that included "targeted Facebook and online banner ads"); *In re Imprelis Herbicide Marketing, Sales Practices and Products Liability Litigation*, 296 FRD 351, 363 & n 6, 372 (ED Pa 2013) (accepting the parties' notice plan, which included advertisements "on AOL, Facebook, Yahoo!, Google, and other sites").

[232] 2013 WL 5781284 (ND Cal).

the value of the items they had purchased in the game.[233] In addition to proposing contacting class members through e-mail, the parties proposed publishing notice on six websites correlated with visits to Second Life, providing banner-advertisement notice on the Facebook pages of individuals who "liked" Second Life, and including online banner advertisements on *The Alphaville Herald*, a website about Second Life.[234] Because the notice plan targeted websites the class visited and created banner advertisements aimed at the class, the court approved the parties' settlement notice plan.[235]

When parties fail to target notice plans based on the demographics of class members, however, courts more frequently refuse to approve publication notice relying on banner advertisements. In *Brown v Sega Amusements, U.S.A., Inc*,[236] for example, the plaintiffs brought suit on behalf of a class of individuals throughout the United States who played arcade games that the defendant had preprogrammed to prevent players from winning.[237] As part of a settlement agreement, the parties proposed providing notice to class members using "online and mobile phone advertisements."[238] The court rejected the parties' plan because it lacked specificity and did not target the banner ads based on demographic information about the class.[239] Somewhat surprisingly, the court worried about *underinclusion*: if the parties did not target their notice based on information about the class, the court could not conclude that the social media banner ads would actually reach any class members.[240]

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[233] Id at *1.

[234] Id at *3.

[235] See id at *5.

[236] 2015 WL 1062409 (SDNY).

[237] Id at *1.

[238] Id at *2.

[239] See id.

[240] See *Brown*, 2015 WL 1062409 at *2. The courts in *Flynn v Sony Electronics, Inc*, 2015 WL 128039 (SD Cal), and *Jermyn v Best Buy Stores, LP*, 2010 WL 5187746 (SDNY), similarly declined to allow parties to publish notice using native social media ads because they worried about underinclusion. See notes 246–48, 254–57, and accompanying text. In contrast, in *Mark v Gawker Media LLC*, 2014 WL 5557489 (SDNY) ("Mark II"), the court rejected the defendants' argument that social media notice would be underinclusive because the plaintiffs did not provide evidence that any class members use social media. Instead, the court found it "unrealistic" that former interns of an online news site would not have a social media presence. See id at *4.

2. Courts allow only some parties to use native social media advertisements to publish FRCP 23 notice.

Because social media sites have introduced native advertisements relatively recently, few courts have addressed whether FRCP 23 allows parties to publish notice using native social media. This Section briefly describes some examples of the relatively small set of decided cases[241] and shows that although courts tend to allow parties to publish notice using targeted social media banner ads, courts allow or compel only some parties to publish notice using native social media.

In *Jermyn v Best Buy Stores, LP*,[242] for example, the plaintiff brought a class action suit on behalf of Best Buy's New York customers alleging that, despite Best Buy's price matching policy, Best Buy failed to honor its competitors' best prices.[243] The plaintiff proposed a notice plan that required Best Buy to add a hyperlink from its website to the litigation website, post a thread about the class action in its discussion forum, and tweet notice about the class action using its Twitter account, among other requirements.[244] The court rejected the plaintiff's Twitter proposal because it would be both over- and underinclusive. First, the court found that providing notice via Twitter would be *overinclusive* because Best Buy could not ensure that its tweets would reach only customers in New York.[245] Because the court considered tweets to

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[241] To identify native social media advertisement cases, a Westlaw search was performed on February 21, 2016, for cases containing the phrase "Rule 23" and the name of at least one of several social media platforms (as well as the phrase "social media") in the same sentence as the word "notice." After omitting cases in which the parties used social media only to publish banner advertisements or to provide individual notice (for example, by sending private Facebook messages), cases in which the court's docket and opinion provides no indication of how the parties used social media, and cases that contain the searched terms but do not involve relevant issues, the search identified ten cases in which the parties attempted to provide notice using native social media advertisements. The court allowed or compelled the parties to provide notice using native social media ads in six cases and prohibited such notice in four cases. Of the ten native social media advertisement cases identified, this Comment's model accurately predicts how the court will evaluate the parties' notice plans in nine. The case this Comment's model misidentifies, *Angell v City of Oakland*, 2015 WL 65501 (ND Cal), is discussed in more detail in Part IV.A.

