Reviewing Fast or Slow: A Theory of Summary Reversal in the Judicial Hierarchy*

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Abstract

Appellate courts with discretionary dockets have multiple ways to review lower courts. We develop a formal model that evaluates the tradeoffs between "full review"—which features full briefing, oral arguments, and signed opinions—versus "quick review," where a higher court can summarily reverse a lower court. We show that having the option of costless summary reversal can increase compliance by lower courts, but also distort their behavior compared to relying only on costly full review. When the higher court is uncertain about the lower court's preferences, the threat of summary reversal can lead an aligned lower court to "pander" and issue the opposite disposition to that preferred by the higher court. Access to summary reversal can therefore harm the higher court in some circumstances. Our analysis provides a theoretical foundation for growing concern over the U.S. Supreme Court's "shadow docket"—of which summarily reversals are a component—which has been empirically focused to date.

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Unlike most superiors in hierarchical organizations, the United States Supreme Court has few formal tools with which to compel compliance by lower courts. Since gaining nearly full discretion over its docket in 1925, the Court has adjudicated the vast majority of cases in which litigants seek the justices' review in two ways: by denying certiorari ("cert")—which results in the lower court's decision remaining in place—or through its "merits" docket—which involves "full" consideration by the Court, including oral arguments and (usually) signed opinions. Cases decided on the merits dockets have typically received the bulk of attention from the media, politicians, and scholars of the Court.

The emergence of a lopsided 6-3 conservative court following President Trump's three appointments (Neil Gorsuch, Brett Kavanaugh, and Amy Coney Barrett) has placed another important tool in a critical spotlight— *summary reversals*, in which the Court grants cert and reverses the lower court *without* written briefs on the merits or full arguments.[1] Summary reversals are a critical element of the Court's broader "shadow docket," a term describing all the decisions the Court makes other than through the merits docket (Baude 2015, Vladeck 2023). While the Court has always conducted much of its work through the shadow docket, many commentators and critics have argued that the Court has increasingly used it to make legal policy in ways that earlier courts had shied away from.

The Supreme Court's use of summary reversal presents some clear benefits and costs. On the benefits side, the Court's case selection can be seen as a management problem: every year it is asked to review thousands of cases, but the Court has the capacity to give full review to only a small fraction of them. Today, the justices choose to hear fewer than 70 merits cases each term. As Hemmer (2012, 213) argues, "summary disposition allows the Court ... than its lawmaking or its error-correcting capacity—to dispose of more cases with less effort, to correct egregious legal errors when they arise, and to preserve the Court's limited

[1] Summary reversals are usually accompanied by opinions, but they are typically much shorter than merits opinions, and are usually issued as a "per curiam" opinion (meaning it is issued in the name of the Court overall), rather than as a signed opinion by an individual justice. Summary reversals should not be confused with *summary judgment*, which is a procedure used in trial courts in which a judge may declare one side a winner before the actual trial is held if the agreed-upon facts are sufficiently conclusive.

resources for cases that present novel legal problems." On the costs side, many legal scholars have criticized summary reversal on the grounds that it leads to worse decision making—e.g., Baude (2015, 4-5) argues that "non-merits orders do not always live up to the high standards of procedural regularity set by its merits cases," while Vladeck (2023, 89) argues that "summary reversals short-circuit the Court's normal process."[2]

However, despite the intuitive appeal of these arguments, as well as empirical research documenting the Court's use of the shadow docket (Baum (2020), Chen (2019), Hartnett (2016), Hemmer (2012)), the causes and consequences of the Court's use of summary reversals has thus far escaped *theoretical* attention. Specifically, while a now-large formal theoretic literature dating back to Cameron, Segal and Songer (2000) and Spitzer and Talley (2000) examines "strategic auditing" of the lower courts by the Supreme Court,[3] the entirety of this literature assumes that a higher court *must* conduct a costly full rehearing of a lower court's decision in order to gain the right to reverse it. This, however, clearly contrasts with the empirical reality of the Supreme Court's broad arsenal of tools. In this paper we develop a formal model of summary reversal, the goal of which is to examine how the ability of a higher court with a discretionary docket to summarily reverse a lower court affects the interaction between the two.

The starting point for the theory is the previously described tradeoffs. On the one hand, summary reversal allows the Court to engage in "quick review," thereby saving it from the time and opportunity cost of "full review;" in the context of the Supreme Court, full review means full briefing, oral arguments, and signed opinions. On the other hand, when a higher court engages in summary reversal it forgoes learning additional information about the case, so its decision is made with more uncertainty. Our novel contribution is to show how summary reversal affect *lower court* decisionmaking—in particularly, whether they choose to rule in a manner consistent with the higher court's preferences—in the shadow of uncertainty

[2]Concern over the Court's use of summary reversals in the legal academy is not new; see Brown (1958) and Hart Jr. (1959).

[3]See Kastellec (2017) for a review.

about what review option the higher court will exercise.

In our model a lower court initially hears a case, and decides whether or not to make a judgment in line with the higher court's known preferences. The higher court observes the decision of the lower court but not the specific case facts. The higher court then has two options to modify the lower court's decision: she can engage in a costly full review (thereby learning the case facts and implementing her ideal disposition) or summarily reverse the lower court (thereby avoiding the cost of review, but potentially reversing a compliant decision). An additional crucial feature of our model is that the higher court is *uncertain* about the lower court's exact preferences on the particular case—she entertains the possibility that it is *aligned* and shares her preferences over case outcomes, or is *misaligned* and has differing preferences. Since the higher court doesn't exactly know the "type" of the lower court, she cannot fully base her reversal strategy on the lower court's exact preferences.

The central distinction between a reversal after a full review and a summary reversal—that the latter is done with *less* information about the case—turns out to crucially affect how these distinct tools influence the behavior of a reversal–averse lower court. *Both* tools can discourage non-compliance by a *misaligned* lower court; full review carries the risk to the lower court that the non-compliance will be uncovered and reversed, while the threat of summary reversal directly disincentivizes a suspect disposition. However, *only* summary reversal creates the risk that an *aligned* lower court will be punished for doing exactly what it was supposed to do—making a difficult decision that goes against the higher court's prior beliefs because the specific case facts warrant it. This distinction lies at the heart of our results about the surprising effects of including summary reversal in the higher court's arsenal of tools.

Our first main result is that summary reversal can indeed increase compliance by a misaligned-type lower court. Since summary reversal is costless, a minimum level of compliance by a misaligned-type lower court is required to ensure that the higher court will not always just summarily reverse a suspect disposition without a full rehearing. In equilibrium a misaligned-type lower court will always meet this threshold regardless of the probability of full review. Access to summary reversals can therefore generate additional compliance from the lower court, on top of what is gained from employing the mechanism of full review.

Second and more surprisingly, summary reversal can induce *pandering* by an aligned-type lower court. What does pandering look like in this context? It involves choosing a disposition in line with the higher court's *prior* beliefs about the case facts, but inconsistent with her preferences if the true case facts were known. One consequence of this pandering is the disappearance of the well-known "Nixon goes to China" effect in the strategic auditing literature, in which a higher court should never review a lower court disposition going against it's bias because she can be sure it is compliant—e.g. a conservative higher court should never review a conservative decision by a more liberal lower court (Cameron, Segal and Songer 2000). With pandering, the higher court can no longer be sure that such "counter-bias" decisions are in fact compliant; it may therefore still review such a disposition in equilibrium (albeit less often than it reviews a "pro-bias" one).

Third, since summary reversal may trigger pandering, access to it may not actually benefit the higher court. On the one hand, such access will always at least weakly increase compliance by a misaligned-type lower court. On the other hand, it may also lead to pandering by an aligned-type lower court. In fact, it is *precisely when* summary reversal increases compliance by a misaligned-type lower court (because it is actually being used) that it *also* triggers pandering by an aligned-type lower court—in our model, summary reversal's beneficial and perverse effects are inextricably linked. When both are considered the latter may dominate, meaning that the higher court is harmed overall by having access to summary reversal (despite her full control over when to use it). Interestingly, this is *not* because the pandering of an aligned-type lower court is somehow "greater than" the increased compliance of a misaligned-type lower court; in equilibrium, increased pandering is perfectly balanced out by increasing compliance. Rather, it is because the simultaneous increase in compliance and pandering makes the lower court's decisions *less informative* about when the higher court should *instead* engage in full judicial review, thereby degrading the value of the court's main oversight tool. This effect is worsened when full review is "cheaper," and when a relatively moderate higher court oversees a potentially extreme lower court.

Finally, our model allows us to determine when pandering will become more severe. Increased ideological distance between the higher and lower courts (in expectation) weakly increases the amount of pandering in equilibrium. A "busier" higher court more reliant on summary reversal also incentivizes more pandering. Interestingly, increasing the lower court's reversal costs has ambiguous effects—it can reduce pandering (by making the higher court less reliant on summary reversal to control a misaligned-type lower court), but also worsen it (by making an aligned-type lower court more reversal-averse). By implication, attempts to improve lower court behavior by increasing the effective sanctions from reversal may backfire. Collectively, these results have important implications for understanding the use and consequences of summary reversals by the Supreme Court, and point towards a broader theoretical understanding of the importance of the shadow docket.

Strategic Auditing and Summary Reversals

Our model contributes to the formal literature examining how higher courts in the judicial hierarchy (like the Supreme Court) use a discretionary docket to target cases for review (see Cameron, Segal and Songer 2000, Spitzer and Talley 2000). The structure of these models has been extended to examine different aspects of decision making in the judicial hierarchy such as the role of whistleblowing (Beim, Hirsch and Kastellec 2014); how combining rule development and dispositions affects the interaction of lower and higher courts (Carrubba and Clark 2012); and how the Supreme Court's "rule of four"—under which it takes only four justices to grant cert—affects compliance (Lax 2003). While the questions asked and structures invoked in these papers differ in important ways, they share two common features: (1) the higher court must first pay some cost in order to gain the *ability* to reverse the lower court, and (2) paying this cost is necessarily "bundled with" learning the case facts.

Given that the certiorari process has motivated the strategic auditing literature, these initial assumptions made sense. After all, the modern Supreme Court now hears fewer than 70 cases per term (out of the thousands of cert petitions filed each term), so the opportunity cost of granting cert is high, and a grant allows the justices (and their clerks) to devote considerable time and effort to a case. The rising importance of the shadow docket, however, renders these foundational assumptions suspect. Stepping back from the judicial hierarchy and thinking more generally about the Supreme Court's oversight of lower courts as a principal-agent problem, the limitations of this approach become clear. In most hierarchical organizations, bosses can outright reject proposals from their subordinates without due diligence or explanation. It increasingly appears that Supreme Court justices can do the same—meaning that the historical absence of summary reversals on high profile cases may be an *endogenous* equilibrium phenomenon, rather than an exogenous institutional constraint.

Accountability, Pandering, and Reversal Costs

The phenomenon of pandering is central to a sizable literature studying the accountability relationship between voters and incumbents using principal-agent models (see Ashworth (2012) for a review). Such models typically combine "moral hazard" (i.e., the voters not seeing everything that the incumbent does or knows) with "adverse selection" (i.e., the voters not knowing whether the incumbent is the sort of "type" that they wish to reelect), and examine how an incumbent's incentive to signal that he is a desirable type distorts his policymaking. The term pandering typically describes a particular type of distortion—an incumbent (i.e., the agent) selecting the action initially favored by "popular opinion" (the principal's prior) despite privately knowing that it does not serve the voter's best interests, so as to signal she is the sort of incumbent the voter should wish to retain (e.g. Canes-Wrone, Herron and Shotts (2001) and Maskin and Tirole (2004)).

The pandering in our model has both similarities and differences with this traditional sort. Our theory also involves an agent (a lower court) who sometimes distorts his choice in the direction of the principal's prior in order to achieve a desirable end. However, our agent cannot be replaced, so pandering is not driven by his "career concerns" vis-a-vis the principal—rather, he is reversal-averse, as is typical in judicial hierarchy models. In addition, summary reversal distorts the behavior of both the "bad" type of agent (a misaligned lower court) and the "good" type of agent (an aligned lower court)—and unusually, simultaneously *improves* the behavior of the bad type while *worsening* the behavior of the good type.

Our assumption that lower court judges suffer reversal costs is standard in the formal theory literature on the judicial hierarchy (e.g. Cameron, Segal and Songer 2000, Kastellec 2007, Cameron and Kornhauser 2006, Beim, Hirsch and Kastellec 2014, Carrubba and Clark 2012), and is typically justified on the basis of reputational considerations in the broader legal community (in contrast to the narrower reelection concerns of electoral models). For example, Cameron, Segal and Songer (2000, 102) write:

> "Judicial culture" famously includes a desire to avoid reversals. Frequent reversals bring the derision of colleagues and a decline in professional status. Higher courts are well aware of this sanctioning power. For example, Perry (1991, 267) notes that Supreme Court clerks "frequently talked about the need to 'slap the wrist' of a judge below." The importance of judicial culture should not be surprising. Federal judges belong to a very special and relatively close-knit society, and their informal culture is apt to affect their decisions.

To this we add that the sanction experienced by a lower court after summary reversal is arguably more severe than after full review, since its usage indicates the higher court believed the lower court to have made such a clear error that full review is not even necessary.

The Model

There are two players in the model: a higher court (H) and a lower court (L). We refer to the lower court as "he" and the higher court as "she." The play of the game determines the outcome of a case. Following other models of the judicial hierarchy (most closely Beim, Hirsch and Kastellec (2014)), we assume that the facts of the case map onto a single, continuous dimension X that determines the extent to which the liberal outcome is more appropriate; x denotes the case's location on X. A court makes either a "liberal" or "conservative" disposition decision d, denoted by ℓ (for liberal) and c (for conservative), respectively. For example, Cameron, Segal and Songer (2000), Lax (2003), and Kastellec (2007) each describe the case space by reference to search-and-seizure cases; in those models, the case space represents the degree of intrusiveness of a search, where cases further to the right are more intrusive. In terms of dispositions, a search is either held reasonable (the "conservative" outcome) or unreasonable (the "liberal" outcome).

The players care about the final outcome of the case. We assume each player's preferences are described by a cutpoint $I \in [0, 1]$ such that for $x < I$ the player prefers the conservative outcome and for $x \geq I$ the player prefers the liberal outcome. More specifically, players derive utility from the final disposition of the case, and we let $u(x, I, d)$ denote the utility of a player with cutpoint I for disposition d given case facts x, where x is assumed to be uniformly distributed over $[0, 1]$. Without loss of generality the utility from the conservative disposition is normalized to $u(x, I, c) = 0$, and the utility from the liberal disposition is assumed to be $u(x, I, \ell) = x - I$. A player's net benefit from the final disposition matching her preferences is thus $|x - I|$.[4]

In a slight abuse of notation, we denote the higher court's cutpoint by H and the lower court's cutpoint by L. The higher court's cutpoint H is common knowledge at the start of the game; we further assume her ex ante optimal disposition is conservative ($H > \frac{1}{2}$). In contrast, the lower court's cutpoint L is initially *unknown* to the higher court and may take one of two values $\{A, M\}$, where A denotes "aligned" and M denotes "misaligned." At the start of the game nature selects the lower court's preferences to be aligned ($L = A$) with probability p and misaligned ($L = M$) otherwise. An aligned-type lower court has an ideal cutpoint equal to the higher court ($A = H$), but a misaligned-type lower court is more liberal ($M < H$).[5] The higher court is thus certain that the lower court is *at least weakly* more liberal, so that in equilibrium a liberal disposition is considered more suspect. To simplify the analysis we further assume M is sufficiently liberal that it is optimal for the higher court to summarily reverse the liberal disposition if she believes the lower court to be

[4]Any payoff formulation that yields a net benefit of $|x - I|$ for ruling correctly is isomorphic to our model.

[5]From this point forward, we use "aligned lower court" and "misaligned lower court" as shorthand for aligned-type lower court and misaligned-type lower court.

