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When more isn't always better: The ambiguity of fully transparent judicial action and unrestricted publication rules☆

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ABSTRACT

Unrestricted publication of judicial opinions and full transparency of judicial action are often considered a means to increase information relevant for future litigants and public discourse. In this paper, we analyze a model that captures the potential for unintended consequences of such policies. Under certain conditions, unrestricted publication of judicial opinions, full transparency of judicial behavior at trial and oral argument enabled by telecasting, and other forms of surveillance of judicial behavior may induce judges to obscure their opinions and actions leading to less information for the public over time. Unrestricted publication and full transparency of judicial action should be carefully considered as a policy preference.

1. Introduction

The central argument in favor of broad publication of judicial opinions and other actions has been forcefully asserted by Posner (2017); namely, that publication increases socially beneficial information.[1] Taken at face value, this is sensible argument. When a rule bans or discourages the publication of judicial names, oral arguments, judicial identity in *per curium* decisions, or otherwise restricts observation of judicial behavior by placing limits on audio recordings and working papers, ostensibly less information is available to citizens and future litigants. And reductions in information can lead to reductions in welfare. Today's technology can analyze large stocks of data to uncover predictive patterns in judicial writings, voting, questions asked at oral arguments, and even the best-response intonation and gestures of participants during judicial proceedings (Chen et al., 2019). Greater stocks of analyzed data can lead to greater precision in litigation, promote settlement, drive down private litigation costs, and reduce the public burden of congested judicial dockets (Miceli, 2009).

However, this argument fails to take into account how participants in a legal system respond to changes in publication rules. In particular, it ignores the strategic behavior of judges who know that they are being watched. Closely scrutinized judges, especially those predisposed to timidity, can be less candid. Judges can be less forthcoming and expository in their verdicts, holdings, and pronouncements knowing that their names will be associated with their opinions or that their behavior during trials and oral arguments will be televised.[2] Apart from safety, scrutinized judges reduce candor for a number of reasons. They may prefer to be known as liberal, conservative, or apolitical[3] in order to further their careers; they may be afraid that a specific form of partiality, even one unbeknownst to them, will be exposed which could impact

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[1] Other legal scholars have made the same argument. See Amar (2016); West (2017, 2012). Watts (2013, 2011).

[2] A similar argument has been raised in the context of televised debates of legislators. See Stiglitz and Caspi (2020); Stasavage (2007). Zamir and Engel (2021) consider the benefits of anonymous decisionmakers broadly, and include juries, S&P 500 index committees, scientific referees, and restaurant guides. Their analysis shows that anonymity can be advantageous for scenarios in which the decision-maker solves conflicts, but is not a party to the conflict.

[3] See *infra* note 4. Consider, too, that a recent text classification study predicts a measure of ideological direction in Circuit Court opinions using only opinion texts (Hausladen et al., 2020). When judicial names are publicized alongside those texts, a judge's ideology can be revealed with relative precision.

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their careers or bring unwanted shame; and they may prefer to avoid further questioning and publicity after a decision has been made. Thus, a ceteris paribus approach to transparency rules that assumes participant behavior remains unchanged is inappropriate. Contrary to Posner (2017), rules and norms that require unrestricted publication do not unambiguously increase information in equilibrium.

We analyze how publication restrictions impact the level of information available to the public. We present a model that captures the potential for unrestricted publication to alter the strategic behavior of judges. In our model, we assume that unrestricted publication encourages timid judges to reduce candor and obfuscate information in order to prevent the perception of personal bias.4.[5]

Publication restrictions of judicial proceedings have rich pedigree in the United States. For instance, it is prohibited to telecast oral arguments of the Supreme Court.[6] Occasionally, Supreme Court cases are decided by eight justices instead of the usual nine. On those occasions, if the Court splits 4–4, it issues a decision *per curium* and the names and votes of the eight justices are withheld from the public unless a justice issues a concurrence or dissent. In addition, the Supreme Court does not routinely publish or otherwise disclose votes to grant or deny *certiorari*, even after it later announces its disposition of the case.[7] Further, audio of Supreme Court arguments is released weekly, but audio of bench statements is only available at the beginning of the following term; and federal judges, unlike American Presidents, own their working papers and can decide what to release.[8]

In Section 2, we study a basic model in which a judge makes a preferred decision on the basis of (i) the facts brought by the parties, (ii) the application of legal rules in the event of conflict between the facts brought forth, and (iii) judicial bias, which describes the judge's personal leaning in the case at hand.[9] The parties know all of the facts, but are uncertain about the application of legal rules and the extent and direction of judicial bias.[10] The model consists of two periods. In the first period, parties litigate and judges make decisions. The public may learn of the legal rules and judicial bias from the published decisions of the first period and apply the newly obtained knowledge to predict decisions taken by the same judges in the second period.

