Online Appendix
When to Convict Defendants Facing Multiple Accusations? A Strategic Analysis

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A Proof of Lemma 4.2

Our proof considers three cases separately depending on whether the following expression is strictly positive, strictly negative, or equal to 0:

$$q(1,1)+q(0,0)-q(1,0)-q(0,1). \tag{A.1}$$

Lemma 4.3 implies that the defendant's choices of θ_1 and θ_2 are *strict complements* when (A.1) is strictly negative, are *strict substitutes* when (A.1) is strictly positive, and are neither strict complements nor strict substitutes when (A.1) is 0. Let $\Psi_i^* \equiv 1-\Phi(\omega_i^*)$ and $\Psi_i^{**} \equiv 1-\Phi(\omega_i^{**})$, which are the probabilities with which agent i accuses the defendant when he has witnessed an offense and when he has not witnessed any offense, respectively.

A.1 The value of (A.1) is strictly positive

First, we show that $q(1,1)$ must be strictly less than 1 regardless of the conviction rule, which implies that $q(\mathbf{a})<1$ for any $\mathbf{a}$. Suppose by way of contradiction that $q(1,1)=1$. Refinement 1 requires that $q(0,0)=0$. This leads to the following expressions for agent 1's reporting cutoffs when he has and has not witnessed any offense:

$$\omega_1^* \equiv -b+c\frac{(1-\Psi_2^{**})(1-q(1,0))}{q(1,0)+\Psi_2^{**}(1-q(1,0)-q(0,1))}, \tag{A.2}$$

$$\omega_1^{**} \equiv c\frac{(1-X_2)(1-q(1,0))}{q(1,0)+X_2(1-q(1,0)-q(0,1))}, \tag{A.3}$$

where

$$X_2 \equiv \frac{1-p_1-p_2}{1-p_1}\Psi_2^{**}+\frac{p_2}{1-p_1}\Psi_2^* \tag{A.4}$$

and p_i is the probability that $\theta_i = 1$. We note that ω_1^* is decreasing in Ψ_2^{**} and $q(1,0)$ and increasing in $q(0,1)$, and that ω_1^{**} is decreasing in X_2 and $q(1,0)$ and increasing in $q(0,1)$. The distance between the two cutoffs can be written as:

$$\omega_1^{**} - \omega_1^* = b - (\Psi_2^* - \Psi_2^{**})C_1 \tag{A.5}$$

where

$$C_1 \equiv c(1-q(0,1))(1-q(1,0)) \times \frac{p_2}{1-p_1}$$
$$\times \frac{1}{q(1,0)+X_2(1-q(1,0)-q(0,1))} \times \frac{1}{q(1,0)+\Psi_2^{**}(1-q(1,0)-q(0,1))}. \tag{A.6}$$

One can obtain symmetric expressions for ω_2^*, ω_2^{**} and their difference. Conditional on $\theta_2 = 0$, choosing $\theta_1 = 1$ rather than $\theta_1 = 0$ increases the defendant's conviction probability by

$$(\Psi_1^* - \Psi_1^{**})\Big(q(1,0) + \Psi_2^{**}(1-q(1,0)-q(0,1))\Big) \tag{A.7}$$

Similarly, fixing $\theta_1 = 0$, the defendant choosing $\theta_2 = 1$ instead of $\theta_2 = 0$ increases the conviction probability by:

$$(\Psi_2^* - \Psi_2^{**})\Big(q(0,1) + \Psi_1^{**}(1-q(1,0)-q(0,1))\Big). \tag{A.8}$$

In every equilibrium (A.7) and (A.8) are bound above by $1/L$. In what follows, we establish a lower bound for the maximum of these two expressions that is independent of L and that will deliver the desired contradiction when L is large enough. Throughout the proof, we assume without loss of generality that $\omega_1^* \leq \omega_2^*$. The following lemma provides a comparison between $q(1,0)$ and $q(0,1)$ when $\omega_1^* \leq \omega_2^*$.

Lemma A.1. *In every equilibrium such that $\omega_1^* \leq \omega_2^*$, we have $q(1,0) \geq q(0,1)$.*

This lemma will be shown in Section A.4.

Lower Bound on ω_1^*: For every $\epsilon > 0$,

1. If $q(1,0) \geq \epsilon$, then $\omega_1^{**} \leq c\frac{1-\epsilon}{\epsilon}$.

2. If $q(1,0) < \epsilon$, then $q(0,1) \in (0,\epsilon)$, by Lemma A.1. Therefore,

$$\begin{aligned}\omega_2^* &= -b + c\frac{(1-\Psi_1^{**})(1-q(0,1))}{q(0,1)+\Psi_1^{**}(1-q(1,0)-q(0,1))} \\ &\leq -b + c\frac{\Phi(\omega_1^*+b)(1-q(0,1))}{q(0,1)+(1-\Phi(\omega_1^*+b))\big(1-q(1,0)-q(0,1)\big)} \\ &\leq -b + c\frac{\Phi(\omega_2^*+b)(1-q(0,1))}{q(0,1)+(1-\Phi(\omega_2^*+b))\big(1-q(1,0)-q(0,1)\big)} \\ &\leq -b + c\frac{\Phi(\omega_2^*+b)}{(1-\epsilon)(1-\Phi(\omega_2^*+b))}. \end{aligned} \tag{A.9}$$

For any given ϵ, the RHS of (A.9) is bounded above uniformly over $\Phi(\omega_2^*)$. This upper bound, which we denote $\overline{\omega}^*(\epsilon)$, is increasing in ϵ. This yields an upper bound for ω_1^* given by

$$\overline{\omega}_1^* \equiv \inf_{\epsilon\in[0,1]} \Big\{ \max\big\{ -b + c\frac{1-\epsilon}{\epsilon}, \overline{\omega}^*(\epsilon)\big\}\Big\}. \tag{A.10}$$

This upper bound is finite and independent of L.