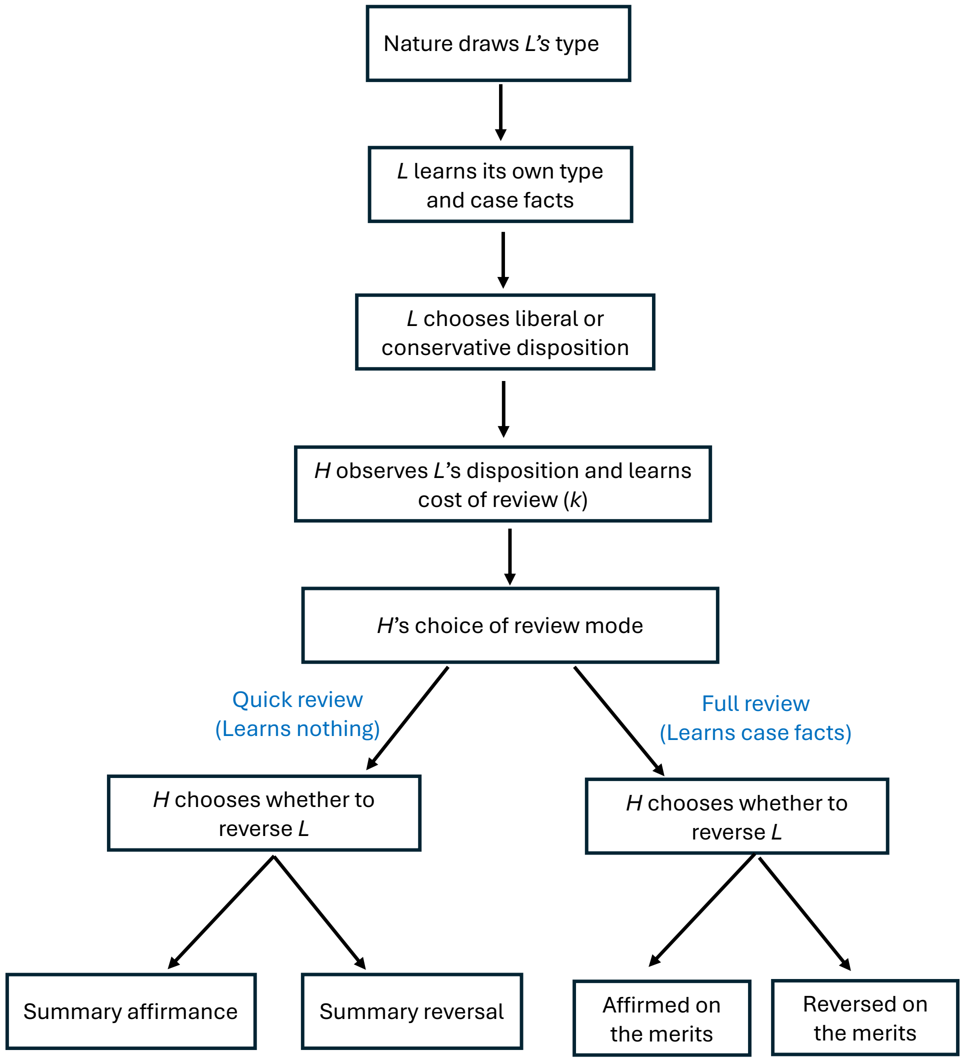

Figure 1: Sequence of play.

ruling sincerely (and does not know her type).[6]

The sequence of play is summarized in Figure 1. Nature first draws the lower court's type L and the case facts x; for simplicity we say that the case facts are conservative or liberal when that is the higher court's ideal disposition. The lower court type and case facts are then revealed to the lower court (but not the higher court), after which the lower court chooses a liberal or conservative disposition $d \in \{\ell, c\}$, which H observes.

The game then moves to the higher court. Like most models of the judicial hierarchy

[6]The exact condition is $\max\{M, 0\} < H - \frac{1-H}{\sqrt{1-p}}$. All results are symmetric to the opposite ordering of H and M; that is, assuming both that $H < \frac{1}{2}$ and that M is sufficiently conservative that H would summarily reverse a sincerely-issued conservative disposition.

we abstract away from litigants' choice of appeals, and assume that all lower court decisions are available for review. The higher court first decides whether to engage in quick review or full review, which we label the "mode of review." She then decides whether to uphold or reverse the lower court. Full review involves learning the true case facts x before this reversal decision, while quick review involves making it under uncertainty. A reversal or affirmance after quick review are a "summary reversal" and "summary affirmance," respectively.[7] The decision to conduct a full review in our model is *purely informational*, in contrast to standard judicial hierarchy models where full review "bundles" the acquisition of information (about the case facts) and acquiring the freedom to reverse the lower court.

Finally, two other parameters affect the players' utility. First, following Beim, Hirsch and Kastellec (2014) H's cost of full review k is probabilistic and distributed uniformly over $\left[0, \bar{k}\right]$ with CDF $G(k) = \frac{k}{\bar{k}}$, where $\bar{k} \geq 1$. This cost is known to H when she is deciding whether to conduct a full review, but unknown to L when choosing a disposition. Intuitively, L is uncertain about how much H cares about the case ending in its preferred disposition relative to the costs of hearing the case. Second, if the lower court is reversed he suffers a sanctioning cost $\epsilon_L > 0$, regardless of whether he is reversed after full or quick review (recalling that $L \in \{A, M\}$ denotes the lower court's type). Table 1 summarizes the notation in the model (note some of these parameters are introduced below).

Interpreting Preference Uncertainty

Because the assumption that lower court preferences are not perfectly known is unusual in the judicial hierarchy literature, a discussion is warranted; we offer three interpretations.

[7] In substantive terms the sequence of play abstracts away a bit from actual practice on the U.S. Supreme Court, in which summary reversals technically come after a grant of cert. In addition, both denial of cert and "DIGs" (i.e. to dismiss a case as improvidently granted, which occurs after cert is granted) fall into the model's "summary affirmance" bucket, despite looking qualitatively different in practice. These differences in sequencing are irrelevant for our analysis because we have modeled the higher court as a unitary actor, but could matter meaningfully in a more complex model that explicitly treats H as a collective-choice body and incorporates the "Rule of Four" for cert—see e.g. Lax (2003) and Sasso and Judd (2022). For example, a sub-majority of four justices may anticipate that granting cert would make a subsequent summary affirmance via a DIG costlier than an up front denial of cert, which would distort the cert decision. Similarly, the cert pivot and the overall median justice who prefer the same outcome might have different views about whether to use summary reversal or full reversal to dispose a case, which would complicate the analysis.

Variable	Definition
H	Ideal cutpoint of higher court
$L \in \{M, A\}$	Ideal cutpoint (i.e. type) of lower court
M	Ideal cutpoint of "misaligned"-type lower court
A	Ideal cutpoint of "aligned"-type lower court
k	Higher court cost of review
p	Probability lower court is aligned type
x_L	Cutpoint used by lower court of type $L \in \{A, M\}$
ϕ_d	Cost threshold for reviewing a disposition $d \in \{\ell, c\}$
α	Probability of summarily reversing a liberal disposition conditional on choosing not to review it
$\Lambda_H(x_A, x_M)$	Higher court net benefit of choosing ℓ (liberal) conditional on the lower court choosing ℓ
ϵ_L	Sanction cost of being reversed for lower court of type L
$*$	Denotes equilibrium quantity

Table 1: Summary of Notation

One interpretation is literal; the higher court simply does not know the lower court's exact underlying legal ideology, in the sense of knowing exactly how it would rule under all conceivable circumstances. The Supreme Court oversees hundreds of lower federal court judges, and also reviews the decisions of state courts. While the justices surely come to have a general sense of the underlying preferences of judges on the Court of Appeals (whose cases the Supreme Court is most likely review), the sheer number of judges in the American judicial system, combined with the regularity of turnover across lower federal and state courts, means that there will always be some sets of case facts where the justices are uncertain about the exact sincere ideal disposition of the judges they are reviewing.

A second relates to the fact that the Supreme Court almost always directly reviews the decisions of *multimember* appellate courts. The "panel effects" literature documents that the rulings of three-judge panels differ systematically from what a median-voter model would predict (see Sunstein et al. 2006, Kastellec 2011, Fischman 2015, Hinkle 2017); an ideologically diverse panel (e.g., with one Republican appointee and two Democratic appointees) is more likely to make a decision against the ex-ante majority preference than an ideologically homogenous panel (e.g., an all-Democratic panel). Our assumption that the higher court is uncertain about the lower court's preferences may be alternatively interpreted as an assumption that she is uncertain about the specifics of intra-panel bargaining, and thus the extent of these "panel effects."

A third is that the facts of some cases are "multidimensional," leading to uncertainty about the degree to which a case implicates issues that divide the higher and lower courts. For example, the higher court may be more tolerant of intrusive searches when certain national security issues are implicated, but uncertain about the extent to which this is true absent absent a full rehearing. This sort of uncertainty is isomorphic to our assumption that the higher court is uncertain about the lower court's ideal cutpoint because we only model the interaction over a single case.

Preliminary Analysis

Our solution concept is Perfect Bayesian Equilibrium. At the most general level, summary reversal increases compliance by a misaligned lower court and incentivizes a kind of pandering by an aligned lower court, in which he sometimes chooses the less suspect disposition to avoid being summarily reversed. The probability of summary reversal required to keep a misaligned lower court adequately compliant incentivizes an aligned lower court to pander on cases where the losses from an incorrect ruling are not too great.

Formally, a strategy for the lower court is a mapping from his privately known preferences and the set of possible case facts to the set of dispositions $\{A, M\} \times X \rightarrow \{c, \ell\}$. The higher court's strategy consists of two parts. First, she must decide whether to conduct a full review of the case after observing the lower court's disposition, through which the exact case facts x will be learned; this choice is described as a mapping from the set of lower-court dispositions and review costs to a review decision $k \times \{c, \ell\} \rightarrow \{\text{Review}, \text{Don't Review}\}$. If she conducts a full review and learns the true case facts x, she will clearly reverse the lower court's disposition d if and only if it was inconsistent with her ideal cutpoint H. If she does *not* conduct a full review, however, she must decide whether or not to *summarily* reverse the lower court $\{c, \ell\} \rightarrow \{\text{Reverse}, \text{Uphold}\}$ given the inference about the case facts that she has drawn from the disposition alone.

Despite the potential complexity of these strategies, we can characterize the equilibria of interest using a series of cutpoints and reversal probabilities as follows.

Remark 1. *We restrict attention to strategy profiles that can be described by quantities* $(x_A, x_M, \phi^\ell, \phi^c, \alpha, \beta)$.

1. *A lower court of type* $L \in \{A, M\}$ *chooses the liberal disposition* $(d = \ell)$ *if* $x \geq x_L$ *and the conservative disposition* $(d = c)$ *otherwise.*

2. *After observing the lower court's disposition* $d \in \{c, \ell\}$*, the higher court conducts a full review if and only if* $k \leq \phi^d$*. Upon review, she learns the true case facts* x *and reverses the lower court's disposition if and only if it is inconsistent with her cutpoint* H*.*

3. *If the lower court chooses the liberal (conservative) disposition and the higher court declines to review, then she summarily reverses with probability* α (β)*.*

In the Appendix we show the following.

Lemma 1. *Equilibria of the form in Remark 1 always exists, and satisfy these properties.*

1. *The higher court never summarily reverses a conservative disposition* $(\beta = 0)$*, and sometimes summarily upholds a liberal disposition* $(\alpha < 1)$*.*

2. *An aligned lower court always complies when the case facts are conservative* $(x_A \geq H)$*, while a misaligned lower court sometimes fails to do so* $(x_M < H)$*.*

3. *The higher court is strictly more willing to review a liberal disposition* $(\phi_\ell > \phi_c)$*.*

Equilibria thus take the following form. First, given his privately known ideal cutpoint $L \in \{A, M\}$, the lower court chooses the conservative disposition for sufficiently conservative case facts $(x < x_L)$; otherwise he chooses the liberal disposition. Equilibrium requires that an aligned lower court always comply when the case facts are conservative $(x_A \geq H)$ since this is in both her "ideological" and reversal-avoiding interests. It also requires that a misaligned lower court sometimes fail to comply when the case facts are liberal $(x_M < H)$. Figure 2 presents the lower court's equilibrium actions.

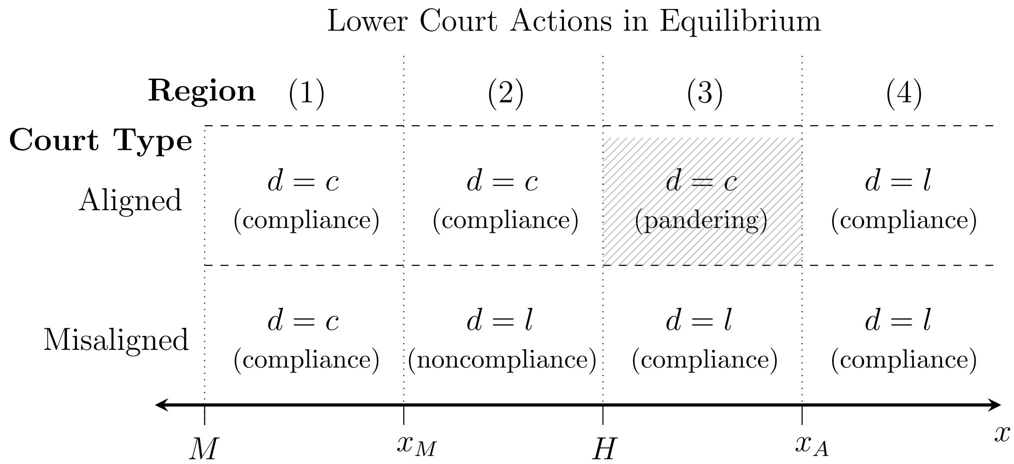

Figure 2: The Lower Court's Actions in Equilibrium. In Region 2, the misaligned lower court does not comply with higher court preferences and chooses *lib*. In Region 3, the aligned lower court panders and chooses *con* despite both he and the higher court preferring *lib*.

The higher court's behavior depends on the observed lower court disposition d and her own realized review costs k. If the lower court ruled conservatively ($d = c$), the higher court will conduct a full review if her costs are sufficiently low ($k \leq \phi^c$); otherwise she will leave the ruling in place.[8] If the lower court instead ruled liberally ($d = \ell$), the higher court will again conduct a full review if her costs are low enough ($k \leq \phi^\ell$); otherwise she will decline a full review and *summarily reverse* the lower court with probability α. In equilibrium the probability of summary reversal α is strictly less than 1, and in addition the higher court reviews the liberal disposition more frequently ($\phi^\ell > \phi^c$). Figure 3 summarizes the higher court's equilibrium actions.

The Lower Court's Incentives

To characterize equilibrium strategies we first analyze lower court incentives. When choosing a disposition, the lower court privately knows both the case facts $x \in [0, 1]$ and his own ideal cutpoint $L \in \{A, M\}$. Should he rule conservatively, his expected utility is:

$$((1 - G(\phi^c)) + \mathbf{1}_{x \leq H} \cdot G(\phi^c)) \cdot u(x, L, c) + G(\phi^c) \cdot (1 - \mathbf{1}_{x \leq H}) \cdot (u(x, L, \ell) - \epsilon_L) \quad (1)$$

[8] The assumption that $\max\{M, 0\} < H - \frac{1-H}{\sqrt{1-p}}$ rules out inefficient "reverse signaling" equilibria where both dispositions can be summarily reversed because the lower court uses the "wrong" disposition to signal the right one. However, there may still exist additional equilibria where a misaligned lower court exhibits *both* noncompliance and pandering; see the Appendix for details.

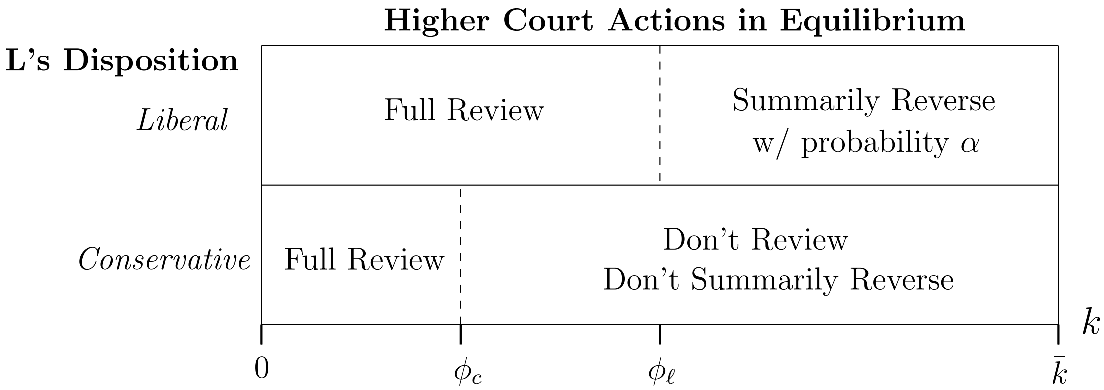

Figure 3: Higher court's review/summary reversal decision based on the cost of review (k) and the lower court's disposition.

where $\mathbf{1}_{x \leq H}$ is an indicator variable denoting whether the case facts x are actually conservative (i.e., whether the higher court would prefer the conservative disposition if she knew the case facts). In words, a conservative disposition will be upheld absent review (occurring with probability $1 - G(\phi^c)$) as well as following review (occurring with probability $G(\phi^c)$) if the case facts are conservative ($x \leq H$), and will be reversed (imposing a reversal cost of ϵ_L) if there is a review (occurring with probability $G(\phi^c)$) and the case facts are liberal ($x > H$).

Should the lower court instead rule liberally, his expected utility is:

$$\begin{aligned} &\left(\left(1 - G\left(\phi^\ell\right)\right) \cdot (1-\alpha) + G\left(\phi^\ell\right) \cdot (1 - \mathbf{1}_{x \leq H})\right) \cdot u(x, L, \ell) \\ &+ \left(\left(1 - G\left(\phi^\ell\right)\right) \cdot \alpha + G\left(\phi^\ell\right) \cdot \mathbf{1}_{x \leq H}\right) \cdot (u(x, L, c) - \epsilon_L) \end{aligned} \tag{2}$$

In words, the liberal disposition will stand if there is *both* no review (occurring with probability $1 - G\left(\phi^\ell\right)$) *and* he is not summarily reversed (occurring with probability $1 - \alpha$), or if there is a full review (occurring with probability $G\left(\phi^\ell\right)$) and the case facts are liberal ($x > H$). It will be *summarily reversed* with probability $\left(1 - G\left(\phi^\ell\right)\right) \cdot \alpha$, and *reversed on the merits* after a full review (occurring with probability $G\left(\phi^\ell\right)$) if the case facts are conservative ($x \leq H$).