In the model, judicial ability to obscure bias while ruling on an issue (or otherwise responding to a party) is assumed. A judge, for instance, fearful of being exposed as biased in sentencing, can choose to withhold written discussion of her appraisal of defendant characteristics or other facts related to the sentencing decision.[11] Or the judge may hold like a conservative, but provide little reasoning that could fully expose her deeply held conservative beliefs during recorded oral argument and thus continue to present herself as a liberal with less difficulty. Thus, the model permits the judge to control the amount of information that the public can discern regarding the rationale for the judicial decision. We distinguish between confident and timid judges; timid judges wish to hide personal bias.

We compare two scenarios. In the unrestricted publication scenario, the public obtains the signed judicial opinion as well as any additional information that discloses judicial identity and votes. Publication also provides information pertaining to judicial behavior exemplified during the proceeding, which may be available from extra-textual sources such as audio and video. Generally, with unrestricted publication sufficient information is provided to associate judicial identity with judicial action. In the restricted publication scenario, the public obtains the unsigned judicial opinion only.[12]

Our main result describes three situations where restricted publication increases information. First, information is increased (and uncertainty about future decisions reduced) with restricted publication if the base variation in judicial bias is low relative to the public's ex ante

[4] In the literature judges' personal bias has been discussed in many contributions which deal with the evolution of common law. Miceli and Cosgel (1994) assume judges' private view of how the law should be may deviate from former precedent. However, judges may stick to precedent because of the threat of future judges reversing the deviation from precedent. Becoming reversed implies negative reputational utility for the judge. Whitman (2000) includes a notion of dispersion in judicial views in the model of Miceli and Cosgel (1994) and comments on the stability of law. Miceli (2009, 2010) includes judicial bias in models of selective litigation. Judges bias is introduced in that they may either favor the plaintiff or the defendant. In a model in which judicial rules are too coarse to allow for an efficient ruling for every individual case, Gennaioli and Shleifer (2007a) (2007b) assume judicial bias in the form that judges lean more towards averting errors that disadvantage plaintiffs or defendants in a specific area of law. They focus on the evolution of precedent by either distinguishing (Gennaioli and Shleifer, 2007a) or overruling (Gennaioli and Shleifer, 2007b).

[5] A related thread of literature considers the importance of publicized dissents, which, if sufficiently reasoned, can convince an appellate court to review a case. In this literature, the benefits of publication accrue to lower-court judges who wish to project competence or political leaning. See Daughety and Reinganum (2006). Similarly, judges may engage in majority and other forms of decision-making in order to further their careers. See Levy (2005), and Ginsburg and Garoupa (2009).

[6] Telecasting of judicial proceedings in lower courts is often prohibited as well. See *Hollingsworth v. Perry*, 558 U.S. 183 (2010). For a recent high-profile exception involving the George Floyd case, see *Minnesota v. Chauvin*, Order Allowing Audio and Video Coverage of Trial, 27-CR-20–12949 * 5–8 (Minn. D. C.4th 2020) (permitting telecasting because "the press and general public's First Amendment right of [in person] access to public trials" is impaired due to the COVID-19 pandemic).

[7] Sometimes dissenting justices will publish an opinion explaining why they believe certiorari should have been granted. In those cases, the name of the dissenting justice is revealed. To our knowledge, no empirical study has estimated the number of cases in which names are revealed, but at least one commentator has noted that "no record of the Court's vote is ever published (regardless of whether the case is granted or denied)" for "most cases" (Cordray and Cordray, 2004: 402).

[8] The United States is not alone. In March of 2019, the French legislature passed a law that banned the use of judicial names in legal prediction systems that rely on machine learning. *See* Programming Law for the Judicial System, L. n° 2019–222, 23 (March 2019). Algorithm developers in France can no longer include the name of the judge or any identifying feature of the judge in predictive systems designed to ascertain the outcome of a judicial decision and offenders face penalties that include up to five years imprisonment. In the United States, the French law has widely been seen as a setback. Detractors perceive the ban as an attack on transparency and liberal values (McGinnis, 2019). Others have noted that the ban will chill research and progress in legal analytics (Livermore and Rockmore, 2019).