Upper Bound on C_1: We provide an upper bound for

$$\frac{1}{q(1,0)+\Psi_2^{**}(1-q(1,0)-q(0,1))}. \tag{A.11}$$

For every $\epsilon > 0$, there are two cases:

1. If $q(1,0) \geq \epsilon$, then (A.11) is no more than $1/\epsilon$.

2. If $q(1,0) < \epsilon$, then Lemma A.1 implies that $q(0,1) < \epsilon$. Let $\overline{\omega}_2^{**}(\epsilon)$ denote the smallest root ω of the following equation:

$$\omega = c\frac{\Phi(\omega)}{(1-\Phi(\omega))(1-\epsilon)}. \tag{A.12}$$

Since $q(1,0), q(0,1) \in [0,\epsilon]$, $\overline{\omega}_2^{**}(\epsilon)$ is an upper bound for ω_2^{**}. An upper bound on (A.11) is given by

$$\frac{1}{q(1,0)+\Psi_2^{**}(1-q(1,0)-q(0,1))} \leq \frac{1}{(1-\Phi(\overline{\omega}_2^{**}(\epsilon)))(1-2\epsilon)}. \tag{A.13}$$

In summary:

$$C_1 \leq cY^2 \tag{A.14}$$

where

$$Y \equiv \inf_{\epsilon\in[0,1]} \Big\{ \max\big\{1/\epsilon, \frac{1}{(1-\Phi(\overline{\omega}_2^{**}(\epsilon)))(1-2\epsilon)}\big\}\Big\}.$$

Lower Bound on the Maximum of (A.7) and (A.8): Since $\phi \geq 0$ is the derivative of Φ, we have for all $\omega' > \omega''$

$$\Phi(\omega') - \Phi(\omega'') \geq (\omega' - \omega'') \min_{\omega\in[\omega',\omega'']} \phi(\omega). \tag{A.15}$$

We consider two subcases. First, suppose that $\Phi(\omega_1^{**}) - \Phi(\omega_1^*) \geq \Phi(\omega_2^{**}) - \Phi(\omega_2^*)$, which implies that

$$\frac{1}{\min_{\omega\in[\omega_1^{**},\omega_1^*]}\phi(\omega)}\Big(\Phi(\omega_1^{**}) - \Phi(\omega_1^*)\Big) \geq \omega_1^{**} - \omega_1^* = b - C_1(\Psi_2^* - \Psi_2^{**}) \geq b - C_1(\Psi_1^* - \Psi_1^{**}). \tag{A.16}$$

This, together with (A.14), gives an lower bound on $\Psi_1^* - \Psi_1^{**}$. Moreover,

$$\begin{aligned} q(1,0) + \Psi_2^{**}(1-q(1,0)) &\geq q(1,0) + \Psi_2^{**}\big(1 - q(1,0) - q(0,1)\big) \\ &\geq \frac{c\big(1-q(1,0)\big)(1-\Psi_2^{**})}{|\overline{\omega}_1^*|}, \end{aligned} \tag{A.17}$$

where the last inequality uses (A.2) and the fact that $\overline{\omega}_1^* \geq \omega_1^*$. This provides a lower bound for $q(1,0)$ and implies a lower bound on (A.7).

Second, consider the case $\Phi(\omega_1^{**}) - \Phi(\omega_1^*) < \Phi(\omega_2^{**}) - \Phi(\omega_2^*)$, and let

$$\beta \equiv \frac{\omega_1^{**} - \omega_1^*}{b}. \tag{A.18}$$

Since $X_2 > \Psi_2^{**}$, we have $\beta \in (0,1)$. Recalling that $\overline{\omega}_1^* \geq \omega_1$, we have

$$\Psi_1^* - \Psi_1^{**} = \Phi(\omega_1^{**}) - \Phi(\omega_1^*) \geq \beta b \phi(\overline{\omega}_1^* + b). \tag{A.19}$$

Moreover, (A.5) and (A.14) imply that

$$\Psi_2^* - \Psi_2^{**} = (1-\beta)b/C_1 \geq \frac{(1-\beta)bY^2}{c} \tag{A.20}$$

Since the pdf of ω_i is decreasing in ω for $\omega > 0$, (A.20) yields an upper bound on ω_2^{**}. We denote this upper bound by $\widetilde{\omega}(\beta)$. By construction, $\widetilde{\omega}(\beta)$ is increasing in β.

1. When $\beta \geq 1/2$, (A.19) implies a lower bound for $\Phi(\omega_1^{**}) - \Phi(\omega_1^*)$. Inequality (A.17) then yields a lower bound for $q(1,0)$ and implies a lower bound on (A.7).

2. When $\beta < 1/2$, we have $\omega_2^{**} \leq \widetilde{\omega}(1/2)$ and

$$\Psi_2^{**} - \Psi_2^* \geq \frac{b}{2C_1}.$$

The upper bound on ω_2^{**} also delivers a lower bound on $q(0,1) + \Psi_1^{**}(1 - q(1,0) - q(0,1))$, since (A.3) implies that

$$\widetilde{\omega}(1/2) \geq \omega_2^{**} \geq \omega_2^* = c\frac{(1 - \Psi_1^{**})(1 - q(0,1))}{q(0,1) + \Psi_1^{**}(1 - q(1,0) - q(0,1))},$$

which leads to

$$q(0,1) + \Psi_1^{**}(1 - q(1,0) - q(0,1)) \geq \frac{(1 - \Psi_1^{**})(1 - q(0,1))}{-\widetilde{\omega}(1/2)/c}. \tag{A.21}$$

Since $1 - \Psi_1^{**} \geq 1 - \Phi(0)$ and $1 - q(0,1) \geq 1/2$, the lower bound on $q(0,1) + \Psi_1^{**}(1 - q(1,0) - q(0,1))$ is strictly less than 0. This leads to a uniform lower bound on (A.8).

In the next step, we show that under APP, any equilibrium that satisfies (A.1) $\max\{q(0,1), q(1,0)\} > 0$ must also satisfy $q(1,1) = 1$. Suppose by way of contradiction that both $q(1,0)$ and $q(1,1)$ are strictly between 0 and 1. Then, agent 2's accusation does not affect the posterior belief about $\overline{\theta}$. This implies that a_2 is uninformative about θ_2. This is only possible if $\omega_2^* = \omega_2^{**}$, which contradicts the conclusion of Lemma 4.1 in the main text.

A.2 The value of (A.1) is strictly negative

Next, we study the case in which $q(1,0) + q(0,1) > q(0,0) + q(1,1)$, i.e., the case in which θ_1 and θ_2 are strategic complements. Lemma 4.3 in the main text implies that, conditional on committing an offense against one agent, the defendant has a strict incentive to commit an offense against the other agent. Therefore, in such equilibria, the defendant commits either he commits both offenses or no offense.