[242] 2010 WL 5187746 (SDNY).

[243] Id at *1.

[244] Id at *2–9.

[245] See id at *5–7.

be "a form of individual notice (akin to notice via mail),"[246] it hesitated to approve an overbroad individual notification plan.[247] Second, the court found that providing notice over Twitter would be *underinclusive* because the plaintiff did not demonstrate that "even a single class member" followed Best Buy on Twitter.[248] Instead, the court required Best Buy to publish notice on BestBuy.com because it determined that "at least some of the class members will be familiar with Best Buy's website."[249]

In *Flynn v Sony Electronics, Inc*,[250] the court prevented the plaintiffs from publishing notice using native social media advertisements because such notice would be underinclusive.[251] There, the plaintiffs brought suit on behalf of a class of consumers who purchased allegedly defective notebook computers from the defendant.[252] After the court certified the class, the plaintiffs proposed providing notice through a case-specific Facebook page that would "allow class members to become 'friends' or 'like' the page so that they [could] receive updates and posts related to the litigation."[253] The court rejected the plaintiffs' plan because the Facebook page would not notify class members of the action and would be valuable only if class members already knew about the litigation.[254] Although the defendant argued that the Facebook page would reach too many non–class members,[255] the court, like the *Brown* court,[256] worried exclusively about underinclusion.[257]

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[246] *Jermyn*, 2010 WL 5187746 at *6. Although the *Jermyn* court's analogy of tweeting to sending postal mail at first seems inaccurate, it is not entirely clear whether courts should treat native social media advertisements as individual or publication notices. On the one hand, native social media advertisements interrupt and take up space on other websites, much as print advertisements, which are considered publication notices, interrupt and take up space in newspapers. On the other hand, native social media advertisements are more narrowly targeted, much as mass mailings are directed at a limited group of recipients.

[247] Id at *6–8. Generally, courts are especially reluctant to approve overbroad personal notification plans. See, for example, *In re "Agent Orange" Product Liability Litigation*, 818 F2d 145, 169 (2d Cir 1987).

[248] *Jermyn*, 2010 WL 5187746 at *5–7.

[249] Id at *8.

[250] 2015 WL 128039 (SD Cal).

[251] See id at *4.

[252] Id at *1.

[253] Id at *4.

[254] *Flynn*, 2015 WL 128039 at *4 ("Class members actively searching for notice is not what was intended by requiring notice in a class action.").

[255] See id.

[256] See note 240 and accompanying text.

[257] See *Flynn*, 2015 WL 128039 at *4.

In contrast, in *Mark v Gawker Media LLC*[258] ("Mark III"), the court rejected the plaintiffs' plan to publish notice using native social media posts because it feared such notice would be overinclusive.[259] The plaintiffs had brought an *opt-in* suit against Gawker for violating federal and state labor laws.[260] Unlike in *Jermyn*,[261] the court initially granted the plaintiffs' plan to provide notice on social media sites by creating dedicated social media pages.[262] When the plaintiffs sought to provide social media notice through native posts on Tumblr, Reddit, and publicly available pages on Twitter, LinkedIn, and Facebook, however, the court rejected the plan as "lack[ing] any realistic notion of specifically targeting its notice to individuals with opt-in rights."[263] The court reasoned that, because the plaintiffs' proposed notice plan would be overinclusive, it would serve to punish the defendants rather than to actually reach class members.[264] Eventually, the court allowed the plaintiffs to provide notice to opt-in class members by sending private messages—rather than by using native social media advertisements—on Facebook, LinkedIn, and Twitter.[265] The court hinted, however, that it might allow parties

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258 2015 WL 2330079 (SDNY).