[9] Our use of the term bias is broader than the standard legal usage found in 28 U.S.C. § 455, which focuses on impartiality and prejudice toward one of the parties and can lead to judicial disqualification. Bias, in the sense used here, is a judicial preference for an outcome. That preference can be constrained by law, but it can also be satisfied so long as it remains within law's limits.

[10] Litigants are routinely represented by counsel who are experts in their fields and often have similar knowledge about legal rules as judges do. This is especially the case in well-settled legal domains of administrative law, where application of law is clear to a given set of facts. In areas that are less settled, and where application of facts to rules is difficult, the judge presumably is more experienced and better informed by assumption. This is more likely for questions of first impression.

[11] See, e.g., State v. Loomis, 881 N.W.2d 749 (Wis. 2016) (holding that a judge may rely on an algorithmic risk assessment tool at sentencing so long as the defendant's unique characteristics are adequately considered).

[12] The models employ as a basic unit of analysis a single issue of fact or law, or a discrete judicial behavior. An unsigned opinion is simply a collection of unsigned decisions across a number of issues.

knowledge of legal rules. With restricted publication bias cannot be associated with a specific judge even then it can be deduced from the publicized decision.[13] As a consequence timid judges, in addition to confident judges, render candid opinions, and information about the applicable law is increased. This comes at the expense, however, of learning about a judge's personal bias. Thus, restricted publication and judicial anonymity is likely to increase information relative to fully transparent identity when variation in judicial bias is low. This is likely because the informational cost of restricted publication is comparatively low.

Second, restricted publication reduces uncertainty about future decisions if the information advantage obtained from clarifying legal rules with candid decisions is high. Here it is explained that restricted publication is beneficial, since a greater share of candid decisions achieved by anonymity generates additional learning of legal rules and their application. Unrestricted publication and fully transparent judicial identity is preferable when rules are settled and can be straightforwardly applied since any additional learning about rules from a higher number of candidly explained decisions will be limited.

Finally, restricted publication and anonymity is preferred when a high proportion of judges timidly obscure their biases when placed in the spotlight of full transparent publication. These timid judges are sufficiently affected by career and other reputational concerns and take judicial action with high regard to what others think. They are influenced by reputation and obscure their biases. Thus, when a high proportion of judges author guarded opinions if their names can be associated to the decisions, restricted publication yields a larger informational gain from the pronounced increase in candid opinions while the informational loss due to less learning about judicial bias is small (given that bias cannot be inferred for timid judges under full publication).

Of course biased decisions are held in check by what is possible. If the bias discovered were significant enough, then it can lead to challenges in higher courts, and potentially, reversal (see, e.g., Shavell, 2006). Aware of this possibility, judges who fear appeal will be encouraged to reduce, if not eliminate, any partiality. In our model, the effect of bias is sufficiently small to evade appeal.

In Section 3, we suggest several extensions for future work. Section 4 concludes.

2. Model

We use a simple model to illustrate how publication rules might affect expected uncertainty about future rulings that may come from uncertainty about the law or uncertainty about a judge's bias. The model contains plaintiffs, defendants, and judges and consists of a two-period framework. Judges take decisions in both periods and plaintiffs and defendant may learn from first-period decisions about the law or judges' bias. We are interested in how tIhe publication rule, which may alter judges' candor in explaining decisions, affects uncertainty about decisions for plaintiffs and defendants.

In our model, we assume that judicial verdicts, holdings, dicta, and other actions (hereafter decisions) taken by judges constitute the outcome of a zero-sum game from the perspective of a plaintiff-defendant pair. Following Shavell (2006), we assume that a decision can be expressed as a real number v and that the plaintiff's ex-post utility from a decision is v while the defendant's ex-post utility amounts to $-v$.[14] We distinguish ex-post utility from adversaries' expected ex-ante utility which accounts for uncertainty about the decision and will be described below. Judges choose the decision that maximizes their personal utility where the preferred decision depends on the correct decision according to the law and a judge's bias.