We proceed in two steps, as in the previous case. First, we prove by contradiction that $q(1,1) < 1$ regardless of whether the conviction rule is APP or DPP. This will imply that $q(\mathbf{a}) < 1$ for any $\mathbf{a}$ and under any decision rule. When $q(1,0)+q(0,1) > q(0,0)+q(1,1)$, Lemma 4.3 in the main text implies that θ_1 and θ_2 are strict complements. Therefore, agent i assigns a higher probability to agent j accusing the defendant when $\theta_i = 0$ than when $\theta_i = 1$. This implies that

$$\min\{\omega_1^{**} - \omega_1^*, \omega_2^{**} - \omega_2^*\} > b. \tag{A.22}$$

By choosing $\theta_1 = \theta_2 = 1$, the defendant raises the probability that he is convicted by at least

$$(\Psi_1^* - \Psi_1^{**})\Big(\Psi_2^*(1-q(0,1)) + (1-\Psi_2^*)q(1,0)\Big) + (\Psi_2^* - \Psi_2^{**})\Big(\Psi_1^{**}(1-q(1,0)) + (1-\Psi_1^{**})q(0,1)\Big) \quad \text{(A.23)}$$

compared to the case in which he chooses $\theta_1 = \theta_2 = 0$. Therefore, the value of (A.23) cannot exceed $2/L$. The remainder of this proof establishes a strictly positive lower bound on (A.23) that applies uniformly across all L. This will imply that when L is large enough, equilibria that exhibit strategic complementarities between θ_1 and θ_2 do not exist.

First, since $q(0,1)+q(1,0) \geq 1$, we know that $\max\{q(0,1), q(1,0)\} \geq 1/2$. Without loss of generality, we assume that $q(1,0) \geq 1/2$. Second, it is a dominant strategy for agent i to abstain from accusing the defendant when $\omega_i < 0$, which implies that $1 - \Psi_i^* \geq \delta\Phi(0)$. Third, agent 1's threshold for accusing when $\theta_1 = 1$ is given by

$$\omega_1^* = b - c\frac{(1-Q_2^H)(1-q(1,0))}{Q_2^H(1-q(0,1)) + (1-Q_2^H)q(1,0)}, \quad \text{(A.24)}$$

where Q_2^H is the probability that agent 2 accuses the defendant conditional on $\theta_1 = 1$. The RHS of (A.24) is strictly increasing in Q_2^H. Therefore,

$$\omega_1^* \leq -b + c\frac{1-q(1,0)}{q(1,0)} \leq -b + c.$$

According to (A.22), we know that

$$\Psi_1^* - \Psi_1^{**} = \Phi(\omega_1^{**}) - \Phi(\omega_1^*) \geq b \min_{\omega \in [0,b+c]} \phi(\omega). \quad \text{(A.25)}$$

This yields the desired lower bound for (A.23):

$$\underbrace{(\Psi_1^* - \Psi_1^{**})}_{\text{a lower bound is given by (A.25)}} \Big(\underbrace{\Psi_2^*(1-q(0,1))}_{\geq 0} + \underbrace{(1-\Psi_2^*)}_{\geq (1-\Phi(0))} \underbrace{q(1,0)}_{\geq 1/2} \Big) + \underbrace{(\Psi_2^* - \Psi_2^{**})\Big(\Psi_1^{**}(1-q(1,0)) + (1-\Psi_1^{**})q(0,1)\Big)}_{\geq 0}$$

$$\geq \frac{b}{2}(1-\Phi(0)) \min_{\omega \in [0,b+c]} \phi(\omega) \quad \text{(A.26)}$$

and implies that $q(1,1) < 1$ when L is large enough.

A.3 The value of (A.1) is 0

Part I: Suppose there exists an equilibrium in which the value of (A.1) is 0. The requirement that $q(0,0) = 0$ together with the hypothesis $q(1,1) + q(0,0) - q(1,0) - q(0,1) = 0$ imply that $q(1,0) + q(0,1) = 1$.

First, we show that each agent witnesses an offense with strictly positive probability. Suppose by way of contradiction that the defendant chooses $a_1 = 1$ with zero probability. Then, agent 1's accusation does not affect the judge's posterior belief about the values of θ_1 and θ_2. Therefore, $q(1,0) = q(0,0) = 0$. Since the value of (A.1) is 0, we have $q(0,1) = q(1,1) \in (0,1]$. If q is not responsive to agent 1's accusation, then the defendant has a strict incentive to choose $\theta_1 = 1$, which contradicts the conclusion of Lemma 4.1 that the probability with which $\theta_1 = 1$ is strictly between 0 and 1. A direct implication of this step is that the marginal cost of committing an offense must be the same across the two agents and that this marginal cost equals the marginal benefit 1 from committing each offense. This leads to the following indifference condition:

$$1 = L(\Psi_1^* - \Psi_1^{**})q(1,0) = L(\Psi_2^* - \Psi_2^{**})q(0,1),$$

which further implies that

$$(\Psi_1^* - \Psi_1^{**})q(1,0) = (\Psi_2^* - \Psi_2^{**})q(0,1). \tag{A.27}$$

Second, suppose by way of contradiction that $q(1,1) \in (0,1)$ and that each agent witnesses an offense with positive probability. Then, at least one of the following conditions must hold: $q(1,0) \in (0,1)$ or $q(0,1) \in (0,1)$. The previous paragraph has ruled out equilibria in which either $q(1,0)$ or $q(0,1)$ is equal to 0. Suppose that $q(1,0), q(0,1), q(1,1) \in (0,1)$. Then, the agents' action profiles $\boldsymbol{a} = (1,1), (1,0), (0,1)$ must lead to the same posterior probability that the defendant has committed at least one offense. For $i \in \{1,2\}$, let p_i denote the probability that $\theta_i = 1$ and $\theta_{-i} = 0$ conditional on the defendant having committed at least one offense. Since the posterior probability of guilt is the same for reporting profiles $\boldsymbol{a} = (1,1)$ and $\boldsymbol{a} = (1,0)$, we have

$$(1-p_1-p_2)\frac{\Psi_1^*\Psi_2^*}{\Psi_1^{**}\Psi_2^{**}} + p_1\frac{\Psi_1^*}{\Psi_1^{**}} + p_2\frac{\Psi_2^*}{\Psi_2^{**}} = (1-p_1-p_2)\frac{\Psi_1^*(1-\Psi_2^*)}{\Psi_1^{**}(1-\Psi_2^{**})} + p_1\frac{\Psi_1^*}{\Psi_1^{**}} + p_2\frac{1-\Psi_2^*}{1-\Psi_2^{**}}. \tag{A.28}$$

Since $\Psi_2^* > \Psi_2^{**}$, we know that

$$\frac{\Psi_1^*\Psi_2^*}{\Psi_1^{**}\Psi_2^{**}} > \frac{\Psi_1^*(1-\Psi_2^*)}{\Psi_1^{**}(1-\Psi_2^{**})}$$

and

$$\frac{\Psi_2^*}{\Psi_2^{**}} > \frac{1-\Psi_2^*}{1-\Psi_2^{**}}.$$

The two inequalities above imply that the LHS of (A.28) is strictly greater than the RHS of (A.28) unless $p_1 = 1$. Since p_1 is the probability that $(\theta_1, \theta_2) = (1, 0)$ conditional on $(\theta_1, \theta_2) \neq (0, 0)$, $p_1 = 1$ implies that $\theta_2 = 1$ with zero probability. This contradicts the hypothesis that the defendant commits an offense against each agent with strictly positive probability.