Taking the difference between eqns. (2) and (1) and simplifying yields:

$$\underbrace{\left(\left(1-\frac{\phi^\ell}{\bar{k}}\right)(1-\alpha)+\left(\frac{\phi^\ell}{\bar{k}}-\frac{\phi^c}{\bar{k}}\right)\cdot 1_{x\geq H}\right)}_{\text{increase in Pr of } lib \text{ outcome}}\cdot(x-L)-\underbrace{\left(\left(1-\frac{\phi^\ell}{\bar{k}}\right)\alpha+\frac{\phi^\ell}{\bar{k}}-\left(\frac{\phi^\ell}{\bar{k}}+\frac{\phi^c}{\bar{k}}\right)\cdot 1_{x\geq H}\right)}_{\text{increase in Pr of reversal}}\cdot\epsilon_L \tag{3}$$

The first term is the "ideological" benefit from choosing the liberal disposition, due to the increased probability that it stands as the final disposition. The second term is the increase in expected reversal costs from choosing the liberal disposition. Worth noting is that lower court's ability to induce the liberal outcome by ruling liberally *increases discontinuously* when the case facts become liberal ($x > H$), while her reversal risk *decreases discontinuously*. The former is because a liberal disposition will no longer be reversed upon review (a conservative one will) and the higher court more frequently reviews liberal dispositions ($\phi^\ell > \phi^c$). The latter is because a conservative disposition is never summarily reversed.

The preceding has three implications. First, a lower court best-response can be described by a type-specific *cutpoint* $x_L(\cdot)$ that depends on the higher court's strategy. Second, a misaligned lower court always engages in some noncompliance ($x_M\left(\phi^\ell;\alpha\right) < H$), since otherwise the higher court would never review nor summarily reverse the liberal disposition, eliminating his incentive to ever comply. Finally, an aligned lower court always complies ($x_A\left(\phi^\ell,\phi^c;\alpha\right) \geq H$) since doing so is in both her ideological and reversal-avoiding interested, but may sometimes "pander" by ruling conservatively when the case facts are liberal (($x_A\left(\phi^\ell,\phi^c;\alpha\right) > H$). Pandering occurs when the probability $\left(1-\frac{\phi^\ell}{\bar{k}}\right)\cdot\alpha$ that a "correct" liberal disposition is *summarily reversed* exceeds the probability $\frac{\phi^c}{\bar{k}}$ that an "incorrect" conservative disposition is *reheard and reversed on the merits.*

Lemma 2. *A best response by the lower court is as follows.*

- *A misaligned lower court ($L = M$) uses cutpoint*

$$x_M\left(\phi^\ell;\alpha\right)=\max\left\{M+\left(\frac{\left(1-\frac{\phi^\ell}{\bar{k}}\right)\alpha+\frac{\phi^\ell}{\bar{k}}}{\left(1-\frac{\phi^\ell}{\bar{k}}\right)(1-\alpha)}\right)\epsilon_M, 0\right\}$$

- *An aligned lower court ($L = A = H$) uses cutpoint*

$$x_A\left(\phi^\ell, \phi^c; \alpha\right) = \max\left\{\min\left\{H + \left(\frac{\left(1-\frac{\phi^\ell}{k}\right)\alpha - \frac{\phi^c}{k}}{\left(1-\frac{\phi^\ell}{k}\right)(1-\alpha) + \left(\frac{\phi^\ell}{k} - \frac{\phi^c}{k}\right)}\right)\epsilon_A, 1\right\}, H\right\}$$

The effect of the higher court's strategy on these cutpoints illustrates how *review* and *summary reversal* have very different effects on the lower court, as illustrated in Figure 4. *Both* tools increase compliance by a misaligned lower court. However, *only summary reversal* carries the risk of inducing pandering from an aligned lower court.

The Higher Court's Incentives

The higher court must make two decisions after observing the lower court's disposition $d \in \{\ell, c\}$—whether or not to conduct a full review, and *if not*, whether to summarily reverse. We work backward, analyzing first the decision over summary reversal and then the decision to review.

The Summary Reversal Decision

By Lemma 1 the higher court will never summarily reverse the conservative disposition in equilibrium. Upon observing a liberal disposition, she updates her beliefs about *both* the case facts x and the lower court's type L. Recall that the higher court's net benefit $u(x, H, \ell) - u(x, H, c)$ for the liberal outcome is simply $x - H$; then the expected net benefit $\Lambda_H(x_A, x_M)$ of *upholding a liberal disposition* is

$$\begin{aligned}\Lambda_H(x_A, x_M) &= E\left[x - H | d = \ell\right] \\ &= \Pr\left(L = A | d = \ell\right) \cdot E\left[x - H | L = A, d = \ell\right] \\ &\quad + \Pr\left(L = M | d = \ell\right) \cdot E\left[x - H | L = M, d = \ell\right].\end{aligned}$$

There are two key ingredients. The first is the probability $\Pr\left(L | d = \ell\right)$ that the lower court is type $L \in \{A, M\}$ conditional on ruling liberally. The second is the higher court's expected net benefit $E\left[x - H | L, d = \ell\right]$ from *upholding the liberal disposition* conditional on a lower court of type L having ruled liberally. The *sign* of $\Lambda_H(x_A, x_M)$ determines whether summary reversal is a best response; if $\Lambda_H(x_A, x_M) < (>) 0$ then the higher court strictly prefers (not)

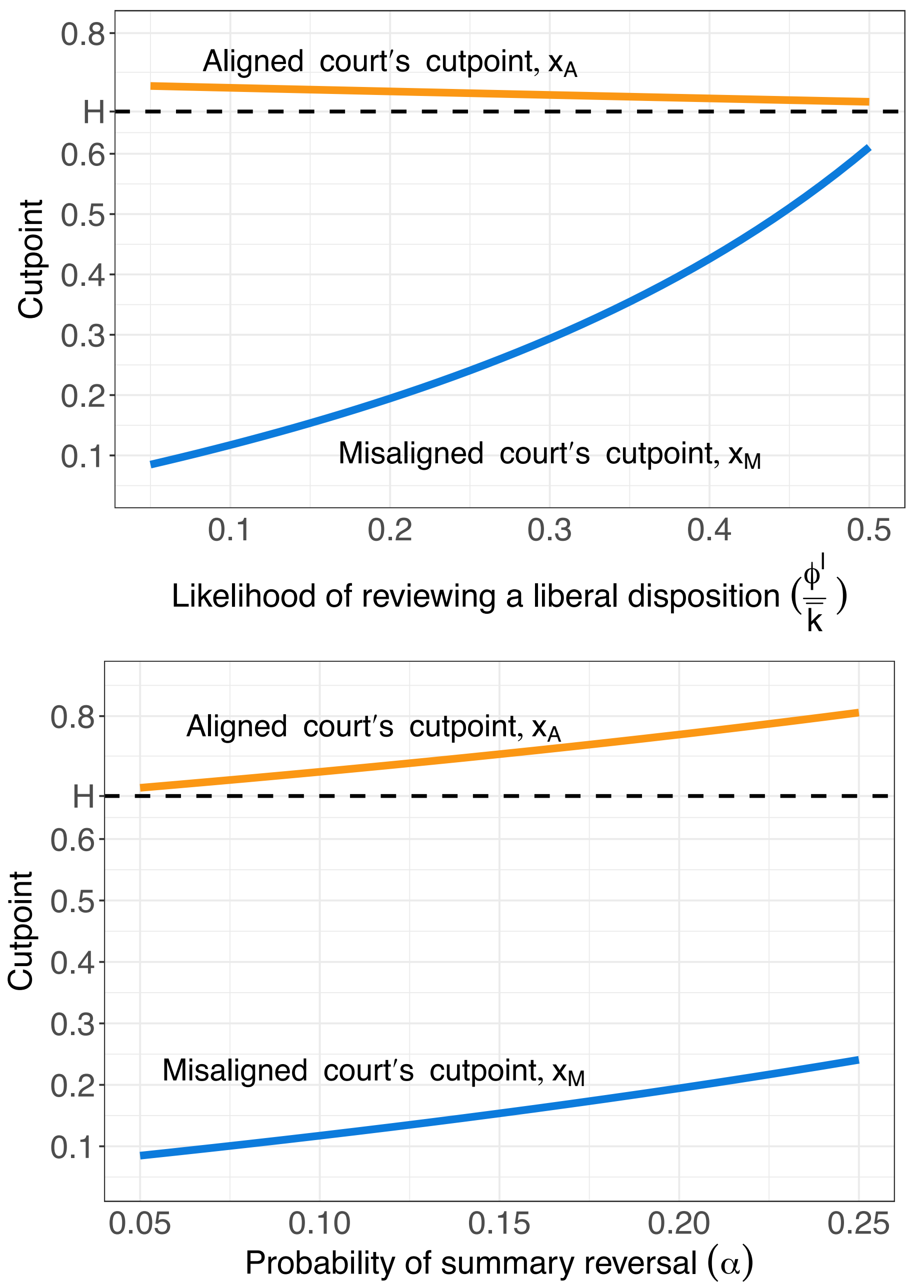

Figure 4: The top graph illustrates how the best response cutpoints of both the aligned and misaligned lower courts change as a function of H's probability of reviewing a liberal decision (both courts comply more as the liberal decision is more likely to be reviewed). The bottom graph illustrates how these outpoints change as a function of the probability of summary reversal.

to summarily reverse a liberal disposition, and if $\Lambda_H(x_A, x_M) = 0$ she is indifferent.

In the Appendix we show that $\Lambda_H(x_A, x_M) > (<) (=) 0$ if and only if

$$p (x_A - H)^2 + (1 - p) (H - x_M)^2 < (>) (=) (1 - H)^2 . \tag{4}$$

The higher court's willingness to summarily reverse is thus determined by the *sum* of the *squared amount* of anticipated noncompliance $|H - x_M|$ (by the misaligned lower court) and anticipated pandering $|x_A - H|$ (by the aligned lower court), weighed by the ex-ante probability of each type. This means that the *more* pandering is expected from the aligned lower court, the *less* non-compliance the higher court will tolerate from the misaligned lower court. This yields the following best-response characterization.

Lemma 3. *A summary reversal probability α is a best response if and only if $x_M < \tilde{x}_M(x_A)$ implies $\alpha = 1$ and $x_M > \tilde{x}_M(x_A)$ implies $\alpha = 0$, where*

$$\tilde{x}_M (x_A) = H - \left(\frac{(1 - H)^2 - p (x_A - H)^2}{1 - p} \right)^{\frac{1}{2}} < H,$$

and $\tilde{x}_M(x_A)$ is strictly increasing in x_A.

Finally, since summary reversal cannot be assured in equilibrium, we have following key constraint on how much noncompliance can occur in our model, relative to the standard model in which the summary reversal option is absent.

Lemma 4. *In any equilibrium, $x_M \geq \tilde{x}_M(x_A)$.*

If instead $x_M < \tilde{x}_M(x_A)$, then a liberal ruling would trigger *certain* summary reversal, and it would instead be a best-response for a misaligned lower court to always comply, contradicting equilibrium. This constraint limits how much noncompliance can occur in our model, relative to the standard model that lacks the summary reversal option.

The Review Decision

Of course, the higher court is not limited to summarily reversing suspect non-compliant decisions; she is also able to fully review the lower court's case by paying a cost k. When doing so she learns the true case facts x and is able to implement her ideal disposition, whether that involves affirming or reversing the lower court.

A Conservative Disposition A conservative ruling by a *misaligned* lower court will always be compliant, as $x_M < H$ (Lemma 1); any case that is sufficiently conservative for him to rule conservatively will be conservative enough for the higher court as well. This property underlies standard the "Nixon goes to China" finding in the judicial auditing literature that the higher court will never review a "counter-bias" decision by the lower court (Cameron, Segal and Songer 2000).

The Nixon goes to China result, however, breaks down in our model when an aligned lower court panders ($x_A > H$); for liberal cases in $[H, x_A)$ the lower court will rule conservatively, which will not be consistent with either the higher court's preference or his own. The benefit $\phi^c(x_A, x_M)$ of full review derives from this possibility, and is equal to

$$\phi^c(x_A, x_M) = \Pr\left(x \geq H | d = c\right) \cdot E\left[x - H | x \geq H, d = c\right] = \frac{p\left(x_A - H\right)^2}{2\left(x_A p + x_M\left(1 - p\right)\right)}$$

Best response behavior by the higher court requires that she use a review cutpoint $\phi^c = \phi^c(x_A, x_M)$ upon observing a conservative disposition.

A Liberal Disposition A liberal ruling by an *aligned* lower court will always be compliant, as $x_A \geq H$ (Lemma 1). The benefit $\phi^\ell(x_A, x_M)$ from full review thus derives from the possibility that the lower court is misaligned ($L = M$) and observed a case fact in $(x_M, H]$ triggering noncompliance, so

$$\phi^\ell(x_A, x_M) = \Pr\left(x \leq H | d = \ell\right) \cdot E\left[H - x | x \leq H, d = \ell\right] = \frac{\left(1 - p\right)\left(H - x_M\right)^2}{2\left(p\left(1 - x_A\right) + \left(1 - p\right)\left(1 - x_M\right)\right)}$$

Best response behavior by the higher court requires that she use review cutpoint $\phi^\ell = \phi^\ell(x_A, x_M)$ upon observing a liberal disposition.

Equilibrium without summary reversal

To characterize equilibria without summary reversal ($\alpha^* = 0$) first observe that $x_A^* = x_A\left(\phi^\ell, \phi^c; 0\right) = H$; i.e., absent the threat of summary reversal an aligned lower court never panders. Absent pandering the lower court will never review a conservative disposition ($\phi^{c*} = \phi^c\left(H, x_M^*\right) = 0$), and her review threshold for the liberal disposition is determined by the cutpoint $x_M^* < H$ of a misaligned lower court, where

$$\phi^{\ell *} = \phi^{\ell}(H, x_M^*) = \frac{(1-p)\,(H - x_M^*)^2}{2\,(p\,(1-H) + (1-p)\,(1 - x_M^*))}.$$

This is strictly decreasing in x_M^* with $\phi^{\ell}\,(H, H) = 0$.

Equilibrium also requires that $x_M^* \geq \tilde{x}_M\,(H) = H - \left(\frac{1-H}{\sqrt{1-p}}\right)$ (by Lemma 4); i.e., there is a maximum amount of noncompliance that can occur before triggering certain summary reversal. Consequently, there is also a maximum possible value of the review threshold $\phi^{\ell}(H, \tilde{x}_M\,(H)) = \frac{1-H}{2\left(1+\sqrt{1-p}\right)}$ following the liberal disposition. If a misaligned lower court would comply sufficiently to avoid certain summary reversal given this review threshold (i.e., $x_M\left(\phi^{\ell}(H, \tilde{x}_M\,(H)); 0\right) \geq \tilde{x}_M\,(H)$), then an equilibrium without summary reversal exists and is unique. Otherwise, it does not. The complete equilibrium characterization is as follows.

Proposition 1. *An equilibrium without summary reversal ($\alpha^* = 0$) exists if and only if $\bar{M}\,(\cdot) \leq M$, where* $\bar{M}\,(\cdot) = \tilde{x}_M\,(H) - \left(\frac{\phi^{\ell}(H, \tilde{x}_M(H))}{\bar{k} - \phi^{\ell}(H, \tilde{x}_M(H))}\right) \cdot \epsilon_M$

$$= \left(H - \frac{1-H}{\sqrt{1-p}}\right) - \left(\frac{1-H}{\bar{k}\cdot 2\left(1+\sqrt{1-p}\right) - (1-H)}\right)\cdot \epsilon_M$$

Whenever such an equilibrium exists it is the unique one without summary reversal and satisfies $x_M^* \in (M, H)$ where $x_M^* = M + \left(\frac{\phi^{\ell}\left(H, x_M^*\right)}{\bar{k} - \phi^{\ell}\left(H, x_M^*\right)}\right) \cdot \epsilon_M$

Whenever an equilibrium without summary reversal exists, it corresponds to the unique equilibrium of the two-player model analyzed in Beim, Hirsch and Kastellec (2014) without the summary reversal option (this does not preclude existence of additional equilibria in which summary reversal is employed, a point we later return to). Existence depends on whether the ideal cutpoint M of a misaligned lower court is *sufficiently conservative*, i.e., greater than a threshold $\bar{M}(H, p, \bar{k}, \epsilon_M)$ that is strictly less than H. This threshold becomes more conservative (i.e., increases) as H becomes more conservative, as the ex-ante likelihood p that the lower court is aligned decreases, as the reversal cost of a misaligned lower court ϵ_M decreases, and as the higher court's cost of review $\bar{k}$ increases. Notably, it is independent of the reversal cost ϵ_A of an aligned lower court, since it is the *incentives of a misaligned lower court* that determine the existence of such an equilibrium. Finally, such equilibria obey natural comparative statics—a misaligned lower court rules more conservatively (i.e., complies more) as it or the higher court become more conservative (higher M or H), as the ex-ante likelihood that the lower court is aligned decreases (lower p), as the reversal cost of a misaligned lower court ϵ_M increases, and as the higher court's cost of review $\bar{k}$ decreases.