Four elements determine the decision. The first two elements that determine the judge's decision v are the facts and arguments presented in court by the plaintiff and defendant.We assume that this information can be summarized by the real numbers x and y respectively, whereby a larger value of either variable indicates more favorable evidence for the plaintiff. We assume $x > y$ which is in line with the idea that each party will only bring forth facts that favor their own position. We abstract from problems of asymmetric information about facts between plaintiff and defendant and assume that x and y are common knowledge.[15]

The third variable is the application of a legal rule to the facts. The legal rule can be understood as a function $L()$ which describes how the facts of an issue translate to an unbiased decision, $\tilde{v} = L(x,y)$ where $L(x,y) = \lambda x + (1-\lambda)y$ by assumption. The rule via λ, $0 \leq \lambda \leq 1$, describes how differences in description of facts by adversaries (i.e. $x - y$) should affect the decision according to the legal rule. However, a fourth relevant variable, a judge's characteristics, for simplicity summarized in the variable μ, $-1 \leq \mu \leq 1$, may lead to bias in the final decision v, $v = \tilde{v} + \mu(x-y)$ which maximizes the judge's utility. The judge's bias moves the decision in favor of the plaintiff or defendant if $\mu > 0$ or $\mu < 0$. We have:

$$v = \lambda x + (1-\lambda)y + \mu(x-y) = y + (\lambda+\mu)(x-y). \tag{1}$$

From the adversaries' perspective uncertainty persists with respect to the law and the judge's bias. We assume that adversaries' ex-ante expected utility, U^P for the plaintiff and U^D for the defendant can be approximated by a quadratic utility function such that

$$U^P = E[v] - \frac{1}{2} r^P \sigma_V^2 \tag{2}$$

$$U^D = E[-v] - \frac{1}{2} r^D \sigma_V^2 \tag{3}$$

where $E[]$ Is the expectation operator, σ_V^2 the variance of the perceived distribution of the decision v and $r^P$and r^D measures of risk aversion for the plaintiff and the defendant, respectively. The simplifying assumption on expected utility allows us to describe the level of uncertainty by referring to the variance of the relevant distributions. We denote with σ_λ^2 the variance of the adversaries' ex-ante perceived distribution function for the parameter λ which constitutes their ex-ante level of uncertainty concerning the applicable law. Correspondingly, we assume that uninformed plaintiffs' and defendants' uncertainty pertaining to a judge's bias is described by σ_μ^2, the variance in bias over the population of judges. In addition to the difference in bias, judges are of two types: type

[13] We specifically have in mind publication restrictions that restrict the use of judicial attribution to single-authored opinions, *per curium* decisions, *certiorari* decisions, and other judicial pronouncements, but the results hold for any rule that dissociates judicial identity from judicial action. We use the term judicial decision throughout the text for exposition though we sometimes refer to judicial action.

[14] Examples of decisions include an award for damages that an opponent must pay, the relinquishment of a property right to another, or a sentence of five years imprisonment. It generally holds that judges are free to favor parties along a continuum (e.g. modulating damages for pain and suffering after a finding of negligence), and that parties often face zero-sum aspects of a dispute that assigns winners and losers. Even if we assume a more general ex-post utility function for the plaintiff and the defendant such that they respectively still prefer higher and lower values for the decision, the basic insights from the model do not change.

[15] A possible justification for the absence of asymmetric information about relevant facts could be seen in a discovery process preceding a trial. For the purpose of our model the simplifying assumption seems appropriate as uncertainty about facts brought forth by the opponent party adds both to the uncertainty arising from missing knowledge of the law and uncertainty about a judge's bias.

1, share q, are confident and do not care about the assessment of their decisions by others; the remaining judges, share $1-q$, are timid and fear that their decisions may generate some personal cost.[16] Judges' biases and types are uncorrelated.

In a two-period model we compare two scenarios. In each scenario randomly assigned judges make decisions in both periods. Plaintiffs and defendants in period 2 are initially unaware of the legal rule λ or the judge's bias μ but may learn of those parameters from the information released in period 1. Given their preferences as described in (2) and (3), both plaintiff and defendant benefit from a more precise ex-ante expectation of the judicial decision.[17] The two scenarios differ in the level of information that second-period plaintiffs and defendants obtain about the decisions made in period 1. In scenario 1, there is publication with no restrictions. Second-period plaintiffs and defendants receive all information about decisions made in period 1. In our setting, this information includes the judges' names, votes, any behavior captured by audio or video during oral argument or trial, and any information that associates judicial identity to judicial action generally. In scenario 2, the second-period plaintiffs and defendants obtain the decisions, but without additional identifying information.