Part II: We show that when L is above some threshold, there exists no equilibrium in which $q(1, 1) = 0$ and the value of (A.1) is 0.

Suppose by way of contradiction that there exists an equilibrium in which $q(1, 1) = 1$. We derive a lower bound on (A.27), i.e., $(\Psi_1^* - \Psi_1^{**})q(1, 0)$, that holds for all values of L. Without loss of generality, we assume that $q(1, 0) \geq q(0, 1)$, which implies that $q(1, 0) \geq 1/2$. Agent 1's cutoffs can be written as:

$$\omega_1^* = -b + c\frac{q(0, 1)}{q(1, 0)}\Big(1 - p_x\Psi_2^* - (1 - p_x)\Psi_2^{**}\Big)$$

and

$$\omega_1^{**} = c\frac{q(0, 1)}{q(1, 0)}\Big(1 - p_y\Psi_2^* - (1 - p_y)\Psi_2^{**}\Big)$$

where $p_x, p_y \in [0, 1]$ represent agent 1's beliefs about θ_2 conditional on each realization of θ_1. This implies that

$$\omega_1^{**} - \omega_1^* = b - c\frac{q(0, 1)}{q(1, 0)}(p_x - p_y)(\Psi_2^* - \Psi_2^{**}). \tag{A.29}$$

The absolute value of

$$c\frac{q(0, 1)}{q(1, 0)}(p_x - p_y)$$

is at most c. To bound the LHS of (A.27) from below, we proceed according to the following two steps.

Step 1: Upper bound on ω_1^* The formula for ω_1^* and the assumption that $q(1, 0) \geq q(0, 1)$ imply that

$$\omega_1^* \leq -b + c\Big(1 - p_x\Psi_2^* - (1 - p_x)\Psi_2^{**}\Big) \leq -b + c(1 - \Phi(0)). \tag{A.30}$$

We note the upper bound on the RHS by $\overline{\omega}_1^*$.

Step 2: Lower bound on (A.27) Since $q(1, 0) \geq q(0, 1)$ and $q(1, 0) + q(0, 1) \geq q(1, 1) = 1$, we have $q(1, 0) \geq 1/2$. Therefore, (A.27) will be bounded below if we establish a strictly positive lower bound on $\min\{\Psi_1^* - \Psi_1^{**}, q(0, 1)(\Psi_2^* - \Psi_2^{**})\}$.

If $p_x - p_y \leq 0$, we have $\omega_1^{**} - \omega_1^* \geq b$. The lower bound on ω_1^* then implies a strictly positive lower bound on $\Psi_1^* - \Psi_1^{**}$, as desired. If $p_x - p_y > 0$, we follow same derivation as in the last step of Online Appendix A.1. More precisely, we consider two cases separately.

First, suppose that $\Psi_1^* - \Psi_1^{**} \geq \Psi_2^* - \Psi_2^{**}$. Then, we have

$$\frac{\Psi_1^* - \Psi_1^{**}}{\phi(\overline{\omega}_1^* + b)} \geq \omega_1^{**} - \omega_1^* = b - c(\Psi_2^* - \Psi_2^{**}) \geq b - c(\Psi_1^* - \Psi_1^{**}). \tag{A.31}$$

This yields a strictly positive lower bound on $\Psi_1^* - \Psi_1^{**}$.

Second, suppose that $\Psi_1^* - \Psi_1^{**} < \Psi_2^* - \Psi_2^{**}$. Then, the variable $\beta \equiv (\omega_1^{**} - \omega_1^*)/b$ lies between 0 and 1 due to the assumption that $p_x - p_y > 0$. Equality (A.29) implies that

$$\omega_1^{**} - \omega_1^* = b - c\frac{q(0,1)}{q(1,0)}(p_x - p_y)(\Psi_2^* - \Psi_2^{**}) \geq b - c(\Psi_2^* - \Psi_2^{**}),$$

which yields

$$\Psi_2^* \geq \Psi_2^* - \Psi_2^{**} \geq (1-\beta)b/c. \tag{A.32}$$

This provides an upper bound on ω_2^* that is decreasing in β and that we denote $\widetilde{\omega}(\beta)$. We also have

$$\Psi_1^* - \Psi_1^{**} = \Phi(\omega_1^{**}) - \Phi(\omega_1^*) \geq \beta b \phi(\overline{\omega}_1^* + b). \tag{A.33}$$

We consider two subcases, depending on the value of β relative to $1/2$.

1. If $\beta \geq 1/2$, then (A.33) implies that

$$\Psi_1^* - \Psi_1^{**} \geq b\phi(\overline{\omega}_1^* + b)/2. \tag{A.34}$$

2. If $\beta < 1/2$, then (A.32) implies that

$$\Psi_2^* - \Psi_2^{**} \geq b/2c. \tag{A.35}$$

We have

$$\omega_2^* = -b + c(1-Q)\frac{q(1,0)}{q(0,1)} \leq \overline{\omega}_2(\beta) \tag{A.36}$$

where Q is a number between 0 and $(1-\delta)\alpha + \delta\Phi(0)$. This yields the following lower bound on $q(0,1)$:

$$q(0,1) \geq \frac{b - c(1-Q)q(1,0)}{\overline{\omega}_2(\beta)} \geq \frac{b-c}{2\overline{\omega}_2(\beta)}. \tag{A.37}$$

This expression is strictly greater than 0 for all $\beta < 1/2$. This, together with (A.35), lead to the following lower bound on the RHS of (A.27):

$$q(0,1)(\Psi_2^* - \Psi_2^{**}) \geq \frac{(b-c)b}{4c\overline{\omega}_2(\beta)}. \tag{A.38}$$

A.4 Proof of Lemma A.1:

Suppose by way of contradiction that there exists an equilibrium in which the value of (A.1) is strictly positive, $\omega_1^* < \omega_2^*$, and $q(1,0) < q(0,1)$. Then, (A.2) implies that $\Phi(\omega_2^{**}) < \Phi(\omega_1^{**})$ or, equivalently, that $\omega_2^{**} < \omega_1^{**}$. This, together with $\omega_1^* < \omega_1^{**}$ and $\omega_2^* < \omega_2^{**}$, implies that

$$\omega_1^{**} > \omega_2^{**} > \omega_2^* > \omega_1^*. \tag{A.39}$$

We start by showing that $p_1, p_2 > 0$. Suppose that $p_1 = 0$ and $p_2 > 0$. Then, (A.4) implies that $X_1 = \Psi_1^{**}$ and, hence, that $\omega_2^{**} - \omega_2^* = b > \omega_1^{**} - \omega_1^*$, which contradicts (A.39). Now suppose that $p_1 > 0$ and $p_2 = 0$. Then,

$$p_1 \frac{\Psi_1^*}{\Psi_1^{**}} + p_2 \frac{1-\Psi_2^*}{1-\Psi_2^{**}} > p_2 \frac{\Psi_2^*}{\Psi_2^{**}} + p_1 \frac{1-\Psi_1^*}{1-\Psi_1^{**}}. \tag{A.40}$$

This means that the judge assigns a higher probability to $\overline{\theta} = 1$ when only agent 1 accuses the defendant than when only agent 2 does. This implies that $q(1,0) \geq q(0,1)$, which leads to a contradiction.