Equilibrium with summary reversal

We next turn to equilibria with summary reversal ($\alpha^* > 0$), beginning with a key result.

Lemma 5. *In any equilibrium with summary reversal ($\alpha^* > 0$), the lower court panders with strictly positive probability.*

The reason is straightforward; if the higher court was expected to sometimes summarily reverse a liberal disposition ($\alpha^* > 0$) *but also* anticipated no pandering from the lower court ($x_A = H$), then she would *never* review a conservative disposition ($\phi^c = \phi^c(H, x_M^*) = 0$); but this would give an aligned lower court a strict incentive to pander ($x_A\left(\phi^\ell, 0; \alpha\right) > H$), contradicting equilibrium. In our model, *summary reversal* and *pandering* are thus inextricably linked; one cannot occur without the other.

Pandering by an aligned lower court is key to understanding the consequences of summary reversal. In a standard judicial auditing model, the lower court is only reversed after the higher court learns that his decision was noncompliant via a full review; lower courts therefore never face a risk from taking actions *in line* with the higher court's known preferences. Summary reversal introduces the risk that an aligned lower court will be reversed even when he is complying due to the *appearance* that he is a misaligned lower court who is not. When the expected sanctions from being summarily reversed outweigh the expected gains from ruling correctly, an aligned lower court is incentivized to pander.

The construction of equilibria with summary reversal is somewhat more intricate than those without; the reason is that summary reversal cannot be assured ($0 < \alpha^* < 1$), so the higher court cannot *strictly* prefer to use it. This constraint pins down the exact amount of non-compliance ($x_M^* = \tilde{x}_M(x_A^*)$) that must occur given each potential degree of pandering

x_A^*, both of which must be incentive compatible for the misaligned and aligned-type lower courts (respectively) given the higher court's review thresholds $\phi^{\ell*} = \phi^{\ell}(x_A^*, x_M^*)$ and $\phi^{c*} = \phi^{c}(x_A^*, x_M^*)$. These constraints collectively yield equilibrium as follows.

Proposition 2. *An equilibrium with summary reversal and pandering ($\alpha^* > 0, x_A^* > H$) always exists when an equilibrium without summary reversal does not, and may also exist when an equilibrium without summary reversal does. Necessary and sufficient conditions for such equilibria are that $\phi^{\ell*} = \phi^{\ell}(x_A^*, x_M^*)$, $\phi^{c*} = \phi^{c}(x_A^*, x_M^*)$, $x_M^* = \tilde{x}_M(x_A^*)$,*

$$x_A^* = \min\left\{H + \left(\frac{\left(1 - \frac{\phi^{\ell*}}{\bar{k}}\right)\alpha^* - \frac{\phi^{c*}}{\bar{k}}}{\left(1 - \frac{\phi^{\ell*}}{\bar{k}}\right)(1-\alpha^*) + \left(\frac{\phi^{\ell*}}{\bar{k}} - \frac{\phi^{c*}}{\bar{k}}\right)}\right)\epsilon_A, 1\right\}, \ \textit{and}$$

$$x_M^* = M + \left(\frac{\left(1 - \frac{\phi^{\ell*}}{\bar{k}}\right)\alpha^* + \frac{\phi^{\ell*}}{\bar{k}}}{\left(1 - \frac{\phi^{\ell*}}{\bar{k}}\right)(1-\alpha^*)}\right)\epsilon_M$$

Equilibria with summary reversal always exist when equilibria without summary reversal do not (i.e. $M < \bar{M}(\cdot)$; see Proposition 1); however, equilibria with and without summary reversal may coexist, and there may also be multiple pandering equilibria.

The reason for this multiplicity is surprisingly intuitive. Judicial noncompliance is *self-limiting*, in the sense that more anticipated noncompliance by the lower court yields more review and reversal, which in turn disincentivizes noncompliance. In contrast, judicial pandering can be *self-reinforcing.* While more pandering by an aligned lower court triggers more review of conservative dispositions (which disincentivizes pandering), it *also* requires more compliance from a misaligned lower court to avoid certain summary reversal. But this can only be incentivized with more summary reversal, which in turn *incentivizes* pandering. This potential multiplicity is illustrated in an example in Figure 5, which plots the set of pandering equilibria as a function of the *potential disagreement* $H - M$ between the higher court and the lower court. For moderately high levels of disagreement there are three pandering equilibria; in one, an aligned lower court *always* panders.

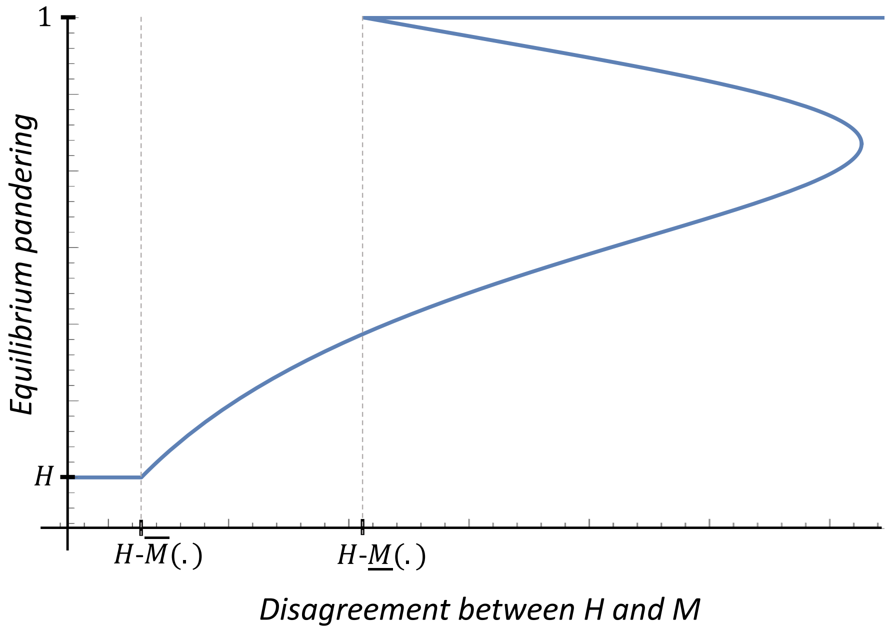

Figure 5: Equilibrium Pandering Cutpoints as a Function of M. The figure depicts the (non-singleton) equilibrium correspondence for an example in which $H = \frac{2}{3}$, $p = \frac{3}{4}$, $\bar{k} = \frac{1}{5}$, and $\epsilon_A = \epsilon_M = 1$. At these parameters $p < \tilde{p}$, implying that an equilibrium without summary reversal and pandering exists if and only if $\bar{M}(\cdot) \leq M$.

Comparative Statics

The potential multiplicity of pandering equilibria requires a selection criteria to perform comparative statics. To "stack the deck" against pandering we henceforth select the equilibrium that minimizes pandering, which yields the following comparative statics. (Figure 6 recreates Figure 5, identifying our equilibrium selection with a red dashed line.)

Proposition 3. *Equilibrium pandering is:*

- ***decreasing*** *when a misaligned lower court is more willing to comply (higher ideal threshold M or reversal costs ϵ_M)*
- ***increasing*** *when full review becomes costlier (higher $\bar{k}$)*
- ***increasing*** *when an aligned lower court fears reversal more (higher ϵ_A)*

The effect of higher expected review costs (i.e., higher $\bar{k}$) is simple and intuitive; since the higher court becomes more likely to employ summary reversal versus full review to ensure

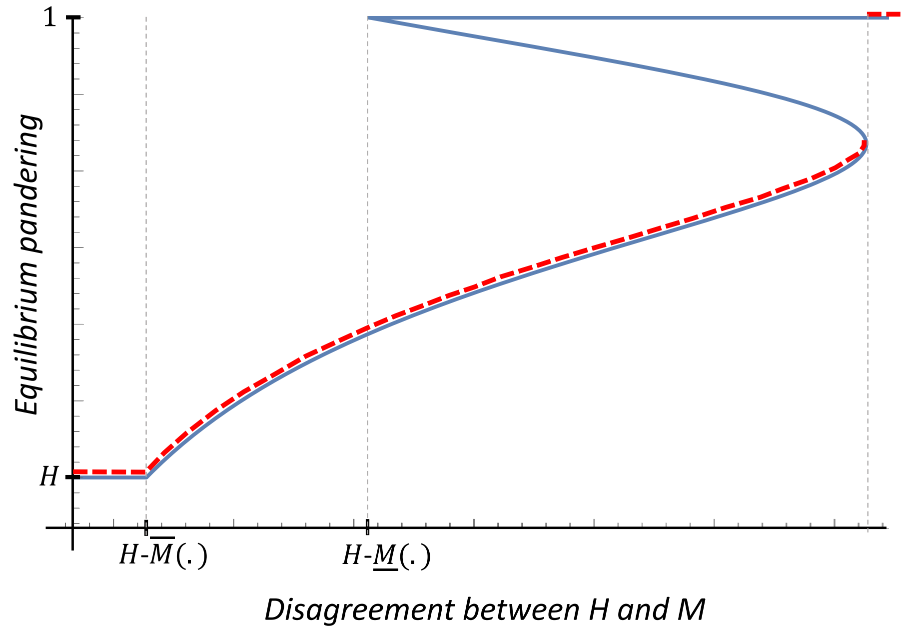

Figure 6: Selected Equilibrium Pandering Cutpoints as a Function of M. We assume $H = \frac{2}{3}, p = \frac{3}{4}, \bar{k} = \frac{1}{5},$ and $\epsilon_A = \epsilon_M = 1$. The red (dashed) line indicates our equilibrium selection.

compliance, an aligned lower court panders more to avoid it. When a misaligned lower court's incentives to behave noncompliantly are stronger—either because he is more liberal or because he fears reversal less—the higher court must employ summary reversal more to align his incentives, which also incentivizes pandering by an aligned lower court. Finally, an aligned lower court unsurprisingly panders more when she finds reversal costlier.

Interestingly, pandering is thus affected by the reversal cost of *both* types of the lower court, but in opposite ways. A surprising implication is that changing policies or norms to *uniformly increase the reversal cost* (from ϵ_L to $\epsilon_L + \delta$ for $L \in \{A, M\}$) can both *reduce* pandering (when the effect on the misaligned type is dominant) or *increase* it (when the effect on the aligned type is dominant). These competing effects can be seen in Figure 7, which plots equilibrium pandering as a function of a common reversal cost $\epsilon = \epsilon_M = \epsilon_A$, and illustrates that pandering first increases and then decreases in this cost.

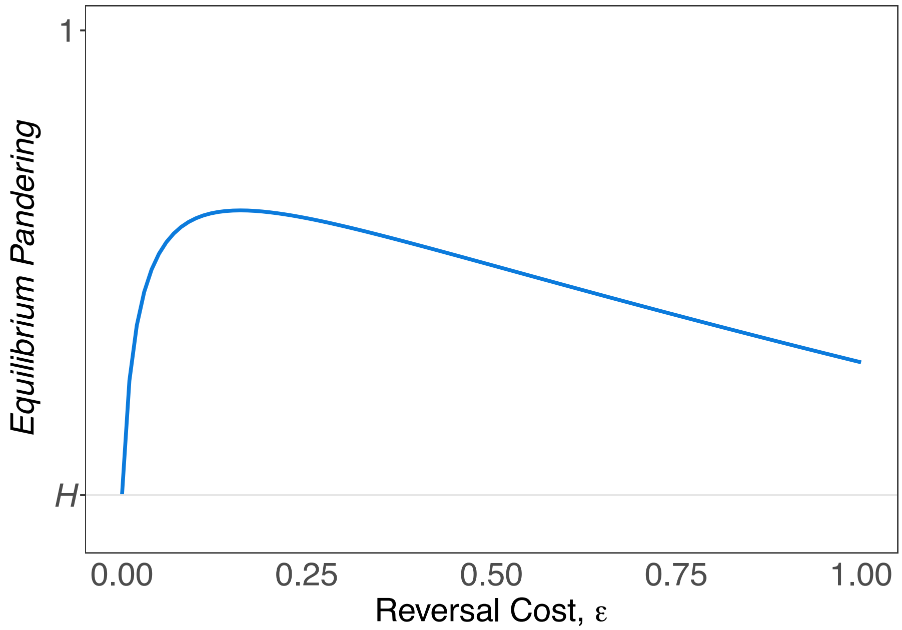

Figure 7: Selected equilibrium pandering cutpoint as a function of $\epsilon = \epsilon_A = \epsilon_M$. We assume $H = \frac{2}{3}, p = \frac{1}{2}, \bar{k} = 1,$ and $\epsilon \in [0, 1]$.

Summary Reversal and Higher Court Welfare

Using summary reversal simultaneously improves compliance by a misaligned lower court, and exacerbates pandering by an aligned lower court. It is thus natural to ask whether the higher court's access to summary reversal can actually harm her—and if so, when and why.

The higher court's expected utility in the model both with and without the summary reversal option may be calculated *as if* she will never use it (since in an equilibrium of the model with summary reversal she will strictly or weakly prefer not to). It is thus

$$\begin{aligned} EU^H &= \Pr(d = \ell) \cdot \left(E\left[u(x, H, \ell) \,|\, d = \ell\right] + \int_0^{\phi^\ell} \left(\phi^\ell - k\right) g(k)\, dk \right) \\ &\quad + \Pr(d = c) \cdot \left(E\left[u(x, H, c) \,|\, d = c\right] + \int_0^{\phi^c} \left(\phi^c - k\right) g(k)\, dk \right) \end{aligned}$$

with the appropriate equilibrium quantities substituted in. It is helpful to decompose this expression into components deriving from *the quality of the lower court's decisions*, and components deriving from the *benefits of employing full review*. Algebraic manipulation (see

Appendix) yields that EU^H is proportional to:

$$\begin{aligned}\tilde{EU}^H &= (1-H)^2 - \left(p\,(x_A - H)^2 + (1-p)\,(H - x_M)^2\right) \\ &\quad + H^2 - \left(p\,(x_A - H)^2 + (1-p)\,(H - x_M)^2\right) \\ &\quad + \frac{2}{\bar{k}}\left(\Pr\,(d=\ell)\cdot\left(\phi^\ell\right)^2 + \Pr\,(d=c)\cdot(\phi^c)^2\right) \end{aligned} \tag{5}$$

The first line is the expected benefit of upholding a liberal disposition, and is equal to $2\Pr\,(d=\ell)\,\Lambda_H(x_A^S, x_M^S)$. The second line is the expected benefit of upholding a conservative disposition. The final line is the expected benefit from using full review. To compare equilibrium utility between the two models we henceforth index quantities as follows: let N denote quantities from the unique equilibrium of the model without the summary reversal option, and let S denote quantities from the lowest pandering equilibrium of the main model.

Clearly, a *necessary* condition for utility to differ between the two models is that summary reversal is actually *used* in the model where it is an option; recall that this is the case if and only if $x_M\left(\phi^\ell(H, \tilde{x}_M\,(H)); 0\right) < \tilde{x}_M\,(H)$ (i.e., a misaligned lower court's best response to the maximum frequency of review elicits summary reversal). It is then straightforward to show that $x_M^N < \tilde{x}_M\,(H)$ (i.e., the higher court would actually *want* to employ summary reversal in the equilibrium of the model where it can't), implying that

$$\begin{aligned} 2\Pr_N\,(d=\ell)\cdot\Lambda_H(H, x_M^N) &= (1-H)^2 - \left(p\left(x_A^N - H\right)^2 + (1-p)\left(H - x_M^N\right)^2\right) \\ &= (1-H)^2 - (1-p)\left(H - x_M^N\right)^2 < 0. \end{aligned}$$

In contrast, when summary reversal is used in equilibrium, the higher court must be *indifferent* over doing so, implying that $x_M^S = \tilde{x}_M\left(x_A^S\right)$ so that

$$2\Pr_S\,(d=\ell)\cdot\Lambda_H(x_A^S, x_M^S) = (1-H)^2 - \left(p\left(x_A^S - H\right)^2 + (1-p)\left(H - x_M^S\right)^2\right) = 0.$$

Comparing the preceding expressions yields our first key insight; that the higher court's access to summary reversal *always* results in better lower court decisionmaking *on average*, because the pandering of an aligned lower court is perfectly counterbalanced by the increased compliance of a misaligned lower court. Any potential harms from summary reversal must therefore derive *not* from worse lower court decisionmaking, but rather from the effect of pandering on the value of full review. This insight yields the following straightforward result.

Proposition 4. *Holding the other model primitives fixed, the higher court is strictly better off with the summary reversal option if full review is sufficiently costly ($\bar{k}$ sufficiently high).*

If full review is sufficiently costly, any potential welfare effects of summary reversal will be dominated by the favorable effect on the expected accuracy of lower-court decisionmaking.

Having established a simple sufficient condition for when access to summary reversal is unambiguously beneficial, we next state a simple sufficient condition for it to be harmful.