259 Id at *1.

260 *Mark v Gawker Media LLC*, 2014 WL 4058417, *1–2 (SDNY) ("Mark I"). Although this Comment evaluates opt-out publication notice, the adapted *Mathews* equation applies at least to some extent to opt-in suits as well. For example, by scaling the left-hand and right-hand sides of Equation (1) to reflect the number of people inside and outside the class, Equation (1) can be used to analyze notice under opt-in statutes like the FLSA. Because the number of people on the left-hand side of the equation—the former Gawker interns—was small, but the number of people on the right-hand side—everyone else who might encounter notice on social media—was large, the relatively higher risk of overinclusion might explain why the court would not approve a public-facing social media plan. Note, however, that opt-in suits raise due process concerns to a lesser extent than do opt-out FRCP 23 class actions, because judgment on one class member's claims in an opt-in suit does not bind other potential class members or prevent them from bringing suit later on their own. See *In re Penthouse Executive Club Compensation Litigation*, 2014 WL 185628, *7 (SDNY). As a result, to the extent that b and b^* implicitly include some benefits from preserving an individual's due process rights to opt out, Equation (1) would need to be modified for the opt-in context.

261 See notes 242–49 and accompanying text.

262 See *Mark II*, 2014 WL 5557489 at *3–5.

263 *Mark III*, 2015 WL 2330079 at *1.

264 See id.

265 See *Mark v Gawker Media LLC*, 2015 WL 2330274, *1 (SDNY) ("Mark IV") (approving the plaintiffs' revised notice plan). See also Andrea M. Paparella, Liddle & Robinson, LLP, Letter to Alison J. Nathan, United States District Judge, Southern District of New York, *Mark v Gawker Media LLC*, Docket No 13-04347, *1 (SDNY filed Apr 9, 2015) (submitting a revised notice plan requesting that the court "authorize Plaintiffs to disseminate Notice by utilizing Twitter, Facebook, and LinkedIn to send 'private, personalized notifications' to former Gawker interns 'not reachable by other means'").

to use native social media advertisements to publish notice in opt-out consumer class actions,[266] because of either the larger class size or the more fundamental due process concerns implicated by an opt-out procedure.[267]

Courts' decisions about whether to allow parties to use native social media ads to publish class action notice are extremely fact dependent. As a result, despite the holdings in *Jermyn*, *Flynn*, and *Mark III*, other courts hold that FRCP 23 allows parties to use native social media posts to publish notice. In *Kelly v Phiten USA, Inc*,[268] for example, the parties settled a suit in which a class of consumers who purchased Phiten's fitness accessories alleged that they did so because Phiten made false statements about their health benefits.[269] As part of the settlement, the court allowed Phiten to publish notice on its Facebook page, causing "more than 75,000 fans" of the page—though not necessarily Phiten customers—to receive an alert on their Facebook homepages.[270] Similarly, in *In re National Collegiate Athletic Association Student-Athlete Concussion Injury Litigation*[271] ("In re NCAA"), the parties settled a suit in which current and former college athletes alleged they suffered injuries because of how the National Collegiate Athletic Association (NCAA) addressed concussions.[272] Although neither the NCAA nor the plaintiff class suggested publishing notice using native social media posts, the court emphasized the importance of "reach[ing] as many class members as possible."[273] As a result, on its own initiative, the court required the parties to

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[266] See *Mark III*, 2015 WL 2330079 at *1 n 1 ("[T]he Court notes that the potential opt-in class has never been represented as being as broad as would be found in a consumer class action.").

[267] See note 260.

[268] 277 FRD 564 (SD Iowa 2011).

[269] Id at 567.