Having established that p_1, p_2 both lie in $(0,1)$, we conclude that (A.7) and (A.8) are equal to each other. Applying (A.2) to both agents, we have

$$\begin{aligned} \left|\frac{\omega_1^* + b}{\omega_2^* + b}\right| &= \frac{1-\Psi_2^{**}}{1-\Psi_1^{**}} \cdot \frac{1-q(1,0)}{1-q(0,1)} \cdot \frac{q(0,1) + \Psi_1^{**}(1-q(1,0)-q(0,1))}{q(1,0) + \Psi_2^{**}(1-q(1,0)-q(0,1))} \\ &= \frac{1-\Psi_2^{**}}{1-\Psi_1^{**}} \cdot \frac{1-q(1,0)}{1-q(0,1)} \cdot \frac{\Psi_1^* - \Psi_1^{**}}{\Psi_2^* - \Psi_2^{**}}. \end{aligned} \tag{A.41}$$

Since $\frac{1-\Psi_1^{**}}{1-\Psi_2^{**}} < \frac{\Psi_1^*-\Psi_1^{**}}{\Psi_1^*-\Psi_2^{**}} \leq \frac{\Psi_1^*-\Psi_1^{**}}{\Psi_2^*-\Psi_2^{**}}$, we get

$$1 \geq \left|\frac{\omega_1^* + b}{\omega_2^* + b}\right| > \frac{1-q(1,0)}{1-q(0,1)}. \tag{A.42}$$

The RHS of (A.42) is greater than 1 since $q(1,0) < q(0,1)$. This yields the desired contradiction.

B Proofs for Section 5.2: Three or More Potential Offenses and Witnesses

We first show that when L is large enough, every equilibrium satisfies $q(1, 1, ..., 1) < 1$ and $q(\boldsymbol{a}) = 0$ for every $\boldsymbol{a} \neq (1, 1, ..., 1)$. Suppose by way of contradiction that for every $L' \in \mathbb{R}_+$, there exists $L \geq L'$ and an equilibrium with punishment L such that $q(1, 1, ..., 1) = 1$. We establish a lower bound on the marginal increase in conviction probabilities that uniformly applies across all L. For every $\boldsymbol{a} \succ \boldsymbol{a'}$, we have $\Pr(\overline{\theta} = 1|\boldsymbol{a}) > \Pr(\overline{\theta} = 1|\boldsymbol{a'})$. As a result, there exist $m \in \{1, 2, ..., n\}$ and $q \in [0, 1)$ such that the defendant is convicted for sure when there are m accusations or more, and is convicted with probability q when there are $m - 1$ accusations. Refinement 1 requires that $q = 0$ when $m = 1$.

Recall the definitions of ω^* and ω^{**}. Let $\Psi^* \equiv 1-\Phi(\omega^*)$ and $\Psi^{**} \equiv 1-\Phi(\omega^{**})$ denote the probabilities with which agent i accuses the defendant when he has witnessed an offense and when he has not witnessed an offense, respectively. Since $\omega^* < \omega^{**}$, we know that $\Psi^* > \Psi^{**}$. For every $m \leq n - 1$, let $Q(m, \theta_{-i})$ be the probability that m agents other than i accuse the defendant given θ_{-i}. Fixing θ_{-i}, changing θ_i from 0 to 1, the marginal increase in conviction probability is given by

$$(\Psi^* - \Psi^{**})P(m, q, \theta_{-i}), \tag{B.1}$$

where

$$P(m, q, \theta_{-i}) \equiv qQ(m-2, \theta_{-i}) + \sum_{j=m-1}^{n-1} Q(j, \theta_{-i}) - qQ(m-1, \theta_{-i}) - \sum_{j=m}^{n-1} Q(j, \theta_{-i}). \tag{B.2}$$

This yields

$$P(m, q, \theta_{-i}) = (1-q)Q(m-1, \theta_{-i}) + qQ(m-2, \theta_{-i}). \tag{B.3}$$

Since θ is binary and the equilibrium is symmetric, the functions $Q(m, \theta_{-i})$ and $P(m, q, \theta_{-i})$ depend on θ_{-i} only through the number of 1's in the entries of θ_{-i}. Let $|\theta_{-i}|$ denote the number of 1's in the vector θ_{-i}. Abusing notation, we rewrite $Q(m, \theta_{-i})$ as $Q(m, |\theta_{-i}|)$, and $P(m, q, \theta_{-i})$ as $P(m, q, |\theta_{-i}|)$. For any fixed values of m, q, Ψ^*, and Ψ^{**}: we show that at least one of these three statements is true:

1. $P(m, q, |\theta_{-i}|)$ is strictly increasing in $|\theta_{-i}|$,
2. $P(m, q, |\theta_{-i}|)$ is strictly decreasing in $|\theta_{-i}|$,
3. $P(m, q, |\theta_{-i}|)$ is first increasing and then decreasing in $|\theta_{-i}|$.

Proof. To simplify notation, we omit the first two arguments from $P(m, q, |\theta_{-i}|)$ and write it as $P(|\theta_{-i}|)$.

By definition, $P(|\theta_{-i}|)$ is a convex combination of the probability that the other $n-1$ agents produce $m-1$ accusations and the probability that they produce m accusations.