Proposition 5. *The higher court is strictly worse off with the summary reversal option when **both** the higher court is not too conservative (low H) and a misaligned lower court is sufficiently liberal (low M).*

The first condition—that the higher court is not too conservative—effectively bounds the harm that the higher court may suffer from worse lower court decisionmaking absent summary reversal. The second—that a misaligned lower court is sufficiently liberal—ensures that the higher court will use summary reversal "too much" when it is available relative to its limited benefit.[9] Figure 8 compares higher court equilibrium utility in the model with and without access to summary reversal, in an example where H is not too conservative and M is quite liberal.[10] When expected review costs are sufficiently low the higher court is strictly worse off with access to summary reversal, whereas when they become sufficiently high ($k \to \infty$) she becomes strictly better off. Under these conditions, full review becomes ineffective at both improving lower court compliance and at facilitating error correction; the benefits of summary reversal in terms of improved lower court decisionmaking therefore outweigh the costs of degrading the value of full review.

[9] The proof exploits that an aligned lower court will always pander when M is sufficiently liberal.

[10] The values used for lower court cutpoints correspond to a partial pandering equilibrium satisfying our selection criterion. Under the specified parameter values, a full pandering equilibrium does not exist.

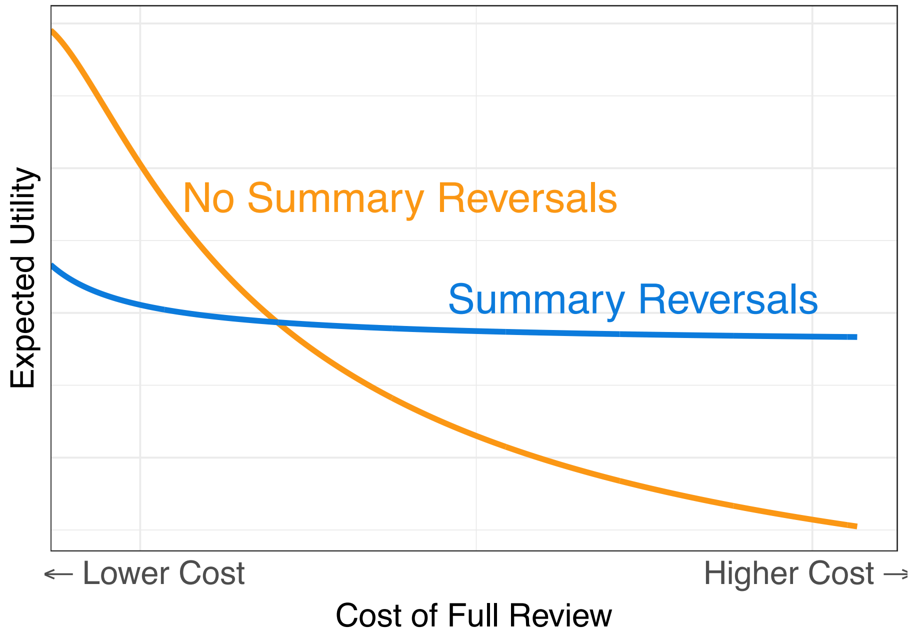

Figure 8: Higher Court Expected Utility as a Function of $\bar{k}$, with and without access to summary reversal. We assume $H = \frac{2}{3}, p = \frac{3}{4}, M = 0,$ and $\epsilon_A = \epsilon_M = 1$.

Discussion and Conclusion

Most existing theories of the judicial hierarchy focus on the lower courts' fear of reversal, combined with strategic auditing, as the main avenue by which the Supreme Court can instill compliance among agents in the federal judiciary. To be sure, the theory we've presented is an extension of, and not a full departure from, theories in this tradition. Our contribution instead lies in modeling the multiple modes of review that the Supreme Court has in choosing to oversee lower courts—in particular, the availability of summary reversal—and how the choice of mode may create unforeseen incentives for lower court judges.

Our specific insights are twofold. First, the availability of summary reversal can increase compliance by an ideologically misaligned lower court, on top of what is gained from the threat of granting cert and conducting "full" review. Second, the availability of summary reversal can induce pandering by an ideologically aligned lower court. This occurs because the higher court is uncertain of the lower's court exact preferences, and so in some instances may summarily reverse the lower court's decision even though the two actually share the same dispositional preference given the case facts. Accordingly, in a subset of cases the aligned court will choose a disposition that neither it nor the higher court prefers, in order to head off this possibility.

This pandering effect has important empirical implications for understanding higher court-lower court interactions. A robust finding in the judicial auditing literature is the "Nixon Goes to China" effect first detailed in Cameron, Segal and Songer (2000)—that the Supreme Court should never review a "counter-bias" decision made by a lower court because she can infer that it is definitely compliant. In the presence of both summary reversals and uncertainty about the lower court's bias, however, the Nixon Goes to China effect breaks down—the higher court may no longer be sure that counter-bias decisions demonstrate compliance rather than pandering, despite being certain that the lower court is *at least as liberal* as she is.

A secondary consequence of the potential for pandering is that the availability of summary reversal can actually *hurt* the higher court, even though it provides a "cheaper" way to reverse potentially non-compliant decisions. Importantly, pandering does not *directly* harm the higher court via worse lower court decisionmaking, as any pandering by an aligned lower court is balanced out by increased compliance by a misaligned lower court. Instead, it *indirectly* harms the higher court by decreasing the value of full review. As full review becomes a costlier and less valuable tool, access to summary reversal always benefits the higher court. However, when the cost of a full review is relatively low, the higher court is sometimes better off without access to summary reversal.

Turning from abstraction to the realities of current-day U.S. Supreme Court politics, our model micro-founds much of the prevailing wisdom about the benefits of summary reversal – which include the efficient disposal of a large number of cases—as well as the costs—which include the risk of less-informed decisionmaking. At the same time, our theory points to a more subtle way that summary reversals distort judicial decisionmaking judges. Because lower court judges can never be sure if a given case is one in which the Supreme Court might exercise summary review, they have to weigh this possibility making their decision. As we have documented, this can lead lower court judges to sometimes rule against both their preferred disposition as well as that of the Supreme Court. While, of course, we cannot say whether these costs outweigh the benefits of summary review, our model points to a heretofore unintended mechanism that further adds to the costs ledger.

Looking forward, much works remains to be done to understand the Court's use of the shadow docket more broadly, and the use of summary reversals in particular. Empirically, most work on the shadow docket has focused on one particular type of decision (e.g. summary reversals, stays, injunctions) during the Roberts Court. While this is understandable, it would be worthwhile to take a more longitudinal approach and examine how both the quantity and quality of summary reversals has varied over time as the Court has gained more control of its docket.

From a theoretical perspective, there are several opportunities for further research. In its focus on summary reversals, our model is necessarily limited in its scope; in centering the model around compliance we focus on cases where the law is more settled, and less on those where the Court is engaging in law creation. (Note, however, that this assumption is certainly more applicable in shadow docket cases than in merits decisions, where the Court is typically engaged more in law creation than error correction.) The institution of summary reversals is also somewhat specific to higher courts with discretionary dockets. Nevertheless, the model could be fruitfully extended to middle-tier appellate courts without discretionary dockets (such as the United States Courts of Appeals), who have the discretion to engage in full versus quick review.[11] Finally, the logic of our model could be extended to other tools in the Supreme Court's shadow docket arsenal, such as stays and injunctions.

Lastly, a distinct line of criticism of summary reversal focuses on its adverse effects on the development of the law. Decisions made using the shadow docket often lack explanation

[11] On the Courts of Appeals, for example, only a minority of cases are granted the "full review" of oral arguments. However, the nature of that court's docket is quite different from the Supreme Court, as it largely consists of "easy" cases where the appellant has little chance of winning (e.g., criminal defendants). Thus, the interesting tool there is potentially "summary affirmances" rather than summary reversals.

of the Court's rationale—as some justices now consider these decisions binding precedent, lower courts are then tasked with applying the will of the Supreme Court without a full explanation of what it wants (Vladeck 2023). While such considerations are outside of the scope of our model, in future work it would be interesting to examine the adverse effects of incomplete summary reversal "decisions" on lower courts' subsequent attempts to faithfully and accurately implement the will of the Supreme Court.

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Supporting Information for

Reviewing Fast or Slow: A Theory of Summary Reversal in the Judicial Hierarchy

Contents

A Preliminary Analysis

We begin with preliminary analysis to support Lemma 1; this requires generalizing the analysis to not presume that the lower court always employs a cutpoint strategy, or that the conservative disposition is never summarily reversed. Recall from the main text that we maintain the following assumptions on the primitive parameters throughout our analysis.

Assumption A.1. *We assume that* $H > \frac{1}{2}$ *(the conservative disposition strictly optimal for the higher court ex ante) and* $\max\{M, 0\} < H - \frac{1-H}{\sqrt{1-p}}$ *(the higher court would always summarily reverse the liberal disposition if it believed the lower court to be ruling sincerely).*

A.1 The Higher Court's Calculus

The higher court seeks to induce the liberal disposition as the final outcome when the case facts are above her ideal cutpoint ($x \geq H$) and the conservative disposition as the final outcome otherwise ($x < H$), but can only base her review and summary reversal decisions on the observed lower court disposition $d \in \{\ell, c\}$ (if she reviews, she will learn the true value of x and issue whichever final ruling leads to the optimal disposition as the outcome, regardless of whether that involves upholding or reversing the lower court disposition.)[1] Denote the CDF describing the politician's interim beliefs about the case facts given an observed disposition d as $F^d(x)$, and the conditional expectation of the case facts as $E^d[x]$.

We first characterize the conditional probability $\alpha^d \in [0, 1]$ that the higher court (costlessly) summarily reverses a disposition of d should she decline to conduct a full rehearing of the case in a best response. Recall that the higher court's net benefit $u(x, H, \ell) - u(x, H, c)$ for the liberal disposition is simply $x - H$. Next, let Λ_H^d denote the expected net benefit of taking the action that results in the liberal disposition becoming the final outcome given disposition d (i.e., upholding if $d = \ell$ and reversing if $d = c$), so that

$$\Lambda_H^d = E^d[x] - H$$

[1] We also assume for notational simplicity that whenever the higher court is indifferent after review—i.e., $x = H$ (which is a measure 0 event)—she will take whichever action ensures the liberal disposition.

If the lower court disposition is liberal ($d = \ell$) then in a best response the higher court must always summarily uphold when $\Lambda_H^d > 0$ ($\alpha^\ell = 0$) and summarily reverse when $\Lambda_H^d < 0$ ($\alpha^d = 1$). Conversely, if the lower court disposition is conservative ($d = c$) then in a best response the higher court must always summarily uphold ($\alpha^d = 0$) when $\Lambda_H^d < 0$ and summarily reverse ($\alpha^d = 1$) when $\Lambda_H^d > 0$.

We next characterize the higher court's disposition-dependent review cutpoint ϕ^d.

First, when $\Lambda_H^d \geq 0$ (so that in a best response she would take whichever summary action results in the liberal disposition as the outcome absent review) a review is only *pivotal* for changing her decision when it reveals that the case facts are actually conservative, which she believes will occur with probability $F^c(H)$. In this event, the expected net benefit of changing her decision from one that ensures the liberal disposition to one that ensures the conservative disposition is $H - E^d[x|x < H]$. The overall value of review ϕ^d is thus equal to

$$\phi_c^d = F^c(H) \cdot \left(H - E^d[x|x < H]\right)$$

Next, when $\Lambda_H^d \leq 0$ (so that in a best response she would take whichever summary action results in the conservative disposition as the outcome absent review) a review is only pivotal for changing her decision when it reveals that the case facts are actually liberal, which she believes will occur with probability $1 - F^c(H)$. In this event, the expected net benefit of changing her decision from one that ensures the conservative disposition to one that ensures the liberal disposition is $E^d[x|x \geq H] - H$. The overall value of review ϕ^d is thus equal to

$$\phi_\ell^d = (1 - F^c(H)) \cdot \left(E^d[x|x \geq H] - H\right)$$

Finally, observe that $\Lambda_H^d = E^d[x] - H =$

$$(1 - F^c(H)) \cdot \left(E^d[x|x \geq H] - H\right) + F^c(H) \cdot \left(E^d[x|x < H] - H\right) = \phi_\ell^d - \phi_c^d$$

Thus, when $\Lambda_H^d \geq 0$ (so that the overall value of review is $\phi^d = \phi_c^d$) we must also have $\phi_c^d \leq \phi_\ell^d$, and when $\Lambda_H^d \leq 0$ (so that the overall value of review is $\phi^d = \phi_\ell^d$) we must also have $\phi_\ell^d \leq \phi_c^d$; combining these observations yields that the overall value of review ϕ^d is $\phi^d = \min\left\{\phi_\ell^d, \phi_c^d\right\}$.. Collecting the above observations yields the higher court's best response behavior.

Observation A.1. *Let $F^d(x)$ denote the CDF of the higher court's posterior after disposition d and let $\Lambda_H^d = E^d[x] - H$. The higher court's strategy is a best response i.f.f. she:*

- *conducts a full review whenever $k \leq \phi^d = \min\left\{\phi_\ell^d, \phi_c^d\right\}$ where*

$$\phi_c^d = F^c(H) \cdot \left(H - E^d[x|x<H]\right) \quad \text{and} \quad \phi_\ell^d = (1 - F^c(H)) \cdot \left(E^d[x|x \geq H] - H\right)$$

- *always summarily reverses absent review ($\alpha^d = 1$) when $\left(d = \ell, \Lambda_H^d < 0\right)$ or $\left(d = c, \Lambda_H^d > 0\right)$*

- *never summarily reverses absent review ($\alpha^d = 0$) when $\left(d = c, \Lambda_H^d < 0\right)$ or $\left(d = \ell, \Lambda_H^d > 0\right)$*

A.2 The Lower Court's Calculus

The lower court seeks to maximize the probability of her preferred outcome while minimizing the likelihood of reversal. When choosing a disposition, the lower court privately knows both the case facts $x \in [0,1]$ and his own ideal cutpoint $L \in \{A, M\}$. Let $\delta_L(x)$ denote the *probability* a lower court of type L chooses the liberal disposition given case facts x, which is the most general form of the lower court's strategy

To examine the lower court's calculus, it is helpful to first rewrite the higher court's feasible strategies $\left(\phi^d, \alpha^d\right)$ after disposition d in terms of the quantities $\left(\phi^d, \Delta^d\right)$ with $\Delta^d \in \left[0, 1 - G\left(\phi^d\right)\right]$, where $\Delta^d = \left(1 - G\left(\phi^d\right)\right) \cdot \left(1 - \alpha^d\right)$ equals the *unconditional probability that disposition d is summarily upheld.* We then have that the lower court's expected utility from choosing the conservative disposition $d = c$ is:

$$\left(\left(1 - \Delta^d\right) - \mathbf{1}_{x \leq H} \cdot G\left(\phi^c\right)\right) \cdot (x - L) - \left(\left(1 - \Delta^d\right) - \mathbf{1}_{x \leq H} \cdot G\left(\phi^c\right)\right) \cdot \epsilon_L \tag{6}$$

whereas his expected utility from choosing the liberal disposition is:

$$\left(\Delta^\ell + G\left(\phi^\ell\right) \cdot \mathbf{1}_{x \geq H}\right) \cdot (x - L) - \left(\left(1 - \Delta^\ell\right) - G\left(\phi^\ell\right) \cdot \mathbf{1}_{x \geq H}\right) \cdot \epsilon_L \tag{7}$$

We now separately analyze the *net benefit* of choosing the liberal disposition when $x < H$ (it is non-compliant) vs. $x \geq H$ (it is compliant). Taking the difference between between eqns. (7) and (6) yields a *net benefit* of issuing a *noncompliant* liberal (vs. compliant conservative) disposition when $x < H$ equal to:

$$\left(\left(\Delta^\ell + \Delta^c\right) - \left(1 - G\left(\phi^c\right)\right)\right) \cdot (x - L) - \left(\left(\Delta^c - \Delta^\ell\right) + G\left(\phi^c\right)\right) \cdot \epsilon_L$$

Similarly, the *net benefit* of issuing a *compliant* liberal (vs. noncompliant conservative) disposition when $x \geq H$ is equal to:

$$\left(\left(\Delta^{\ell}+\Delta^{c}\right)-\left(1-G\left(\phi^{\ell}\right)\right)\right)\cdot(x-L)-\left(\left(\Delta^{c}-\Delta^{\ell}\right)-G\left(\phi^{\ell}\right)\right)\cdot\epsilon_{L}$$

Collecting the above yields the lower court's best response behavior.

Observation A.2. *Let* $\Delta^{d}=\left(1-G\left(\phi^{d}\right)\right)\cdot\left(1-\alpha^{d}\right)$ *denote the unconditional probability that disposition* $d\in\{\ell,c\}$ *is summarily upheld, and let* $\delta_{L}(x)$ *denote the probability a type-*L *lower court chooses the liberal disposition given* x*. The lower court's strategy is a best response i.f.f.* $\forall x<H$ *we have*

$$\left(\left(\Delta^{\ell}+\Delta^{c}\right)-\left(1-G\left(\phi^{c}\right)\right)\right)\cdot(x-L)>(<)\left(\left(\Delta^{c}-\Delta^{\ell}\right)+G\left(\phi^{c}\right)\right)\cdot\epsilon_{L}\rightarrow\delta_{L}(x)=1\ (0)$$

and $\forall x\geq H$ *we have*

$$\left(\left(\Delta^{\ell}+\Delta^{c}\right)-\left(1-G\left(\phi^{\ell}\right)\right)\right)\cdot(x-L)>(<)\ \left(\left(\Delta^{c}-\Delta^{\ell}\right)-G\left(\phi^{\ell}\right)\right)\cdot\epsilon_{L}\rightarrow\delta_{L}(x)=1\ (0)$$

Note that *within* the regions where a particular final disposition is optimal for the higher court ($x<H$ or $x\geq H$) the lower court's net benefit for initially choosing the liberal disposition is *linear* in x; thus, *within* each region the behavior of each type $L\in\{M,A\}$ will be described by a cutpoint in *any* equilibrium (so that there may be four in total). However, the preceding analysis does not preclude the possibility that a given type of lower court may have two distinct cutpoints (one over $x<H$ and another $x\geq H$), nor the possibility that within a region more liberal case facts are associated with *conservative* rather than liberal dispositions (if, for example, the conservative disposition is relatively more likely to lead to the liberal outcome because it is sometimes rather than always summarily reversed). We consider these arguably pathological possibilities in the subsequent analysis.