[270] Id at 569–70. Such notice constitutes native social media advertisement because the alerts appeared on users' home pages. For other examples of consumer class actions in which courts allowed the parties to publish notice using native social media posts, see *Mirakay v Dakota Growers Pasta Co*, 2014 WL 5358987, *2–3, 11 (D NJ) (describing the parties' approved plan to reach class members who purchased pasta online or in stores by publishing settlement notice using "social posts on Twitter" and "targeted sponsored news feeds on Facebook and Twitter"); *In re Electronic Books Antitrust Litigation*, 2014 WL 1641699, *2 (SDNY) (describing the parties' approved notice plan, which included posts on "relevant Twitter accounts"); *Fraser v Asus Computer International*, 2013 WL 621929, *3–4 (ND Cal) (allowing the parties to publish notice about the settlement of claims involving malfunctioning tablets on the defendant's Facebook page, among other places).

[271] 314 FRD 580 (ND Ill 2016).

[272] Id at 583.

[273] Id at 603.

notify class members using "the NCAA's Facebook pages and Twitter accounts," among other methods.[274]

Taken together, these cases suggest that courts decide to approve or deny native social media notice plans based on a fact-dependent analysis of the class and the claim. The next Section analyzes whether the adapted *Mathews* equation explains these results.

C. Testing Whether the Predictive Model Explains How Courts Evaluate Social Media Publication Notice

The previous Section showed that courts tend to allow parties to publish notice on social media using targeted banner ads, but courts only sometimes allow parties to publish notice using native social media posts. If, as Part II hypothesized, courts implicitly rely on the predictive model to decide whether to allow a party to publish notice in a particular way, then the model should explain these results.

First, consider Part III.B's observation that courts frequently allow parties to publish notice using targeted social media banner ads, but only sometimes allow parties to publish notice using native social media posts. If these courts implicitly relied on the predictive model, they would have allowed parties to publish notice using native social media ads in addition to targeted banner ads only if:

$$(b - b^*)\,(x_N - x_{TB}) > C_N - C_{TB} \qquad (2)$$

where $b - b^*$ measures the difference between the individual's net benefit from her claim if she opts out and litigates on her own and her benefit from the claim as a member of the class, $x_N - x_{TB}$ captures the increased number of potential class members whom native social media posts will reach relative to the number of class members whom targeted banner advertisements will notify,[275]

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[274] Id.

[275] Because native social media ads tend to be the marginal and controversial component of a notice plan, the subsequent analysis assumes that, as in *Flynn*, the next best form of notice includes targeted banner advertisements. See *Flynn*, 2015 WL 128039 at *1. That is, the next best form of notice is exactly the same in all respects, but excludes native social media ads. In symbols, the analysis assumes that $p_N = p_{TB} + \partial$, where ∂ captures the additional probability that native ads will notify class members not already reached by other methods. If the next best form of notice is instead newspaper ads, as in *Jermyn*, Equation (2) would measure the incremental increase in cost and probability of successfully notifying class members between native social media posts and newspaper

and $C_N - C_{TB}$ describes the increased cost of publishing notice using native social media ads and banner ads relative to the cost of providing notice using only targeted banner ads on social media. Rearranging Equation (2),[276] in cases in which the court allowed the parties to publish notice using targeted banner ads but prohibited the use of native social media posts, one would expect to find that:

$$x_N - x_{TB} < \frac{C_N - C_{TB}}{b - b^*} \tag{3}$$

The *Jermyn*, *Flynn*, and *Mark III* courts' decisions are consistent with Equation (3). In *Jermyn* and *Flynn*, for example, because the courts worried that native social media notice would be underinclusive,[277] they valued the left-hand side of Equation (3) at zero.[278] As a result, because $C_N - C_{TB}$ must be greater than zero,[279] the *Jermyn* and *Flynn* courts rejected the plaintiffs' proposed native social media notice plans. Likewise, the *Mark III* court refused to allow the plaintiff to publish notice using native social media because it believed that the "plan appear[ed] calculated to punish Defendants rather than provide notice of opt-in rights."[280] Put differently, the *Mark III* court estimated that the difference between $C_N - C_{TB}$ dominated any increase in $x_N - x_{TB}$.