To establish the quasi-concavity of P, it suffices to show that for any $k \in \{1, 2, ..., n-1\}$, $P(k) - P(k-1) < 0$ implies that $P(k+1) - P(k) < 0$. Fix any agent other than 1 (say agent 2), and let $X(k, \theta_{-1,2})$ denote the probability that agents other than 1 and 2 produce k accusations conditional on the values of $(\theta_3, ..., \theta_n)$. By definition,

$$\frac{P(k) - P(k-1)}{\Psi^* - \Psi^{**}} = q(X(m-1, \theta_{-1,2}) - X(m, \theta_{-1,2})) + (1-q)(X(m-2, \theta_{-1,2}) - X(m-1, \theta_{-1,2})).$$

Similarly,

$$\frac{P(k+1) - P(k)}{\Psi^* - \Psi^{**}} = q(X(m-1, \theta^*_{-1,2}) - X(m, \theta^*_{-1,2})) + (1-q)(X(m-2, \theta^*_{-1,2}) - X(m-1, \theta^*_{-1,2}))$$

where $\theta^*_{-1,2}$ and $\theta_{-1,2}$ are the same for all entries except for one, in which $\theta^*_{-1,2}$ has a value of 1 and $\theta_{-1,2}$ has a value of 0. Since each agent accuses the defendant with higher probability after he has witnessed an offense, we know that

$$X(m-1, \theta_{-1,2}) - X(m, \theta_{-1,2}) \geq X(m-1, \theta^*_{-1,2}) - X(m, \theta^*_{-1,2})$$

and

$$X(m-2, \theta_{-1,2}) - X(m-1, \theta_{-1,2}) \geq X(m-2, \theta^*_{-1,2}) - X(m-1, \theta^*_{-1,2}).$$

Therefore, $P(k) - P(k-1) < 0$ implies that $P(k+1) - P(k) < 0$. □

In equilibrium, the defendant is indifferent between committing an offense against k agents and not committing any offense, where k satisfies:

$$k \in \arg \min_{\widetilde{k} \in \{1,...,n\}} \frac{1}{\widetilde{k}} \sum_{j=0}^{\widetilde{k}-1} P(m, q, |\theta_{-i}|). \tag{B.4}$$

For this value of k, the average cost of committing an offense when the defendant commits k offenses equals the marginal benefit 1, and there does not exist $k' \in \{1, 2, ..., n\}$ such that if the defendant commits k' offenses, his average cost of committing an offense is strictly less than 1.

The value of k depends on the monotonicity of $P(m, q, \cdot)$. When $P(m, q, \cdot)$ is strictly increasing, $k = 1$ and the defendant is indifferent between committing only one offense and committing no offense. When

$P(m,q,\cdot)$ is strictly decreasing, $k=n$ and the defendant is indifferent between committing no offense and committing offense against all agents. When $P(m,q,\cdot)$ is first increasing and then decreasing, k is either 1 or n, depending on the parameters. In what follows, we consider the two values of k separately.

Strategic Substitutes: When $k=1$, if agent i has witnessed an offense, he prefers to choose $a_i=1$ if and only if

$$\omega_i \geq \omega^* = -b + c\frac{\left\{1 - qQ(m-2,0) - \sum_{j=m-1}^{n-1} Q(j,0)\right\}}{P(m,q,0)}. \tag{B.5}$$

If agent i has not witnessed any offense, he prefers to choose $a_i=1$ if and only if

$$\omega_i \geq \omega^{**} \equiv c\frac{1-\beta\left\{qQ(m-2,0)+\sum_{j=m-1}^{n-1}Q(j,0)\right\}-(1-\beta)\left\{qQ(m-2,1)+\sum_{j=m-1}^{n-1}Q(j,1)\right\}}{\beta P(m,q,0)+(1-\beta)P(m,q,1)} \tag{B.6}$$

where β is the probability that $\theta_1 = ... = \theta_n = 0$ conditional on $\theta_i = 0$. Refinements 1 and 2 imply that $\omega^{**} - \omega^* > 0$ because if this inequality were violated, the defendant would have a strict incentive to commit an offense against agent i since a decrease in a_i from 1 to 0 weakly decreases the probability of conviction. In the first step, we show that $\omega^{**} - \omega^* < b$. This inequality comes from the fact that $k=1$, which implies that $P(m,q,1) > P(m,q,0)$. Moreover,

$$qQ(m-2,1) + \sum_{j=m-1}^{n-1} Q(j,1) > qQ(m-2,0) + \sum_{j=m-1}^{n-1} Q(j,0).$$

Therefore,

$$\frac{\omega^{**}-\omega^*-b}{c} = \frac{1-\beta\left\{qQ(m-2,0)+\sum_{j=m-1}^{n-1}Q(j,0)\right\}-(1-\beta)\left\{qQ(m-2,1)+\sum_{j=m-1}^{n-1}Q(j,1)\right\}}{\beta P(m,q,0)+(1-\beta)P(m,q,1)}$$

$$-\frac{\left\{1 - qQ(m-2,0) - \sum_{j=m-1}^{n-1} Q(j,0)\right\}}{P(m,q,0)} < 0.$$

In the second step, we bound ω^* from above using our earlier conclusion that $|\omega^{**} - \omega^*| < b$ and $q(1,1,...,1) = 1$. First, for every $m \in \{0,1,...,n-1\}$ and q, $P(m,q,0) \geq P(n-1,0,0) = (\Psi^{**})^{n-1}$.

From (B.5), we know that

$$\frac{\omega^* + b}{c} \geq (\Psi^{**})^{-(n-1)} \geq \Big(1 - \Phi(\omega^* - b)\Big)^{-(n-1)}.$$

Since the RHS of the last formula is strictly positive, there exists $\overline{\omega}^* > 0$ that is independent of L, such that $\omega^* \leq \overline{\omega}^*$.

In the third step, we derive a lower bound for the term $\Psi^* - \Psi^{**}$. Let

$$X_0 \equiv qQ(m-2,0) + \sum_{j=m-1}^{n-1} Q(j,0) \text{ and } X_1 \equiv qQ(m-2,1) + \sum_{j=m-1}^{n-1} Q(j,1).$$

From (B.5) and (B.6),

$$\frac{\omega^{**} - \omega^*}{c} = \frac{b}{c} - (1-\beta)\frac{P(m,q,1)(1-X_0) - P(m,q,0)(1-X_1)}{P(m,q,0)\big(\beta P(m,q,0) + (1-\beta)P(m,q,1)\big)}. \tag{B.7}$$