A.3 Properties of Equilibrium

We start by proving a straightforward property of equilibria.

Lemma A.1. *If the conservative disposition is sometimes summarily reversed ($\alpha^{c}>0$) then the liberal disposition is always summarily reversed ($\alpha^{\ell}=1$).*

Proof: First observe that $E[x] - H < 0$ (the conservative disposition is optimal for H under the prior distribution of case facts) and

$$E[x] - H = \Pr(d = c) \cdot \Lambda_H^c + \Pr(d = \ell) \cdot \Lambda_H^\ell$$

Now if $\alpha^c > 0$ in a best response then it must be the case that $\Lambda_H^c \geq 0$ by Observation A.1; but then the preceding implies that $\Lambda_H^\ell < 0$, which implies $\alpha^\ell = 1$ by Observation A.1. QED

In words, Lemma A.1 states that, since the higher court's *expected* ideal disposition under the prior is conservative, then *if* she is sometimes summarily reversing the conservative disposition (so that the expected ideal disposition is weakly liberal after the conservative disposition), *then* the expected ideal disposition must be strictly conservative after the liberal disposition (leading to certain summary reversal). Thus, should a conservative disposition sometimes be summarily reversed, then the liberal disposition must always be summarily reversed, implying that the structure of equilibrium signals is reversed, so that the conservative disposition signals that the expected case facts are liberal and the liberal disposition signals that the expected case facts are conservative.

We next rule out the possibility that such "reversed" signalling equilibria exist under our initial assumption that $\max\{M, 0\} < H - \frac{1-H}{\sqrt{1-p}}$.

Lemma A.2. *Suppose $H > \frac{1}{2}$ and $\max\{M, 0\} < H - \frac{1-H}{\sqrt{1-p}}$; then in any equilibrium the conservative disposition is never summarily reversed ($\alpha^c = 0$), implying that $\phi^c = \phi_\ell^c$ (a full review of a conservative disposition is a search for liberal case facts).*

Proof: Suppose instead that $\alpha^c > 0$; by Lemma A.1 we have $\alpha^\ell = 1 \to \Delta^\ell = 0$. By Observation A.2 the benefit to a misaligned lower court of a *noncompliant* liberal ruling ($x < H$) is $-\alpha^d (1 - G(\phi^c)) \cdot (x - M) - (\Delta^c + G(\phi^c)) \cdot \epsilon_L$, which is strictly negative in the disagreement region $x \in [M, H]$. The reason is that when the liberal ruling is noncompliant ($x < H$), ruling liberally actually yields a *strictly lower* probability of the liberal outcome alongside greater expected reversal costs. Consequently, in a best response the misaligned lower court *never* rules liberally in this region.

Now *given* this equilibrium constraint on the behavior of a misaligned lower court, the dispositional behavior among the *other* cases $x \in [0, M) \cup (H, 1]$ that will result in the "most liberal" expected case facts after the conservative disposition would be if *both* the aligned and misaligned lower courts rule conservatively if and only if the actual case facts are liberal ($x \in (H, 1]$). In other words, when $\alpha^c > 0$ the *highest* possible value of the *expected* case facts after a conservative ruling would be if both types rule conservatively if and only if their ideal disposition is liberal. But then the expected case facts are identical to what they would be after the liberal ruling if both types of lower court ruled sincerely; thus, given the assumption that $\max\{M, 0\} < H - \frac{1-H}{\sqrt{1-p}}$ the higher court must strictly prefer the conservative disposition after the conservative ruling, contradicting $\alpha^c > 0$. QED

Having ruled out summary reversal of conservative dispositions, we next consider exactly how the lower court will rule in cases where the optimal disposition is conservative ($x \leq H$). Observe that $\alpha^c = 0 \to \Delta^c = 1 - G(\phi^c)$; substituting into the lower court's calculus yields that the net benefit of issuing a noncompliant liberal disposition is:

$$\Delta^\ell \cdot (x - L) - \left(1 - \Delta^\ell\right) \cdot \epsilon_L \tag{8}$$

Examining this calculus yields the following additional properties of equilibrium.

Lemma A.3. *In any equilibrium $\Delta^\ell > 0$ (the unconditional probability that the liberal disposition is upheld is strictly positive), implying that $\phi^\ell = \phi^\ell_c$ (a full review of liberal a disposition is a search for conservative case facts).*

Proof: Suppose not and $\Delta^\ell = 0$; then both types of lower court will rule conservatively when $x \leq H$, implying that the liberal disposition is a perfect signal that $x > H$; but then in a higher court best response we have $\alpha^\ell = 1$ and $\phi^\ell = 0 \to \Delta^\ell = 1$, a contradiction. QED

The preceding implies that issuing a noncompliant liberal disposition ($x < H$) will always *strictly* increase both the probability of the liberal outcome (from 0 to Δ^ℓ) and of summary reversal (from 0 to $1 - \Delta^\ell$). This simple observation then yields the following natural additional properties of equilibrium.

Lemma A.4. *In any equilibrium, lower court behavior on cases $x < H$ satisfies the following:*

- *An aligned lower court ($L = A = H$) always rules conservatively.*
- *A misaligned lower court ($L = M < H$) rules according to a cutpoint*
$$\bar{x}_M\left(\Delta^\ell\right) = \max\left\{M + \left(\frac{1-\Delta^\ell}{\Delta^\ell}\right)\cdot \epsilon_M, 0\right\}$$
that always exhibits some non-compliance ($\bar{x}_M\left(\Delta^\ell\right) < H$).

Proof: It follows immediately from eqn. (8) and Lemma A.3 that (a) an aligned–type lower court $L = A = H$ will always rule conservatively when $x < H$, and (b) over the region $x < H$ a misaligned lower court $L = M$ will use a cutpoint $\bar{x}_M\left(\Delta^\ell\right) = \min\left\{\max\left\{M + \left(\frac{1-\Delta^\ell}{\Delta^\ell}\right)\cdot \epsilon_L, 0\right\}, H\right\}$. To see that a misaligned lower-court always exhibits some noncompliance ($\bar{x}_M\left(\Delta^\ell\right) < H$, implying that $\bar{x}_M\left(\Delta^\ell\right) = \max\left\{M + \left(\frac{1-\Delta^\ell}{\Delta^\ell}\right)\cdot \epsilon_L, 0\right\}$), suppose not so that $\bar{x}_M\left(\Delta^\ell\right) = H$ (as of yet we place no restriction on whether an aligned or misaligned lower court ever panders, i.e., how they rule over $x \geq H$). Then issuing the liberal disposition perfectly signals compliance ($\phi_c^\ell = F^\ell(H)\cdot\left(H - E^\ell[x|x<H]\right) = 0$), so in a best-response liberal disposition is neither reversed nor reviewed so $\Delta^\ell = 1$; but then $\bar{x}_M\left(\Delta^\ell\right) = \max\{M, 0\} < H$, a contradiction. QED

We last examine the calculus of the lower court over issuing a compliant liberal dispositions ($x \geq H$); the net benefit of doing so is:

$$\left(\Delta^\ell + \left(G\left(\phi^\ell\right) - G\left(\phi^c\right)\right)\right)\cdot(x-L) - \left(\left(1-\Delta^\ell\right) - \left(G\left(\phi^\ell\right) + G\left(\phi^c\right)\right)\right)\cdot\epsilon_L \qquad (9)$$

As compared to eqn. (8), it is clear that when the liberal ruling is actually compliant ($x \geq H$), ruling liberally carries a reduced risk of *triggering* a reversal that would have otherwise not occured as compared to when a liberal ruling is noncompliant ($x \geq H$). Formally, in the latter case ruling liberally rather than conservatively increases the risk of reversal by $1-\Delta^\ell$, whereas in the former case it only does so by $\left(1-\Delta^\ell\right) - \left(G\left(\phi^\ell\right) + G\left(\phi^c\right)\right)$; the latter quantity may even be negative if the higher court is frequently reviewing both liberal dispositions (therefore upholding liberal compliant ones) and conservative dispositions (therefore reversing noncompliant conservative ones).

However, the effect of ruling liberally (vs. conservatively) on the probability *the liberal disposition is the final outcome* when $x \geq H$ is less obvious. For example, if the higher court often reviews conservative dispositions but summarily reverses liberal ones, then $\Delta^{\ell} + \left(G\left(\phi^{\ell}\right) - G\left(\phi^{c}\right)\right)$ may be negative, meaning that ruling conservatively is actually more likely to lead to the liberal outcome (since the higher court will frequently review and reverse noncompliant conservative rulings and just summarily reverse liberal ones). Consequently, the lower court's best response may not be described by a single cutpoint, and/or when $x \geq H$ he may be more inclined to rule conservatively on more *liberal* case facts.

We cannot rule out these possibilities as equilibria. Instead, we justify a restriction to the simpler strategy profiles of main text Remark 1 as follows. First, in this section we provide a sufficient condition $\phi^{\ell} \geq \phi^{c}$ that rules them out and ensures the lower court's best response when $x \geq H$ is well behaved. Second, in the subsequent equilibrium characterization we show this sufficient condition holds in any equilibrium without pandering, as well as any equilibrium with pandering in which strategies are in cutpoints.

First, the condition $\phi^{\ell} \geq \phi^{c}$ yields the following additional properties.

Lemma A.5. *In an equilibrium with $\phi^{\ell} \geq \phi^{c}$, lower court behavior when $x \geq H$ is as follows:*

- *A misaligned lower court ($L = M < H$) always rules liberally.*
- *An aligned lower court ($L = A = H$) rules according to a cutpoint*
$$\bar{x}_A\left(\Delta^{\ell}, \phi^{\ell}, \phi^{c}\right) = \min\left\{H + \left(\frac{\left(1 - \Delta^{\ell}\right) - \left(G\left(\phi^{\ell}\right) + G\left(\phi^{c}\right)\right)}{\Delta^{\ell} + \left(G\left(\phi^{\ell}\right) - G\left(\phi^{c}\right)\right)}\right) \cdot \epsilon_A, 1\right\}$$

Proof: First, we have already established that in any equilibrium $\Delta^{c} = 1 - G\left(\phi^{c}\right)$ (which is equivalent to $\alpha^{c} = 0$) and $\Delta^{\ell} > 0$. Second, observe that $\phi^{\ell} \geq \phi^{c}$ implies that $\Delta^{\ell} + \left(G\left(\phi^{\ell}\right) - G\left(\phi^{c}\right)\right) \geq \Delta^{\ell} > 0$. Now, the fact that over $x \geq H$ an aligned lower court must rule according to the cutpoint $\bar{x}_A\left(\Delta^\ell,\phi^\ell,\phi^c\right)$ follows immediately from the calculus in eqn. (9) combined with $\Delta^\ell+\left(G\left(\phi^\ell\right)-G\left(\phi^c\right)\right)>0$.

To show that a misaligned lower court ($L=M<H$) always rules liberally over $x\geq H$, observe that $\bar{x}_M\left(\Delta^\ell\right)<H$ (from Lemma A.4) implies there exists a case fact $x'\in(\bar{x}_M,H)$ such that the lower court strictly prefers to issue a noncompliant liberal ruling, i.e., $\Delta^\ell\cdot(x'-M)-\left(1-\Delta^\ell\right)\cdot\epsilon_M>0$ from eqn. 8. It therefore follows that

$$\left(\Delta^\ell+\left(G\left(\phi^\ell\right)-G\left(\phi^c\right)\right)\right)\cdot(x'-M)-\left(\left(1-\Delta^\ell\right)-\left(G\left(\phi^\ell\right)+G\left(\phi^c\right)\right)\right)\cdot\epsilon_M>0$$

since $G\left(\phi^\ell\right)-G\left(\phi^c\right)\geq 0$ and $x'>M$. Finally since $\Delta^\ell+\left(G\left(\phi^\ell\right)-G\left(\phi^c\right)\right)>0$ we have

$$\left(\Delta^\ell+\left(G\left(\phi^\ell\right)-G\left(\phi^c\right)\right)\right)\cdot(x-M)-\left(\left(1-\Delta^\ell\right)-\left(G\left(\phi^\ell\right)+G\left(\phi^c\right)\right)\right)\cdot\epsilon_M>0$$

for $x\geq H>x'_M$, so that that in a best response an M-type lower court rules liberally. QED

Next, the condition $\phi^\ell\geq\phi^c$ also yields the required lower bound $\tilde{x}_M(x_A)$ on the degree of non-compliance by a misaligned lower court in main text Lemmas 3-4.

Lemma A.6. *An equilibrium with $\phi^\ell\geq\phi^c$ satisfies $x_M\geq\tilde{x}_M(x_A)=H-\left(\frac{(1-H)^2-p(x_A-H)^2}{1-p}\right)^{\frac{1}{2}}$.*

Proof: From the preceding, any equilibrium in which $\phi^\ell\geq\phi^c$ must satisfy $x_M\in(0,H)$ and $x_A\geq H$. In addition we have already established that $\Delta^\ell>0$ requires that $\Lambda_H^\ell=E^\ell[x]-H\geq 0$. We now show that this condition is equivalent to $p(x_A-H)^2+(1-p)(H-x_M)^2\leq(1-H)^2\iff x_M\geq\tilde{x}_M(x_A)$.

We have that $\Lambda_H^\ell=E^\ell[x]-H$

$$\begin{aligned}
&= \Pr(x\geq H|d=\ell)\cdot(E[x|x\geq H,d=\ell]-H)+\Pr(x\leq H|d=\ell)\cdot(E[x|x\leq H,d=\ell]-H)\\
&= \Pr(x\geq H|d=\ell)\cdot\begin{pmatrix}\Pr(L=A|x\geq H,d=\ell)\cdot(E[x|L=A,x\geq H,d=\ell]-H)\\+\Pr(L=M|x\geq H,d=\ell)\cdot(E[x|L=M,x\geq H,d=\ell]-H)\end{pmatrix}\\
&\quad +\Pr(x\leq H|d=\ell)\cdot\begin{pmatrix}\Pr(L=A|x\leq H,d=\ell)\cdot(E[x|L=A,x\leq H,d=\ell]-H)\\+\Pr(L=M|x\leq H,d=\ell)\cdot(E[x|L=M,x\leq H,d=\ell]-H)\end{pmatrix}
\end{aligned}$$

$$
\begin{aligned}
&= \frac{1}{\Pr(d=\ell)} \cdot \begin{pmatrix} \Pr(L=A, x \geq H, d=\ell) \cdot (E[x|L=A, x \geq H, d=\ell] - H) \\ + \Pr(L=M, x \geq H, d=\ell) \cdot (E[x|L=M, x \geq H, d=\ell] - H) \\ + \Pr(L=A, x \leq H, d=\ell) \cdot (E[x|L=A, x \leq H, d=\ell] - H) \\ + \Pr(L=M, x \leq H, d=\ell) \cdot (E[x|L=M, x \leq H, d=\ell] - H) \end{pmatrix} \\
&= \frac{1}{\Pr(d=\ell)} \cdot \begin{pmatrix} p\left((1-H) - (x_A - H)\right) \cdot \left(\frac{x_A - H}{2} + \frac{1-H}{2}\right) \\ + (1-p)(1-H)\left(\frac{H+1}{2} - H\right) + (1-p)(H - x_M)\left(\frac{x_M + H}{2} - H\right) \end{pmatrix} \\
&= \frac{(1-H)^2 - p(x_A - H)^2 - (1-p)(H - x_M)^2}{2\Pr(d=\ell)}
\end{aligned}
$$

From here it is straightforward that $E^{\ell}[x] - H \geq 0$ reduces to the desired condition. QED

Finally, it is clear from inspection that Lemmas A.4-A.6 jointly imply that in any equilibrium where $\phi^{\ell} \geq \phi^{c}$, the lower court's behavior must be described by *cutpoint strategies* with $x_M = \bar{x}_M\left(\Delta^{\ell}\right) \geq \tilde{x}_M(x_A)$ and $x_A = \bar{x}_A\left(\Delta^{\ell}, \phi^{\ell}, \phi^{c}\right)$ over the entire case space $x \in [0,1]$ (and not just separately over the intervals $x < H$ and $x \geq H$); it therefore also implies that $\phi^{\ell} = \phi^{\ell}_{c} = \phi^{\ell}(x_A, x_M)$ and $\phi^{c} = \phi^{c}_{\ell} = \phi^{c}(x_A, x_M)$ as characterized in the main text. We summarize as follows.