Next, consider Part III.B's observation that courts allow parties to publish notice using native social media in only certain types of cases. If courts do rely on the predictive model to evaluate publication notice plans, then in cases in which the court allows the parties to publish notice using native social media, one should find that:

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ads. See *Jermyn*, 2010 WL 5187746 at *5. While the value of the variables would change, the analysis would remain the same.

[276] This requires the additional assumption that $b \neq b^*$ to avoid dividing by zero. See note 206.

[277] See *Jermyn*, 2010 WL 5187746 at *5–7 (noting that the plaintiff did not prove that a single class member followed Best Buy on Twitter); *Flynn*, 2015 WL 128039 at *4 (rejecting the plaintiffs' plan to create a case-specific Facebook page because it would reach only class members who already knew about the class action).

[278] That is, they concluded that using native social media ads would not increase the probability that any class member would receive notice. Because the courts doubted that native ads would reach any additional class members, and because x_N exceeds x_{TB} only by ∂, the number of additional class members whom native ads would reach, the courts assumed that x_N did not differ from x_{TB}.

[279] Given that C_N contains C_{TB}, even if notice by native social media ads results in no incremental reputational harms, the parties would incur incremental time costs in creating and sending the additional notice.

[280] *Mark III*, 2015 WL 2330079 at *1.

$$x_N - x_{TB} > \frac{C_N - C_{TB}}{b - b^*} \quad (4)$$

In all but one case[281] in which a court allowed or compelled parties to publish notice using native social media, Equation (4) accurately predicts the results. In *Mirakay v Dakota Growers Pasta Co*[282] and *Fraser v Asus Computer International*,[283] for example, the courts emphasized that some class members purchased products online, suggesting that native social media ads would incrementally increase the likelihood that such class members received notice.[284] That is, the courts implicitly estimated a relatively large positive value for $x_N - x_{TB}$. In *Kelly*, the native social media post reached at most Phiten's seventy-five thousand Facebook fans,[285] suggesting that any increase in $C_N - C_{TB}$ because of reputational harm would be small relative to the reputational costs incurred in a case like *Jermyn* or *Mark*, in which native social media notice would reach a substantially more overinclusive population. In *Jermyn*, for example, the proportion of Best Buy's followers on Twitter who were injured by its price matching policy in New York was likely much lower than the proportion of Phiten's Facebook fans who had purchased a Phiten product. Finally, in *In re Electronic Books Antitrust Litigation*[286] and *In re NCAA*, large, highly publicized suits involving Apple's e-book pricing and the NCAA's handling of concussions, respectively, the courts emphasized that the class action had already received significant media coverage.[287] As a result, the defendants would suffer relatively less incremental reputational harm than the defendants in less well-publicized cases like *Jermyn*.

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[281] See *Angell*, 2015 WL 65501 at *4. For additional discussion, see notes 288–95 and accompanying text.

[282] 2014 WL 5358987 (D NJ).

[283] 2013 WL 621929 (ND Cal).

[284] See *Mirakay*, 2014 WL 5358987 at *1; *Fraser*, 2013 WL 621929 at *1. See also Complaint, *Fraser v Asus Computer International*, Docket No 12-00652, *4, 7 (ND Cal filed Feb 9, 2012) (available on Westlaw at 2012 WL 447652) (noting that Asus engaged in a Facebook advertising campaign for its product and that the named plaintiff purchased the product from Amazon.com).

[285] See *Kelly*, 277 FRD at 569.

[286] 2014 WL 1641699 (SDNY).

[287] See id at *5 ("This was widely reported news just nine months ago, and has continued to make news as the litigation develops."); *In re NCAA*, 314 FRD at 603 ("[I]t is anticipated that class members will learn of the settlement through news coverage of the wide-reaching settlement.").