The judges' decisions made in period 1 may be delivered with more or less candor.[18] With candor, information pertaining to the legal rule and the judge's bias can be obtained from the decision. Without candor, information regarding the legal rule as well as information about bias can at most be drawn with some probability. For simplicity we present the model under the assumption that without candor neither the legal rule nor judicial bias can be ascertained from the publicized decision with positive probability.[19]

Decisions made without candor consist of incomplete disclosure of the bases for a decision. Candid decisions, by contrast, involve full disclosure. The likelihood of learning a legal rule that governs an issue depends on the number of candid decisions involving that issue which are authored during period 1. Denote by c, $0 \leq c \leq 1$, the share of candid decisions in period 1. The probability of learning is given by $p(c)$, $0 \leq p(c) \leq 1$, $p'(c) \geq 0$. We assume that the additional gain from a greater number of candid decisions is decreasing, i.e., $p''(c) \leq 0$.

[16] Timid judges who fear that their decisions may generate some cost may, for instance, fear reduced career opportunities and social opprobrium of their peers. See Daughety and Reinganum (2006); Levy (2005); Ginsburg and Garoupa (2009). Confident judges, by contrast, fear reduced career opportunities and social opprobrium less. They may, for instance, sit at the highest court and have no further career aspirations, believe that they can advance no further, or are content with their position. Confident judges, may therefore, on average, be older and further into their careers.

[17] We use adversaries' risk-aversion as one option to incorporate benefits from lower uncertainty. More generally, lower uncertainty can also drive settlement and lower adversaries' trial costs. For example, assume that both the plaintiff and the defendant obtain a private and noisy signal about the decision to be made by the judge and that the degree of noise depends on uncertainty about the law and the judge's bias. Less noisy signals should assist parties toward reaching an out-of-court agreement because excessive optimism, which may hinder settlement, is less likely as certainty increases. (see, for example, Cooter et al., 1982).

[18] This is similar to Daughety and Reinganum (2006). There, dissenting judges may provide "reasoned" or "non-reasoned" opinions.

[19] Instead, if we assume that the legal rule and judicial bias can be inferred from a decision without candor with probability $\pi > 0$, then, in the following analysis, variable q in the scenario 1 equations with unrestricted publication must be replaced with $q + (1-q)\pi$. The main results still hold for this modification. Note that an increase in the probability π reduces uncertainty under unrestricted publication while uncertainty under restricted publication remains unchanged. Consequently, unrestricted publication is more likely to reduce uncertainty for higher values of the probability π.

2.1. Analysis

In the following we consider uncertainty about decisions in period 2. In scenario 1 (unrestricted publication), timid judges, aware that all information will be made public, are reluctant to provide candid decisions. Candid decisions are only given by confident judges, i.e., $c = q$. Plaintiffs and defendants are informed of confident judges' biases but learn legal rules only with probability $p(q)$. In scenario 2 (restricted publication), all judges render candid decisions because articulated bias cannot be attributed to a specific judge, i.e., $c = 1$. The probability that plaintiffs and defendants learn legal rules is given by $p(1)$, but because decisions are published without identifying information of judges, plaintiffs and defendants remain unaware of judges' bias. In scenario 1, the (expected) level of uncertainty for an issue in period 2, given by the variance of the expected decision for plaintiff and defendant s_1^2, amounts to

$$s_1^2 = (1-p(q))\sigma_\lambda^2(x-y) + (1-q)\sigma_\mu^2(x-y) \tag{4}$$

With probability $p(q)$ the application of a legal rule can be inferred from the share q of candid decisions. In this case uncertainty can only prevail on the basis of the unknown biases of timid judges. If the application of a legal rule cannot be inferred, this adds to the level of uncertainty.

In scenario 2, uncertainty for a second-period decision s_2^2 is given by

$$s_2^2 = (1-p(1))\sigma_\lambda^2(x-y) + \sigma_\mu^2(x-y). \tag{5}$$

In this scenario, uncertainty surrounding the application of a legal rule is resolved with greater probability than in scenario 1, but uncertainty regarding judges' biases cannot be removed.