Corollary A.1. *A strategy profile in which $\phi_{\ell} \geq \phi_{c}$ is an equilibrium if and only if it takes the form described in main text Remark 1 and Lemma 1, with*

- $\phi^{\ell} = \phi^{\ell}(x_A, x_M) = \frac{(1-p)(H-x_M)^2}{2\Pr(d=\ell)}$ *and* $\phi^{c} = \phi^{c}(x_A, x_M) = \frac{p(x_A-H)^2}{2\Pr(d=c)}$, *where* $\Pr(d=\ell) = 1 - \Pr(d=c) = p(1-x_A) + (1-p)(1-x_M)$
- $\alpha^{c} = 0$ *and* $\alpha^{\ell} = 1 - \frac{\Delta^{\ell}}{1-G\left(\phi^{\ell}\right)} \in [0,1)$
- $x_M = \bar{x}_M\left(\Delta^{\ell}\right)$, $x_A = \bar{x}_A\left(\Delta^{\ell}, \phi^{\ell}, \phi^{c}\right)$, *and* $x_M \geq \tilde{x}_M(x_A)$.

B Equilibrium Analysis

In this section we derive conditions for cutpoint equilibria without and with summary reversal. It is helpful to first provide a generalized version of our result in main text Lemma 5 that pandering (i.e., ruling conservatively when the case facts are liberal) and summary reversal are inextricably linked (that is, one cannot occur without the other) which does not rely on the addition strategy profile restrictions in main text Remark 1.

Proposition B.1. *The lower court sometimes panders (*$\Pr(d = c | x \geq H) > 0$*) i.f.f. the higher court sometimes summarily reverses the liberal disposition (*$\alpha^\ell > 0$*).*

Proof: We first show that the presence of pandering implies the presence of summary reversal (by contrapositive). Suppose not and there is no summary reversal ($\alpha^\ell = 0 \iff \Delta^\ell = 1 - G\left(\phi^\ell\right)$); then the net benefit of issuing a compliant liberal disposition reduces to $(1 - G(\phi^c)) \cdot (x - L) + G(\phi^c) \cdot \epsilon_L > 0$ for all $x > H \geq L$; thus in a best response there is 0-probability of pandering by either type.

We next show that the presence of summary reversal ($\alpha^\ell > 0 \iff \Delta^\ell < 1 - G\left(\phi^\ell\right)$) implies pandering (by contradiction). Suppose not so $\alpha^\ell > 0$ but there is no pandering ($\Pr(d = c|x \geq H) = 0$); the benefit of a compliant liberal disposition ($x \geq H$) reduces to

$$\left(\Delta^\ell + G\left(\phi^\ell\right)\right) \cdot (x - L) - \left(\left(1 - G\left(\phi^\ell\right)\right) - \Delta^\ell\right) \cdot \epsilon_L$$

But since $\Delta^\ell + G\left(\phi^\ell\right) > 0$ and $\Delta^\ell < 1 - G\left(\phi^\ell\right)$, for an aligned lower court ($L = H$) this expression is strictly negative for values of $x \geq H$ sufficiently close to H, implying an aligned lower court's best response involves some pandering, a contradiction. QED

B.1 Equilibrium without summary reversal

We next prove Proposition 1, which establishes necessary and sufficient conditions for an equilibrium without summary reversal.

Proof of Proposition 1

Suppose $\alpha^\ell = 0$ (there is no summary reversal) so that $\Delta_\ell = 1 - G\left(\phi^\ell\right)$; then by

Proposition B.1 there is no pandering ($\Pr(d = c|x \geq H) = 0$) and $\phi^c = \phi^c_\ell = 0$, implying that $\phi^\ell = \phi^\ell(H, x_M) \geq \phi^c = 0$ and $x_A = \bar{x}_A\left(1 - G\left(\phi^\ell\right), \phi^\ell, 0\right) = H$. Thus, any equilibrium without summary reversal must take the form in main text Remark 1 and Lemma 1. Such a strategy profile will be an equilibrium i.f.f. $x_M = \bar{x}_M\left(\Delta^\ell\right)$ and $x_M \geq \tilde{x}_M\left(\Delta^\ell\right)$. Substituting in, such a profile with a level of noncompliance $x^*_M < H$ will be an equilibrium i.f.f.

$$x^*_M = \bar{x}_M\left(1 - G\left(\phi^\ell\left(H, x^*_M\right)\right)\right) \text{ and } x^*_M \geq \tilde{x}_M(H)$$

(noting that $\tilde{x}_M(H) \geq 0$ by Assumption A.1 so that $\bar{x}_M\left(\Delta^\ell\right) = M + \left(\frac{1-\Delta^\ell}{\Delta^\ell}\right) \cdot \epsilon_L$).

Now it is easily verified that $G\left(\phi^\ell(H, x_M)\right)$ is strictly decreasing in x_M and $\bar{x}_M\left(\Delta^\ell\right)$ is strictly decreasing in Δ^ℓ; thus $\bar{x}_M\left(1 - G\left(\phi^\ell(H, x_M)\right)\right)$ is strictly decreasing in x_M with $\bar{x}_M\left(1 - G\left(\phi^\ell(H, H)\right)\right) = \bar{x}_M(0) = M < H$. Thus, either $\bar{x}_M\left(1 - G\left(\phi^\ell\left(H, \tilde{x}_M(H)\right)\right)\right) < \tilde{x}_M(H)$ and no solution to the equilibrium condition exists, or

$$\bar{x}_M\left(1 - G\left(\phi^\ell\left(H, \tilde{x}_M(H)\right)\right)\right) \geq \tilde{x}_M(H)$$

and there is a unique solution $x^*_M \in [\tilde{x}_M(H), H)$. Finally, straightforward algebra shows that the preceding is equivalent to the condition $\bar{M}(\cdot) \leq M$ provided in the main text. QED

B.2 Equilibrium with summary reversal

A generalized version of main text Lemma 5 that does not restrict attention to strategy profiles of the form in Remark 1 has already been shown in Proposition B.1. Next, to characterize summary reversal equilibria of the desired form we show that any such equilibria must satisfy the key condition that $\phi^\ell \geq \phi^c$.

Lemma B.1. *Any summary reversal equilibrium of the form in Remark 1 satisfies $\phi^\ell \geq \phi^c$.*

Proof: By Proposition 1 an equilibrium with summary reversal ($\alpha^\ell > 0$) must involve pandering; if it takes the form described in Remark 1 it must therefore satisfy $x_M = \tilde{x}_M(x_A) < H < x_A$ as well as $\phi^\ell = \phi^\ell(x_A, x_M)$ and $\phi^c(x_A, x_M)$. We must therefore show that $\phi^\ell(x_A, \tilde{x}_M(x_A)) \geq \phi^c(x_A, \tilde{x}_M(x_A))$ when $x_A \in (H, 1]$, which is equivalent to

$$\Pr(d = c) \cdot (1 - p)\left(H - \tilde{x}_M(x_A)\right)^2 \geq \Pr(d = \ell) \cdot p\left(x_A - H\right)^2$$

Using that $(1 - p)\left(H - \tilde{x}_M(x_A)\right)^2 = (1 - H)^2 - p\left(x_A - H\right)^2$, substituting into the desired condition, and rearranging yields that:

$$\Pr(d=c)\cdot(1-H)^2 \geq p\,(x_A-H)^2$$

Finally, since $\Pr(d=c) \geq px_A$ it suffices to show the stronger inequality $x_A(1-H)^2 \geq (x_A-H)^2$. Clearly this holds strictly at $x_A = H$ and with equality at $x_A = 1$. Since both sides are strictly increasing in x_A with the l.h.s. linear and the r.h.s. strictly convex, it must therefore also hold for all values of $x_A \in (H,1]$ (since if $x'_A(1-H)^2 > (x'_A-H)^2$ at some x'_A then they must cross at most once over all $x_A \geq x'_A$). QED

The preceding establishes that the conditions in Observation A.1 are sufficient for summary referal equilibria of the form in Remark 1, as well as necessary for summary reversal equilibria satisfying $\phi^\ell \geq \phi^c$. Using these conditions we next prove Proposition 2, which further characterizes summary reversal equilibria of the desired form, and shows that one such equilibrium always exists whenever an equilibrium without summary reversal does not.

Proof of Proposition 2

Suppose $\alpha^\ell > 0$ (there is summary reversal) so that $\Delta_\ell < 1 - G\left(\phi^\ell\right)$. Then by the preceding analysis there is a pandering equilibrium of the form in Remark 1 with pandering $x_A^* > H$ if and only if $x_A^* = \bar{x}_A\left(\Delta^\ell, \phi^\ell, \phi^c\right)$, $x_M = \tilde{x}_M(x_A^*)$, $\phi^\ell = \phi^\ell(x_A^*, \tilde{x}_M(x_A^*))$, $\phi^c = \phi^c(x_A^*, \tilde{x}_M(x_A^*))$, and $\tilde{x}_M(x_A^*) = \bar{x}_M\left(\Delta^\ell\right)$ where $\Delta^\ell = (1-G(\phi^\ell))\cdot(1-\alpha^\ell)$; it is easily verified that this matches the conditions stated in the main text.

We next provide a straightforward fixed point characterization of equilibrium values of x_A^*. The final condition in the preceding list pins down the required value of $\Delta^\ell = \bar{x}_M^{-1}(\tilde{x}_M(x_A^*)) < 1 - G\left(\phi^\ell\right)$, where $\bar{x}_M^{-1}(x_M) = \left(\frac{x_M - M}{\epsilon_M} + 1\right)^{-1}$; substituting all quantities into the first equality a single necessary and sufficient equilibrium condition in the form of a fixed point:

$$x_A^* = \bar{x}_A\left(\bar{x}_M^{-1}(\tilde{x}_M(x_A^*)), \phi^\ell(x_A^*, \tilde{x}_M(x_A^*)), \phi^c(x_A^*, \tilde{x}_M(x_A^*))\right) \tag{10}$$

We last use the fixed point characterization to show that a summary reversal equilibrium of this form exists whenever an equilibrium without summary reversal does not. Observe that since $\bar{x}_A(1) \leq 1$ from the definition of $\bar{x}_A(\cdot)$, a *sufficient* (but not necessary) condition for the existence of a fixed point with $x_A^* > H$ is that the left hand side of eqn. 10 is strictly less than the right hand side when evaluated at $x_A^* = H$. Using $\phi^c(H, \tilde{x}_M(H)) = 0$ a sufficient condition for existence of a pandering equilibrium is therefore:

$$H < \bar{x}_A\left(\bar{x}_M^{-1}(\tilde{x}_M(H)), \phi^\ell(H, \tilde{x}_M(H)), 0\right).$$

Next using the definition of $\bar{x}_A(\cdot)$ the condition is equivalent to

$$H < H + \left(\frac{\left(1 - \bar{x}_M^{-1}(\tilde{x}_M(H))\right) - G\left(\phi^\ell(H, \tilde{x}_M(H))\right)}{\bar{x}_M^{-1}(\tilde{x}_M(H)) + G(\phi^\ell(H, \tilde{x}_M(H)))}\right) \cdot \epsilon_A$$

which in turn simplifies to

$$\bar{x}_M^{-1}(\tilde{x}_M(H)) < 1 - G\left(\phi^\ell(H, \tilde{x}_M(H))\right),$$

which is exactly the condition derived in the proof of Proposition 1 under which a summary reversal equilibrium is absent. QED

Proof of Proposition 3

We perform comparative statics on the equilibrium with the least amount of pandering (denoted $x_A^* \geq H$) whenever it exhibits a strictly positive amount of pandering ($x_A^* > H$) and in addition the level of pandering is interior ($x_A^* < 1$).

By definition, the equilibrium with the least amount of pandering actually exhibits pandering ($x_A^* > H$) if and only if an equilibrium without pandering (and hence without summary reversal) does not exist. As previously shown this is the case if and only if $\bar{x}_M^{-1}(\tilde{x}_M(H)) < 1 - G\left(\phi^\ell(H, \tilde{x}_M(H))\right)$ (see the proof of Proposition 1), which we have also shown is exactly equivalent to the condition

$$H < \bar{x}_A\left(\bar{x}_M^{-1}(\tilde{x}_M(H)), \phi^\ell(H, \tilde{x}_M(H)), 0\right).$$

in the fixed point characterization of summary reversal equilibria in the proof of Proposition 2. If the lowest pandering equilibrium is also interior ($H < x_A^* < 1$), then again by the fixed point characterization in the proof of Proposition 2 it must be the case that

$$x_A^* = H + \left(\frac{\left(1 - \bar{x}_M^{-1}\left(\tilde{x}_M\left(x_A^*\right)\right)\right) - \left(\frac{\phi^\ell\left(x_A^*,\tilde{x}_M\left(x_A^*\right)\right)+\phi^c\left(x_A^*,\tilde{x}_M\left(x_A^*\right)\right)}{\bar{k}}\right)}{\bar{x}_M^{-1}\left(\tilde{x}_M\left(x_A^*\right)\right) + \left(\frac{\phi^\ell\left(x_A^*,\tilde{x}_M\left(x_A^*\right)\right)-\phi^c\left(x_A^*,\tilde{x}_M\left(x_A^*\right)\right)}{\bar{k}}\right)} \right) \cdot \epsilon_A, \qquad (11)$$

and that l.h.s. is strictly less than the r.h.s. when evaluated $\forall x_A \in [H, x_A^*)$ (since otherwise there would be a strictly lower pandering equilibrium).

Next, to analyze comparative statics effects of some arbitrary parameter q on $x_A^*(q)$ under these circumstances, observe that *if* the right hand side of the preceding condition can be shown to be strictly increasing (decreasing) in q then it must be the case that $x_A^*(q) < x_A^*(q')$ for $q' > q$ (since then the r.h.s. evaluated at q' will be *strictly* greater than the l.h.s. $\forall x_A \in [H, x_A^*(q)]$, implying that the lowest fixed point $x_A^*(q')$ must be $> x_A^*(q)$).

We now consider which primitive parameters have an unambigious effect on the r.h.s. of eqn. 11 holding x_A fixed.

First observe that the parameters (M, ϵ_M) affecting the misaligned lower court's incentives only enter the rhs through $\bar{x}_M^{-1}(\cdot)$ (which is *increasing* in M and ϵ_M) and moreoever the r.h.s. is *decreasing* in $\bar{x}_M^{-1}(\cdot)$; hence *decreasing* either M or ϵ_M *increases* the right hand side, therefore causing equilibrium pandering to *increase*.

Last observe that the r.h.s. is unambigously increasing in both ϵ_A and $\bar{k}$. Thus, equilibrium pandering also *increases* as both the aligned lower court's reversal cost increases, and as the maximum of review cost increases (which causes the distribution of review costs to first order stochastically increase). QED

B.3 Higher Court Welfare

In this section we analyze the equilibrium welfare of the higher court.

Derivation of Equation 5. Recall from the main text that

$$\begin{aligned} EU^H &= \Pr(d=\ell) \cdot \left(E\left[u(x,H,\ell)\,|d=\ell\right] + \int_0^{\phi^\ell} \left(\phi^\ell - k\right) g(k)\,dk \right) \\ &\quad + \Pr(d=c) \cdot \left(E\left[u(x,H,c)\,|d=c\right] + \int_0^{\phi^c} \left(\phi^c - k\right) g(k)\,dk \right) \end{aligned}$$

Now $g(k) = \frac{1}{\bar{k}}$ implies $\int_0^{\phi} (\phi - k)\, g(k)\, dk = \frac{\phi^2}{2\bar{k}}$; substituting and rearranging yields $EU^H =$

$$\Pr(d=\ell) \cdot E\left[\frac{u(x,H,\ell) - u(x,H,c)}{2} | d=\ell\right] + \Pr(d=c) \cdot E\left[\frac{u(x,H,c) - u(x,H,\ell)}{2} | d=c\right]$$
$$+E\left[\frac{u(x,H,\ell) + u(x,H,c)}{2}\right] + \left(\frac{1}{2\bar{k}}\right)\left(\Pr(d=\ell) \cdot \left(\left(\phi^{\ell}\right)^2\right) + \Pr(d=c) \cdot \left(\left(\phi^{c}\right)^2\right)\right)$$

which in turn is equal to:

$$E\left[\frac{x-H}{2}\right] + \frac{1}{2}\left(\Pr(d=\ell) \cdot \Lambda_H^{\ell} - \Pr(d=c) \cdot \Lambda_H^{c}\right)$$
$$+\left(\frac{1}{2\bar{k}}\right)\left(\Pr(d=\ell) \cdot \left(\left(\phi^{\ell}\right)^2\right) + \Pr(d=c) \cdot \left(\left(\phi^{c}\right)^2\right)\right),$$

recalling that $\Lambda_H^d = E^d[x] - H = E[x - H|d]$.