Calculated based on the facts in *Angell v City of Oakland*,[288] on the other hand, Equation (4) predicts that the court would hold that FRCP 23 prevents the parties from providing notice using native social media ads. In *Angell*, the court confronted a settlement class of five hundred to one thousand members of Occupy Oakland who alleged that the city falsely detained, arrested, and imprisoned them.[289] The class included a relatively small set of plaintiffs, and the settlement awarded each class member a relatively small sum of money.[290] Because the reputational costs of providing overinclusive notice were high (the suit raised serious allegations against the Oakland police)[291] and because the likelihood that native social media notice would reach more class members was low (parties had "compiled a comprehensive and updated contact list for class members," including many phone numbers and e-mail addresses),[292] the left-hand side of Equation (4) was likely less than the right-hand side. Despite the model's prediction that the court would not allow the parties to provide native social media notice, however, the court allowed the parties to "disseminat[e] information regarding the settlement agreement on social media."[293]

Because *Angell* provides few details about the native social media notice the court approved, it is difficult to determine whether and why the model failed to predict the court's decision. If, for example, the court allowed or required the Oakland Police Department to tweet notice about the settlement to its followers, then the model erred.[294] On the other hand, there are at least three scenarios or additional sets of facts under which the model accurately predicted the court's behavior. First, if the parties used social media very narrowly to contact only class members, then the costs of social media notice likely differed little from other alternative notice plans. As a result, even a small increase in the

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288 2015 WL 65501 (ND Cal).

289 Id at *1–3.

290 As certified, the class contained around 360 people. Id at *3. Although the parties settled for $1.36 million, after accounting for attorney's fees and class representative awards, each class member would receive about $2,600. Id at *3, 9.

291 See id at *2–3.

292 *Angell*, 2015 WL 65501 at *10.

293 Id at *10–11.

294 In such a situation, C_N would be significantly greater than C_{TB}.

likelihood of notifying class members would justify the court's decision.[295] Second, if some individual class members suffered particularly grievous individual injuries such that their claims differed significantly from the class settlement amount, then the large value of $b - b^*$ for those individuals would decrease the right-hand side of Equation (4). Third, if there was widespread press coverage about the suit and settlement even before the parties published any class action notices, then the marginal reputational cost was likely minimal.

Even though the model likely failed to predict the court's holding in *Angell*, this analysis demonstrates that the model can help explain when courts will allow parties to publish notice using social media. Moreover, in most cases, the model got it right: When the marginal benefits of social media notice exceed the marginal costs, courts approve native social media publication notice plans. In contrast, when the marginal costs outweigh the benefits, courts hold that FRCP 23 prevents parties from publishing notice using native social media.

IV. APPLYING THE MODEL: HOW COURTS WILL AND SHOULD EVALUATE FUTURE PUBLICATION NOTICE

Part III.C tested this Comment's predictive model on a new set of social media cases to demonstrate that courts do implicitly use a balancing equation to evaluate publication notice plans. Because the model explains how courts behaved in the past, litigants can use the predictive model to anticipate whether courts will approve their native social media publication notice plans in the future. But just as litigants need guidance on how courts will evaluate publication notice, courts need a principled way to think about whether to approve future notice plans because settlement classes are now common[296] and new forms of publication notice

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[295] In fact, if the parties could target their social media communications, thereby reducing the risk of overinclusion, native social media posts would likely be an extremely appealing form of notice, because Occupy Wall Street (the movement that led to offshoots like Occupy Oakland) communicated so effectively using social media. See Rachel Metz and Tom Simonite, *The Anatomy of the Occupy Wall Street Movement on Twitter* (MIT Technology Review, July 1, 2013), archived at http://perma.cc/UF62-NMT3.

[296] See Howard M. Erichson, *The Problem of Settlement Class Actions*, 82 Geo Wash L Rev 951, 952 (2014) (noting that "[i]n modern class action practice, most class actions are certified not for litigation, but for settlement"); Brian T. Fitzpatrick, *An Empirical Study of Class Action Settlements and Their Fee Awards*, 7 J Empirical Legal Stud 811, 819 (2010) (noting that before 1997, when the Supreme Court decided *Amchem Products,*

are likely to become more popular.[297] This Part uses the predictive model developed and tested above to forecast how courts will—and should—decide whether FRCP 23 allows or requires parties to provide notice using native social media advertisements. In so doing, this Part provides guidance for future litigants and future courts.