The difference in expected uncertainty between scenarios is given by

$$\Delta_{s^2} = s_1^2 - s_2^2 = (p(1)-p(q))\sigma_\lambda^2(x-y) - q\sigma_\mu^2(x-y). \tag{6}$$

For $\Delta_{s^2} < 0$ scenario 1 provides less uncertainty, otherwise scenario 2 is less uncertain. Scenario 1 is less uncertain if

$$\sigma_\mu^2 > \frac{p(1)-p(q)}{q}\sigma_\lambda^2. \tag{7}$$

From Eq. (7), we obtain our main result. Publication of the association between judicial identity and judicial decision reduces uncertainty for future litigants if:

1. Ex-ante uncertainty about the application of the legal rules measured by σ_λ^2 is low relative to the variation in judges' bias measured by σ_μ^2;
2. The information advantage regarding legal rules obtained by candid decisions is low, that is, $p(1) - p(q)$ is small; or
3. The share of confident judges is high.

Item 1. is straightforward. Unrestricted publication reduces uncertainty if adversaries know less about judicial bias relative to their knowledge of the unbiased application of legal rules to a particular set of facts. Even though the share of candid decisions is reduced, which reduces information about unbiased application of rules, unrestricted publication reveals some information about judicial bias, which reduces uncertainty of decisional outcomes by a greater magnitude.

Consider item 2. Publication reduces uncertainty if learning from additional candid decisions occurs infrequently. Recall that under publication restrictions, judges produce a greater share of candid decisions than with unrestricted publication. Learning from a higher number of candid decisions may be infrequent, for instance, if only a small amount of information can be deduced from additional candor since the application of legal rules can already be inferred from the proportion of confident judges' decisions, i.e., $p(q)$ is high. In this situation, additional candid statements of legal rules under publication restrictions are less advantageous than the additional information pertaining to judicial bias

acquired from unrestricted publication. In addition, learning from candid decisions occurs infrequently if the application of a legal rule is issue-specific, in which case even a large number of candid decisions will generate incomplete knowledge of the rule, i.e., $p(1)$ is low.

Finally, consider item 3. A higher proportion of confident judges necessarily reduces uncertainty with unrestricted publication but has no bearing on uncertainty with restricted publication. Confident judges provide candid decisions even if their identities are associated with their actions via unrestricted publication. If their share q is high, then most of judicial bias is revealed with unrestricted publication and learning is minimally impaired (scenario 1).

2.2. Discussion

Several broad observations can be drawn from these results. Contrary to Posner (2017), rules or norms that require unrestricted publication do not unambiguously increase information. If all judges are confident and ignore reputation concerns, then unrestricted publication and fully transparent judicial action would have no impact on the contents of written judicial opinions, behaviors exhibited during judicial proceedings, *per curium* and *certiorari* votes, and other judicial actions. Under restricted publication and anonymity, however, the timid judge is induced to act and decide with increased candor. If the proportion of timid judges is high, then publication restrictions can increase the level of information pertaining to the application of legal rules available to future litigants to such an extent that the cost of reduced information pertaining to judicial bias are more than compensated.

In fora where knowledge of application of legal rules reduces uncertainty more than knowledge of judicial bias, publication restrictions can be useful. For instance, Article 3 courts are often tasked with pronouncing conclusive statements of legal rules. In contrast, administrative courts may more frequently apply settled law. In terms of our model, litigants' knowledge of law in administrative courts is high relative to non-administrative courts. If the proportions of confident and timid judges are identical across court types, then unrestricted publication is more effective for reducing the uncertainty of administrative court outcomes relative to non-administrative court outcomes.

Yet, the shares of timid and confident judges may well differ across courts. Assuming that confidence negatively correlates with age and future career aspirations, we should expect a higher share of confident judges in higher courts than in lower courts. From this perspective of the allocation of timid and confident judges, it may be optimal to restrict publication in lower courts in order to induce higher candor at the trial level, but combine that restriction with unrestricted publication in appellate courts where candor may be more likely to occur regardless of publication rules.

Current U.S. Supreme Court rules allow justices to remain anonymous when issuing *per curium* and *certiorari* decisions. Justices, however, may choose to issue a concurrence or dissent, which reveals some information about legal rules as well as associate their identity with any statement that reveals bias. As such, publication is permitted, but governed with a default rule of restriction from which justices may opt out. The results suggest the rule's rationale: Supreme Court determinations of legal rules greatly reduce uncertainty, which implies that candor is valuable to the public. The value of candor in this setting, ceteris paribus, suggests restricted publication. At the same time, higher level courts are more likely to be populated by confident judges, which suggests that restricted publication is not necessary to induce candor. Restricted publication as a default rule combined with a publication option for confident judges may therefore encourage the revelation of the highest level of information for the public. Information on legal rules is favored because justices remain anonymous by default and are encouraged to reveal their view of the law. Ideally, justices would reveal their bias in addition, but they may not in all instances. A second-best solution is obtained by allowing justices to choose to reveal bias in addition to any information that they choose to reveal about the legal rule.