Now recall from the proof of Appendix Lemma A.6 that $\Lambda_H^{\ell} = \frac{(1-H)^2 - p(x_A - H)^2 - (1-p)(H - x_M)^2}{2\Pr(d=\ell)}$; using a similar method as in that proof we would like to calculate Λ_H^c. We have that Λ_H^c

$$\begin{aligned}
&= \Pr(x \geq H|d=c) \cdot (E[x|x \geq H, d=c] - H) + \Pr(x \leq H|d=c) \cdot (E[x|x \leq H, d=c] - H) \\
&= \Pr(x \geq H|d=c) \cdot \left(\begin{array}{c} \Pr(L=A|x \geq H, d=c) \cdot (E[x|L=A, x \geq H, d=c] - H) \\ +\Pr(L=M|x \geq H, d=c) \cdot (E[x|L=M, x \geq H, d=c] - H) \end{array}\right) \\
&\quad +\Pr(x \leq H|d=c) \cdot \left(\begin{array}{c} \Pr(L=A|x \leq H, d=c) \cdot (E[x|L=A, x \leq H, d=c] - H) \\ +\Pr(L=M|x \leq H, d=c) \cdot (E[x|L=M, x \leq H, d=c] - H) \end{array}\right) \\
&= \frac{1}{\Pr(d=c)} \cdot \left(\begin{array}{c} \Pr(L=A, x \geq H, d=c) \cdot (E[x|L=A, x \geq H, d=c] - H) \\ +\Pr(L=M, x \geq H, d=c) \cdot (E[x|L=M, x \geq H, d=c] - H) \\ +\Pr(L=A, x \leq H, d=c) \cdot (E[x|L=A, x \leq H, d=c] - H) \\ +\Pr(L=M, x \leq H, d=c) \cdot (E[x|L=M, x \leq H, d=c] - H) \end{array}\right) \\
&= \frac{1}{\Pr(d=c)} \cdot \left(p(x_A - H) \cdot \left(\frac{H + x_A}{2} - H\right) + pH\left(\frac{H}{2} - H\right) + (1-p)\, x_M \cdot \left(\frac{x_M}{2} - H\right)\right) \\
&= \frac{1}{2\Pr(d=c)} \cdot \left(p(x_A - H)^2 + (1-p)(H - x_M)^2 - H^2\right)
\end{aligned}$$

Substituting these quantities into the previous expression and rearranging yields that $EU^H =$

$$E\left[\tfrac{x-H}{2}\right] \quad +\frac{1}{4}\left(\begin{array}{c} \left((1-H)^2 - p(x_A - H)^2 - (1-p)(H - x_M)^2\right) \\ +\left(H^2 - p(x_A - H)^2 - (1-p)(H - x_M)^2\right) \end{array}\right)$$
$$+\left(\frac{1}{2\bar{k}}\right)\left(\Pr(d=\ell) \cdot \left(\left(\phi^{\ell}\right)^2\right) + \Pr(d=c) \cdot \left(\left(\phi^{c}\right)^2\right)\right),$$

Finally, subtracting $E\left[\frac{x-H}{2}\right]$ and multiplying through by 4 (neither of which depend on the strategies) yields the expression in main text Equation 5 for $\tilde{EU}^H$.

Equilibrium Characterization without Summary Reversal

We next fully characterize equilibrium when summary reversal is not an option available to the higher court.

Absent the possibility of summary reversal we must have $\alpha^\ell = 0$ so that $\Delta_\ell = 1 - G\left(\phi^\ell\right)$; then by Proposition B.1 there is no pandering ($\Pr\left(d = c | x \geq H\right) = 0$) and $\phi^c = \phi^c_\ell = 0$, implying that $\phi^\ell = \phi^\ell\left(H, x_M\right) \geq \phi^c = 0$ and $x_A = \bar{x}_A\left(1 - G\left(\phi^\ell\right), \phi^\ell, 0\right) = H$. Thus, any equilibrium in the model without the summary reversal option must take the form in main text Remark 1, and such a strategy profile will be an equilibrium i.f.f. $x_M = \bar{x}_M\left(\Delta^\ell\right)$. (Unlike the main model in which summary reversal is an option, we no longer require that $x_M \geq \tilde{x}_M\left(\Delta^\ell\right)$, i.e., we no longer require that the higher court would not *want* to exercise the summary reversal option if she could.)

Substituting in the required values of Δ^ℓ and ϕ^ℓ, such a profile with a level of noncompliance $x^*_M < H$ will be an equilibrium i.f.f.

$$x^*_M = \bar{x}_M\left(1 - G\left(\phi^\ell\left(H, x^*_M\right)\right)\right),$$

where $\bar{x}_M\left(\Delta^\ell\right) = \max\left\{M + \left(\frac{1-\Delta^\ell}{\Delta^\ell}\right) \cdot \epsilon_M, 0\right\}$). Finally recall that $G\left(\phi^\ell\left(H, x_M\right)\right)$ is strictly decreasing in x_M and $\bar{x}_M\left(\Delta^\ell\right)$ is strictly decreasing in Δ^ℓ until it (potentially) reaches 0. Thus $\bar{x}_M\left(1 - G\left(\phi^\ell\left(H, x_M\right)\right)\right)$ is strictly decreasing in x_M with $\bar{x}_M\left(1 - G\left(\phi^\ell\left(H, H\right)\right)\right) = \bar{x}_M\left(0\right) = M < H$. Therefore there is a unique equilibrium $x^*_M \in (M, H)$ satisfying $x^*_M \geq 0$.

Now there are two possibilities for the unique equilibrium. First we may have, that $M + \left(\frac{G\left(\phi^\ell(H,0)\right)}{1-G\left(\phi^\ell(H,0)\right)}\right) \cdot \epsilon_M = M + \left(\frac{\phi^\ell(H,0)}{\bar{k}-\phi^\ell(H,0)}\right) \leq 0$ so that $\bar{x}_M\left(1 - \frac{\phi^\ell(H,0)}{\bar{k}}\right) = 0 = x^*_M$, i.e., a misaligned lower court always rules liberally. Second we may have that $M + \left(\frac{\phi^\ell(H,0)}{\bar{k}-\phi^\ell(H,0)}\right) \cdot \epsilon_M > 0$, so that there is a unique $x^*_M > 0$ such that

$$x^*_M = \bar{x}_M\left(1 - \frac{\phi^\ell\left(H, 0\right)}{\bar{k}}\right) = M + \left(\frac{\phi^\ell\left(H, x^*_M\right)}{\bar{k} - \phi^\ell\left(H, x^*_M\right)}\right) \cdot \epsilon_M$$

and a misaligned lower court sometimes rules conservatively. Finally, it is easily verified that

x_M^* is strictly decreasing in $\bar{k}$ unless $x_M^* = 0$ at some $\bar{k}$ which point it is constant and 0 thereafter; the latter will occur at a sufficiently high $\bar{k}$ i.f.f. $M < 0$.

Proof of Proposition 4

We first consider equilibrium of the game without summary reversal. For the proof we explicitly denote the dependence of the unique equilibrium compliance cutpoint $x_M^N\left(\bar{k}\right)$ in the model with no summary reversal on $\bar{k}$. Observe that for any value of x_M we have $\phi^\ell\left(H, x_M\right)$ is bounded above by $\phi^\ell\left(H, 0\right)$; thus in any equilibrium of the model with no summary reversal the quantity $\left(\frac{\phi^\ell\left(H, x_M^N\left(\bar{k}\right)\right)}{\bar{k} - \phi^\ell\left(H, x_M^N\left(\bar{k}\right)\right)}\right) \cdot \epsilon_M \to 0$ as $\bar{k} \to \infty$, implying from the definition of $\bar{x}_M\left(\cdot\right)$ and the equilibrium characterization that $x_M^N\left(\bar{k}\right) \to \max\left\{M, 0\right\}$ as $\bar{k} \to \infty$; since we have assumed $\max\left\{M, 0\right\} < \tilde{x}_M\left(0\right)$ it is therefore the case that

$$(1-H)^2 - \left(p\left(x_A^N\left(\bar{k}\right) - H\right)^2 + (1-p)\left(H - x_M^N\left(\bar{k}\right)\right)^2\right) = (1-H)^2 - (1-p)\left(H - x_M^N\left(\bar{k}\right)\right)^2 < 0$$

for sufficiently large $\bar{k}$.

We next consider equilibrium of the game with summary reversal. By Proposition 1 we have that *every* equilibrium involves summary reversal i.f.f.

$$M < \bar{M}\left(\bar{k}\right) = \tilde{x}_M\left(H\right) - \left(\frac{\phi^\ell\left(H, \tilde{x}_M\left(H\right)\right)}{\bar{k} - \phi^\ell\left(H, \tilde{x}_M\left(H\right)\right)}\right) \cdot \epsilon_M$$

Since $\bar{M}\left(\bar{k}\right)$ increasing in $\bar{k}$ and $\to \tilde{x}_M\left(H\right)$ as $\bar{k} \to \infty$ and we have assumed $M < \tilde{x}_M\left(H\right)$, we have that every equilibrium of the game with summary reversal involves the actual use of summary reversal in equilibrium for sufficiently high $\bar{k}$. Thus, in any equilibrium of the game with summary reversal we have that $(1-H)^2 = p\left(x_A^S - H\right)^2 + (1-p)\left(H - x_M^S\right)^2$.

Combining, we have that for sufficiently high $\bar{k}$ it is the case that $\tilde{EU}_S^H - \tilde{EU}_N^H =$

$$2\left((1-p)\left(H - x_M^N\left(\bar{k}\right)\right)^2 - (1-H)^2\right) + \frac{2}{\bar{k}}\left(\begin{array}{c} \Pr_S\left(d=\ell\right) \cdot \left(\phi_S^\ell\right)^2 - \Pr_N\left(d=\ell\right) \cdot \left(\phi_N^\ell\right)^2 \\ +\Pr_S\left(d=c\right) \cdot \left(\phi_S^c\right)^2 - \Pr_N\left(d=c\right) \cdot \left(\phi_N^c\right)^2 \end{array}\right)$$

regardless of the choice of equilibrium of the game with summary reversal. Finally, it is easily verified that the term in the parentheses following $\frac{2}{\bar{k}}$ is bounded for all feasible values of $\left(x_M, x_A\right)$; thus, the maximum value of the second term over all possible equilibria of the summary reversal game approaches 0 as $\bar{k} \to \infty$; since $(1-p)\left(H - x_M^N\left(\bar{k}\right)\right)^2 - (1-H)^2$

increasing in $\bar{k}$ and > 0 for sufficiently high $\bar{k}$ the entire expression must be > 0 regardless of the equilibrium chosen in the summary reversal game for sufficiently high $\bar{k}$. QED

Proof of Proposition 5

We first consider properties of the game without summary reversal. Recall that we have assumed $0 < \tilde{x}_M(H) \iff 0 < H - \frac{1-H}{\sqrt{1-p}}$; this assumption may be equivalently interpreted as a bound on H, i.e., that $H > \frac{1}{\sqrt{1-p}+1} \in \left[\frac{1}{2}, 1\right]$ (in addition to $H < 1$). Next it is easily verified that $\left(\frac{G\left(\phi^\ell(H,0)\right)}{1-G\left(\phi^\ell(H,0)\right)}\right) \cdot \epsilon_M$ is bounded below for all feasible values of H. Thus, from the equilibrium characterization of the game without summary reversal, we have that for sufficiently low M the unique equilibrium of the game without summary reversal is $x_M^N = 0$ for any feasible value of H.

We next consider properties of the game with summary reversal. Since it is easily verified that $\left(\frac{\phi^\ell(H,\tilde{x}_M(H))}{\bar{k}-\phi^\ell(H,\tilde{x}_M(H))}\right) \cdot \epsilon_M$ is also bounded below for all feasible values of H, we have that for sufficiently low M every equilibrium of the game with summary reversal involves the use of summary reversal for any feasible value of H, implying that in any equilibrium $(1-H)^2 = p\left(x_A^S - H\right)^2 + (1-p)\left(H - x_M^S\right)^2$. Next, from the equilibrium characterization in Proposition 2 any equilibrium $\left(x_M^S, x_A^S\right)$ must also satisfy $x_M^S = \tilde{x}_M\left(x_A^S\right)$ and $\Delta_S^\ell = \bar{x}_M^{-1}\left(\tilde{x}_M\left(x_A^S\right)\right) = \left(\frac{x_M - M}{\epsilon_M} + 1\right)^{-1}$ and

$$x_A^S = \bar{x}_A\left(\Delta_S^\ell, \phi^\ell\left(x_A^S, \tilde{x}_M\left(x_A^S\right)\right), \phi^c\left(x_A^S, \tilde{x}_M\left(x_A^S\right)\right)\right),$$

recalling that $\bar{x}_A\left(\Delta^\ell, \phi^\ell, \phi^c\right) = \min\left\{H + \left(\frac{\left(1-\Delta^\ell\right)-\left(G\left(\phi^\ell\right)+G\left(\phi^c\right)\right)}{\Delta^\ell+\left(G\left(\phi^\ell\right)-G\left(\phi^c\right)\right)}\right) \cdot \epsilon_A, 1\right\}$. Now $\left(\frac{x_M - M}{\epsilon_M} + 1\right)^{-1}$ is bounded above by $\left(1 - \frac{M}{\epsilon_M}\right)^{-1}$ which in turn approaches 0 as $M \to -\infty$. Further, $\phi^\ell\left(x_A, \tilde{x}_M\left(x_A\right)\right)$ and $\phi^c\left(x_A, \tilde{x}_M\left(x_A\right)\right)$ are both bounded for all feasible values of $H \in \left(H - \frac{1-H}{\sqrt{1-p}}, 1\right)$ and $x_A \in (H, 1]$. Thus, for sufficiently small M we have that

$$\left(\frac{\left(1-\Delta_S^\ell\right) - \left(G\left(\phi^\ell\left(x_A^S, \tilde{x}_M\left(x_A^S\right)\right)\right) + G\left(\phi^c\left(x_A^S, \tilde{x}_M\left(x_A^S\right)\right)\right)\right)}{\Delta_S^\ell + \left(G\left(\phi^\ell\left(x_A^S, \tilde{x}_M\left(x_A^S\right)\right)\right) - G\left(\phi^c\left(x_A, \tilde{x}_M\left(x_A\right)\right)\right)\right)}\right) \cdot \epsilon_A > 1 - H$$

in any equilibrium of the game with summary reversal for any feasible value of H. Finally, this implies that $\bar{x}_A\left(\Delta_S^\ell, \phi^\ell\left(x_A^S, \tilde{x}_M\left(x_A^S\right)\right), \phi^c\left(x_A^S, \tilde{x}_M\left(x_A^S\right)\right)\right) = 1 = x_A^S$, i.e., for sufficiently low M, the unique equilibrium of the game with summary reversal is "full pandering" ($x_A^S =$

1) for any feasible value of H.

Combining the preceding, for sufficiently low M we have that $\tilde{EU}_S^H - \tilde{EU}_N^H =$

$$2\left((1-p)(H)^2 - (1-H)^2\right) + \frac{2}{\bar{k}}\left(\begin{array}{c} \Pr_S(d=\ell)\cdot\left(\phi^\ell(1,\tilde{x}_M(1))\right)^2 + \Pr_S(d=c)\cdot\left(\phi^c(1,\tilde{x}_M(1))\right)^2 \\ -\Pr_N(d=\ell)\cdot\left(\phi^\ell(H,0)\right)^2 \end{array}\right)$$

for any feasible value of H, where $\tilde{x}_M(1) = 2H-1$. Now observe that $(1-p)H^2 - (1-H)^2 = 0$ at $H = \frac{1}{\sqrt{1-p}+1}$. Thus, if the expression inside the parentheses following $\frac{2}{\bar{k}}$ is strictly negative evaluated at $H = \frac{1}{\sqrt{1-p}+1}$, then we have that the preceding expression approaches a number that is strictly negative as $H \to \frac{1}{\sqrt{1-p}+1}$, yielding the desired result (i.e., that we may select an M sufficiently low and H sufficiently close to $\frac{1}{\sqrt{1-p}+1}$ such that the higher court is strictly better off without summary reversal). To see that this is the case, observe that the expression inside the parentheses may be written as:

$$\frac{(1-H)^4}{4}\left(\frac{(1-p)^2}{\Pr_S(d=\ell)} + \frac{p^2}{\Pr_S(d=c)}\right) - \frac{H^4}{4}\frac{(1-p)^2}{\Pr_N(d=\ell)}.$$

Substituting in $H = \frac{1}{\sqrt{1-p}+1}$ and simplifying yields that this expression will be strictly negative i.f.f.

$$\frac{1}{\Pr_N(d=\ell)} > \frac{(1-p)^2}{\Pr_S(d=\ell)} + \frac{p^2}{\Pr_S(d=c)}.$$

Now the equilibrium probabilities are $\Pr_N(d=\ell) = p(1-H) + (1-p) = \sqrt{1-p}$ and $\Pr_S(d=\ell) = (1-p)2(1-H) = \frac{2(1-p)^{\frac{3}{2}}}{\sqrt{1-p}+1}$. Further it is straightforward to show that $\sqrt{1-p} \leq 1$ (which always holds) implies that $\Pr_S(d=\ell) \leq 1-p$, which then implies that $\Pr_S(d=c) \geq p$. Thus, to show the preceding condition it suffices to show the stronger condition

$$\frac{1}{\Pr_N(d=\ell)} > \frac{(1-p)^2}{\Pr_S(d=\ell)} + p.$$

Finally, substituting in the equilibrium probabilities yields $\frac{1}{\sqrt{1-p}} > \frac{\left(\sqrt{1-p}+1\right)\sqrt{1-p}}{2} + p$ which simplifies to $\sqrt{1-p} < 1$, which holds $\forall p > 0$. QED.