A. When Should Courts Allow or Require Parties to Publish Notice Using Native Social Media Advertisements?

Suppose a court faces a settlement class seeking approval of a notice plan under FRCP 23(e)(1). The parties ask the court to approve a plan that notifies potential class members by mailing notice to individuals whom the parties can identify with reasonable effort, placing banner advertisements on Facebook, and tweeting details of the settlement agreement to individuals who follow the company on Twitter.

Recall that Equation (2) showed that courts should allow native social media notice when $(b - b^*)(x_N - x_{TB}) > C_N - C_{TB}$. Imagine that the class action involves a well-publicized claim involving a technological product, such that the reputational harm captured in C_{TB} is already high. Additionally, suppose empirical studies demonstrate that people in the class's demographic are much more likely to notice native social media ads than they are to notice banner advertisements, such that $x_N - x_{TB}$ is positive and large.[298] In such a situation, the benefits of allowing the parties to

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Inc v Windsor, 521 US 591 (1997), "it was uncertain whether the Federal Rules even permitted settlement classes," but reporting that in 2006 and 2007, more than half of all class action settlements were settled at the time of certification).

[297] See *April 2015: Class Action Litigation Update* (cited in note 20) ("The ubiquitous use of social media has increasingly led plaintiffs distributing class notice to seek approval to use social media sites such as Facebook and Twitter.").

[298] When courts measure x_N and x_{TB}, they must consider not only whether the advertisement *reaches* class members, but also whether the ad *makes an impression* on class members. That is, even the best-targeted ads are meaningless in the context of FRCP 23 if no one notices them. For now, people appear to be much more likely to act on or recall native social media ads than targeted banner ads. See *The Next Steps for Ads on Instagram: New Formats, Increased Relevance, Broader Availability* (Instagram), archived at http://perma.cc/6U77-VLKZ (reporting that Nielsen estimated that people exhibited 2.8 times better recall when they viewed native ads on Instagram than when they viewed ordinary online ads). As a result, given the same reach, courts should prefer notice plans that utilize native advertisements rather than banner ads. Yet the future is unpredictable, and native ads could go the way of banner advertisements. One additional benefit of this Comment's predictive model, then, is its flexibility. So long as litigants and courts can roughly estimate probabilities, costs, and benefits, they can apply this model to new forms of notice in the future.

provide publication notice using native social media ads likely exceed the costs, and courts will and should allow the parties to tweet publication notice. Moreover, because the Supreme Court implicitly allows lower courts to *require* parties to provide notice by publication,[299] so long as a court determines that the increase in $x_N - x_{TB}$ outweighs the increase in $C_N - C_{TB}$, then the court should, according to *Mathews*, require the opposing party to publish notice using native social media.[300]

In contrast, Equation (3) suggests that courts will not and should not allow parties to publish notice using native social media ads when, for a fixed level of benefits, the incremental costs increase more quickly than the incremental likelihood of class members receiving notice. For example, courts should be more wary about allowing parties to publish native social media notice when the class is small relative to the number of non–class members, when the claim involves class members unlikely to receive notice on social media,[301] or when the defendant faces significant reputational harms.

B. Can Parties Provide Publication Notice Using Native Social Media Advertisements Alone?

Suppose that parties involved in a class action related to the use of a social media site reach a settlement and provide publication notice under FRCP 23(e)(1) *only* by tweeting notice to the

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[299] See *Oppenheimer Fund, Inc v Sanders*, 437 US 340, 355 n 22 (1978) (acknowledging that "a number of courts have required defendants in Rule 23(b)(3) class actions to enclose notices in their own periodic mailings to class members" and collecting cases). For an example of a lower court requiring publication of notice over First Amendment objections, see *In re Domestic Air Transportation Antitrust Litigation*, 141 FRD 534, 551–52 (ND Ga 1992) (reporting and rejecting defendant airlines' argument that, if the court forced them to publish notice in their in-flight magazines, the court would violate their First Amendment rights).