3. Extensions for future work

We see several extensions for future work. The first involves social preferences for judicial activism. If scrutinized by television cameras or algorithms, judges may produce a greater number of decisions that deviate from statutory texts and other institutional and social restraints. Under publication rules, these judges may prefer meting broadly consensual justice to maintaining separation of powers. But the opposite may be true, especially in countries like France, where judicial surveillance may more likely encourage judicial conformity to statutory decrees.[20] Thus, a publication rule's relationship to welfare may be dependent upon prevailing attitudes toward activism, and in particular, whether, for a given jurisdiction, the benefits of formalism outweigh the benefits of activism.

Another extension concerns the preferences of lawyers. Lawyers specialize in advising clients on the probability of victory. Because they interact with judges more often than clients, lawyers have a comparative advantage in assessing a judge's bias. Publication restrictions help them maintain that advantage vis-à-vis clients because restrictions reduce the level of information about judicial bias available to the public.

Finally, the model might be extended to account for other dimensions of judicial behavior or changing incentives over the passing of time. Take, for instance, the controlled release of judicial working papers. Unlike Presidents, judges own their working papers and can decide what to release to the public. They may expect to reveal additional information regarding their bias at retirement, which may influence what they choose to reveal while adjudicating cases as sitting judges. Age, or other factors that are related to a decision to retire, may impact their degree of candor.

In terms of testable hypotheses, future empirical work might consider the relationship between publication rules and judicial candor. For instance, does unrestricted publication reduce candor, as measured by Flesch-Kincaid scores for certain types of judicial actions or judges? Our model suggests a relationship.

4. Conclusion

A number of legal scholars and judges have advocated unrestricted publication of judicial decisions that associate judicial identity with judicial action in order to increase learning about legal rules and judicial behavior. Increased learning is considered beneficial since, inter alia, it reduces uncertainty in litigation outcomes and induces higher settlement rates. This argument may be even more forcefully made given new advances in technologies that scrutinize large data sets and identify patterns of behavior and decisionmaking unbeknownst to judges. In addition, transparency induced by unrestricted publication may lead to decisions more aligned with legal rules despite deviations in judicial preferences. However, in the real world publication of judicial material is often restricted and lawmaking shows no unambiguous tendency in the direction of alleviating the restrictions.

In this paper, we add to the discussion by identifying a mechanism which may attenuate the benefits obtained from unrestricted publication of judicial data. Unrestricted publication of material that reveals individual judges' characteristics may change judicial behavior in an undesired way. Judges aware that their actions can be associated with their identities may be afraid that the public will infer their personal views. In short, rules that mandate publication of judicial action may reduce judicial candor, and as a result, lead to an unintended consequence of reduced information.

[20] Consider the institutional history of the French judiciary in which decisions are written briefly and mechanically, and rendered *au nom du peuple français*, even as French law simultaneously requires that judicial authors must be disclosed in published decisions so long as there are no safety concerns (G'sell, 2019).

We present a model to account for changes in judicial behavior. In the model, judges hide personal bias by adjusting their explanations for decisions that they make with respect to the issues presented to them. Under restricted publication, where judicial identity remains hidden, all judges provide candid explanations which increase information about relevant legal rules and other bases for judicial action. With unrestricted publication, only confident judges who do not care about their public image will provide candid reasoning. Timid judges may obscure personal predilections with less candid discussions and explanations. Consequently, unrestricted publication can lead to less learning, especially if the share of timid judges is high and uncertainty about legal rules is especially pronounced.

Our model captures the potential for unintended consequences of unrestricted publication. Under certain conditions, total transparency may induce judges to obscure their opinions leading to less information for the public. Unrestricted publication should be carefully considered as a policy preference. In our view, various extensions that, for instance, include the preferences of attorneys or structure the timing of judicial releases of information, can further enrich our understanding of the relationship between publication and judicial candor.

Author statement

The authors have contributed equally to all aspects of the paper.

Data Availability

No data was used for the research described in the article.

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