We start by deriving an upper bound for

$$\frac{P(m,q,1)(1-X_0) - P(m,q,0)(1-X_1)}{\Psi^* - \Psi^{**}}. \tag{B.8}$$

Since

$$P(m,q,1)(1-X_0) - P(m,q,0)(1-X_1) = (X_1 - X_0)P(m,q,0) + (1-X_0)(P(m,q,1) - P(m,q,0)),$$

and since $1 - X_0$ and $P(m,q,0)$ are both bounded above by 1, we only need to bound $\frac{X_1 - X_0}{\Psi^* - \Psi^{**}}$ and $\frac{P(m,q,1) - P(m,q,0)}{\Psi^* - \Psi^{**}}$ from above. Notice that

$$\frac{Q(j,1) - Q(j,0)}{\Psi^* - \Psi^{**}} = \binom{n-2}{j-1}(\Psi^{**})^{j-1}(1-\Psi^{**})^{n-1-j} - \binom{n-2}{j}(\Psi^{**})^{j}(1-\Psi^{**})^{n-2-j}$$

which is bounded from above by $\binom{n-2}{j-1}$. Since $X_1 - X_0$ and $P(m,q,1) - P(m,q,0)$ are both linear combinations of terms of the form of $Q(j,1) - Q(j,0)$, $\frac{X_1 - X_0}{\Psi^* - \Psi^{**}}$ and $\frac{P(m,q,1) - P(m,q,0)}{\Psi^* - \Psi^{**}}$ are also bounded above. Let $C_0 \in \mathbb{R}_+$ be the upper bound on (B.8). Since $P(m,q,0)\big(\beta P(m,q,0) + (1-\beta)P(m,q,1)\big)$ is bounded away from 0, we can also bound

$$\frac{1}{\Psi^* - \Psi^{**}} \cdot \frac{P(m,q,1)(1-X_0) - P(m,q,0)(1-X_1)}{P(m,q,0)\big(\beta P(m,q,0) + (1-\beta)P(m,q,1)\big)}. \tag{B.9}$$

Letting $C_1 \in \mathbb{R}_+$ denote this bound, we have

$$\frac{\omega^{**} - \omega^*}{c} \geq \frac{b}{c} - (1-\beta)C_1(\Phi(\omega^*) - \Phi(\omega^{**})). \tag{B.10}$$

Letting $C_2 \equiv \delta(1-\beta)C_1$, we obtain

$$\frac{\omega^{**} - \omega^*}{c} + C_2(\Phi(\omega^*) - \Phi(\omega^{**})) \geq \frac{b}{c}. \tag{B.11}$$

We have shown in the previous step that $\omega^* < \overline{\omega}^*$. Let $\epsilon \in \mathbb{R}_+$ denote the unique solution of the equation

$$\frac{\epsilon}{c} + C_2\epsilon\phi(\overline{\omega}^* + \epsilon) = \frac{b}{c},$$

whose LHS is continuous, strictly increasing in ϵ, strictly greater than $\frac{b}{c}$ for $\epsilon \to \infty$, and strictly less than $\frac{b}{c}$ when $\epsilon \to -\infty$. From (B.11), we know that

$$\Psi^* - \Psi^{**} = (\Phi(\omega^{**}) - \Phi(\omega^*)) \geq \epsilon\phi(\overline{\omega}^* + \epsilon). \tag{B.12}$$

The defendant's incentive constraint is $P(m,q,0)(\Psi^* - \Psi^{**})L = 1$. Since $P(m,q,0)$ is bounded below by $\Big(\delta\Phi(\underline{\omega}^* - b) + (1-\delta)\alpha\Big)^{-(n-1)}$ and $\Psi^* - \Psi^{**}$ is bounded below by (B.12), the LHS must go to $+\infty$ as $L \to +\infty$, which leads to a contradiction.

Strategic Complements: When $k = n$, if agent i has witnessed an offense, he prefers to choose $a_i = 1$ if and only if

$$\omega_i \geq \omega^* = -b + c\frac{\Big\{1 - qQ(m-2, n-1) - \sum_{j=m-1}^{n-1} Q(j, n-1)\Big\}}{P(m,q,n-1)} \tag{B.13}$$

Similarly, if agent i has not witnessed any offense, he prefers to choose $a_i = 1$ if and only if

$$\omega_i \geq \omega^{**} = c\frac{\Big\{1 - qQ(m-2, 0) - \sum_{j=m-1}^{n-1} Q(j, 0)\Big\}}{P(m,q,0)} \tag{B.14}$$

Since $k = n$, $P(m,q,n-1) > P(m,q,0)$. Moreover, since $\Psi^* - \Psi^{**} > 0$,

$$qQ(m-2, n-1) - \sum_{j=m-1}^{n-1} Q(j, n-1) > qQ(m-2, 0) - \sum_{j=m-1}^{n-1} Q(j, 0). \tag{B.15}$$

These inequalities imply that the distance between the cutoffs is strictly greater than b. As before, we obtain an upper bound on ω^*, which we denote by $\overline{\omega}^*$. The defendant's marginal cost of committing another offense is bounded below by

$$L(\Psi^* - \Psi^{**})P(m, q, n-1) \geq L\delta b\phi(\overline{\omega}^* + b)(1-\delta)^{n-1}\alpha^{n-1}. \tag{B.16}$$

The RHS goes to infinity as $L \to \infty$, which leads to a contradiction.

The Defendant's Equilibrium Strategy: Since $q(1, 1, ..., 1) \in (0, 1)$ and $\omega^* < \omega^{**}$, we have $\Pr(\overline{\theta} = 1|\boldsymbol{a}) < \Pr(\overline{\theta} = 1|(1, 1, ..., 1)) = \pi^*$ for every $\boldsymbol{a} \neq (1, 1, ..., 1)$. Therefore, $q(\boldsymbol{a}) = 0$ for every $\boldsymbol{a} \neq (1, 1, ..., 1)$. Let $q \equiv q(1, 1, ..., 1)$. When the defendant commits an offense in addition to $m \in \{0, 1, 2, ..., m-1\}$ offenses, the probability that he gets convicted increases by $q(\Psi^* - \Psi^{**})(\Psi^{**})^{n-m}(\Psi^*)^m$, which is a strictly increasing function of m. Therefore, if the defendant commits $m \geq 2$ offenses with positive probability, the probability $\Pr(\overline{\theta} = 1)$ that he commits at least one offense is equal 1, which leads to a contradiction. Therefore, the defendant must be indifferent between committing one offense and committing no offense, and he does both with strictly positive probability in equilibrium.