[300] For an example of a court requiring the parties to publish native social media notice, see generally *In re NCAA*, 314 FRD 580. In that case, current and former collegiate athletes relinquished any future claims against the NCAA regarding how it monitored concussions in exchange for the NCAA creating a medical monitoring fund and changing its concussion protocols. Id at 585–87. Because some college athletes suffered more severe injuries than others, b likely differed significantly from b^* for some individuals, meaning that the due process benefits of providing notice were significant. Moreover, because of wide-ranging news coverage of the settlement independent of any FRCP 23 notice, C_N likely differed very little from C_{TB}. See id at 602–03. As a result, the court properly required the parties to provide notice using native social media posts. See id.

[301] The nature of the claim might indicate whether class members are likely to be reached on social media. For example, in a claim involving medical devices associated with certain demographics, class members might not be likely to receive notice on social media.

site's followers. Once the litigation is resolved, a member of the class brings suit against the defendant, alleging the same claims that the parties settled in the class action. The individual argues that because the parties only tweeted publication notice—rather than publishing notice in a newspaper like *USA Today*—they failed to comply with FRCP 23(c)(2)(B) and violated her due process rights.[302] That is, the plaintiff argues that the parties should have done more than provide notice using native social media ads. Should the court allow her claim to proceed, or did native social media advertisements alone satisfy FRCP 23(c)(2)(B)'s publication notice requirement?

The answer here relies on Equation (1),[303] but with a twist. Rather than measuring the number of individuals reached by native social media notice relative to the number of individuals whom print ads would reach, the court should measure whether the benefits of print ads relative to the benefits of native social media notice alone exceed the costs of print ads. That is, the court should evaluate whether:

$$(b - b^*)\,(x_{USA} - x_N) > C_{USA} - C_N \qquad (5)$$

where x_{USA} and x_N reflect the expected number of class members each notice plan would reach, and C_{USA} and C_N remain the cost of each plan.

Depending on the demographics of the class and the nature of the claim, additional publication notice might cause $C_{USA} - C_N$ to increase more quickly than $x_{USA} - x_N$. For example, suppose that nearly all class members follow the company on Twitter and that costly advertisements in *USA Today* would reach a substantially overinclusive set of individuals without reaching any additional members of the class. Under such assumptions, because $C_{USA} - C_N$ increases more quickly than $x_{USA} - x_N$, the court will hold that native social media notice *alone* satisfied FRCP 23(c)(2)(B) and will prevent the plaintiff from continuing to litigate her claim.

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[302] Recall that courts evaluate FRCP 23(e)(1) settlement class notice under FRCP 23(c)(2)(B). See text accompanying notes 54–55.

[303] According to Equation (1), courts should allow parties to publish notice according to Notice Plan 2 (the proposed plan) when $(b - b^*)\,(x_2 - x_1) > C_2 - C_1$.

CONCLUSION

This Comment hypothesized that courts have implicitly evaluated whether publication notice satisfies FRCP 23 using a *Mathews*-type balancing test. By developing a predictive model to analyze how past courts have determined whether to allow parties to publish notice and then testing the model using social media cases, this Comment verified that courts can, should, and do balance the costs of over- and underinclusive publication notice. In turn, this Comment used the model to predict circumstances in which future courts will allow or require parties to publish notice using native social media ads. Because a balancing equation ensures that parties provide "the best notice that is practicable"[304] in a form that "is not substantially less likely to bring home notice than other of the feasible and customary substitutes,"[305] this Comment's predictive model provides guidance to litigants and future courts when the social media notice of today becomes the newspaper publication notice of tomorrow.

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[304] FRCP 23(c)(2)(B).

[305] *Mullane*, 339 US at 315.