B.1 Proof of Proposition 4

We start by deriving formulas for the agents' reporting cutoffs when there are n agents in total, which we denote by $(\omega_n^*, \omega_n^{**})$. We also calculate the informativeness of accusations when all n agents accuse the defendant denoted by $\mathcal{I}_n$, and the equilibrium probability with which at least one offense taking place denoted by π_n. For every $i \in \{1, 2, ..., n\}$, if agent i has witnessed an offense, then he prefers to choose $a_i = 1$ when

$$\omega_i \geq \omega_n^* = -b - c + \frac{c}{q_n Q_{1,n}}. \tag{B.17}$$

If agent i has not witnessed any offense, then he prefers to choose $a_i = 1$ when

$$\omega_i \geq \omega_n^{**} = -c + \frac{c}{q_n Q_{0,n}} \tag{B.18}$$

where

$$Q_{1,n} \equiv \Big(1 - \Phi(\omega_n^{**})\Big)^{n-1} \tag{B.19}$$

and

$$Q_{0,n} \equiv \frac{n\mathcal{I}_n}{(n-1)l^* + n\mathcal{I}_n}\Big(1 - \Phi(\omega_n^{**})\Big)^{n-1} + \frac{(n-1)l^*}{(n-1)l^* + n\mathcal{I}_n}\Big(1 - \Phi(\omega_n^{**})\Big)^{n-2}\Big(1 - \Phi(\omega_n^*)\Big). \quad \text{(B.20)}$$

We have shown earlier that when L is large enough, the defendant commits at most one offense in every equilibrium. This leads to the following formula for the informativeness ratio:

$$\mathcal{I}_n = \frac{\delta\Phi(\omega_n^*) + (1-\delta)\alpha}{\delta\Phi(\omega_n^{**}) + (1-\delta)\alpha}.$$

Under APP, the judge convicts a defendant with probability strictly between 0 and 1 when there are n accusations. This implies that

$$\mathcal{I}_n = \frac{\pi^*}{1-\pi^*}\Big/\frac{\pi_n}{1-\pi_n}. \quad \text{(B.21)}$$

When L is large enough, the defendant's indifference condition for committing no offense and committing only one offense is given by:

$$\frac{1}{L} = q_n\Big(\Phi(\omega_n^{**}) - \Phi(\omega_n^*)\Big)\Big(1 - \Phi(\omega_n^{**})\Big)^{n-1}. \quad \text{(B.22)}$$

Using these formulas, we now show that $\omega_n^{**} - \omega_n^* \in (0, b)$. Suppose by way of contradiction that $\omega_n^{**} - \omega_n^* \leq 0$. Then, comparing (B.19) and (B.20) yields $Q_{1,n} \geq Q_{0,n}$. Plugging this into (B.17) and (B.18) implies that $\omega_n^* \leq \omega_n^{**} - b$, which contradicts our earlier hypothesis that $\omega_n^{**} - \omega_n^* \leq 0$ and implies $\omega_n^{**} - \omega_n^* > 0$. Since $\omega_n^{**} - \omega_n^* > 0$, we have $Q_{1,n} < Q_{0,n}$. The expressions for these cutoffs then imply that $\omega_n^{**} - \omega_n^* < b$.

Next, we show that $\mathcal{I}_n \to 1$ as $\omega_n^* \to +\infty$. Equations (B.17) and (B.18) yield

$$\frac{|\omega_n^* - b - c|}{|\omega_n^{**} - c|} = \frac{Q_{0,n}}{Q_{1,n}} = \frac{(n-1)l^*}{(n-1)l^* + n\mathcal{I}_n}\mathcal{I}_n + \frac{n\mathcal{I}_n}{(n-1)l^* + n\mathcal{I}_n}. \quad \text{(B.23)}$$

Since $\omega_n^{**} - \omega_n^* \in (0, b)$, the LHS converges to 1 as $\omega_n^* \to +\infty$, which implies that the RHS also converges to 1. This can occur only if $\mathcal{I}_n \to 1$.

In the last step, we show that $\omega_n^* \to +\infty$ as $L \to +\infty$. Suppose by way of contradiction that there exists a finite accumulation point $\omega^* > 0$ for ω_n^*. The LHS of (B.22) converges to 0 when $L \to +\infty$. Therefore, at least one of the following properties must occur along some subsequence: $q_n \to 0$ or $\Phi(\omega_n^{**}) - \Phi(\omega_n^*) \to 0$. Since $\omega_n^* \to \omega^*$, $\Phi(\omega_n^{**}) - \Phi(\omega_n^*) \to 0$ implies that $\omega_n^{**} - \omega_n^* \to 0$.

First, suppose by way of contradiction that $q_n \to 0$ along some subsequence. From (B.17), $\omega_n^* \to +\infty$ along this subsequence, which leads to a contradiction.

Second, suppose by way of contradiction that q_n is bounded away from 0 along some subsequence, i.e., strictly greater than some $\underline{q} > 0$. For the LHS of (B.22) to converge to 0, we need $\omega_n^{**} - \omega_n^* \to 0$ along this subsequence. Subtracting the expression of ω_n^* from that of ω_n^{**}, we obtain

$$\frac{q_n}{c}\Big(\omega_n^{**} - (\omega_n^* + b)\Big) = \frac{(n-1)l^*}{(n-1)l^* + n}\Big\{\frac{1}{1-\Phi(\omega_n^*)} - \frac{1}{1-\Phi(\omega_n^{**})}\Big\}. \tag{B.24}$$

The absolute value of the LHS is no less than $\underline{q}b/c$ in the limit as $\omega_n^{**} - \omega_n^* \to 0$. The absolute value of the RHS converges to 0 as $\Phi(\omega_n^{**}) - \Phi(\omega_n^*) \to 0$, leading to a contradiction. This implies that $\omega_n^* \to +\infty$ in every equilibrium as $L \to +\infty$.

The three parts together imply that as $L \to +\infty$, ω_n^* and ω_n^{**} diverge to $+\infty$, $\mathcal{I}_n \to 1$ and$\pi_n \to \pi^*$.

B.2 Proof of Proposition 5

Since the defendant is indifferent between all action profiles, his marginal cost of committing an offense equals his marginal benefit: $qL(\Psi^* - \Psi^{**}) = 1$ where $q \in (0,1)$ is the incremental probability of conviction after an agent accuses him, Ψ^* is the probability of $a_i = 1$ conditional on $\theta_i = 1$, and Ψ^{**} is the probability of $a_i = 1$ conditional on $\theta_i = 0$. The reporting cutoffs are given by $\omega^* \equiv \frac{c(P-q)}{q} - b$ and $\omega^{**} \equiv \frac{c(P-q)}{q}$, where $P \equiv \Pr(s = 0|a_i = 0)$. Therefore, $\omega^{**} - \omega^* = b$, which implies that $\Psi^* - \Psi^{**} \to 0$ if and only if $\omega^* \to +\infty$. As $L \to +\infty$, the indifference condition implies that either $q \to 0$ or $\Psi^* - \Psi^{**} \to 0$ or both. The formulas for the reporting cutoffs implies that $\omega^* \to +\infty$ if and only if $q \to 0$. This implies that $\omega^* \to +\infty$ as $L \to \infty$. In the limit as $L \to \infty$, the informativeness ratio $\mathcal{I} \equiv \frac{1-\Phi(\omega_i^*)}{1-\Phi(\omega_i^{**})}$ diverges to $+\infty$.