

Homework #1

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1. Prove or disprove the claim in the Bad news example (public monitoring) that the focus on *symmetric pure* strategy equilibria is without loss of generality (make assumptions on Δ, δ as you see fit). Same question for the good news model. *Hint:* Assume a public randomization device first, so that the set of PPE payoffs is monotone in δ . Then apply FLT's algorithm.
2. Re-consider Green and Porter's celebrated model of collusion ("Noncooperative Collusion under Imperfect Price Information," *Econometrica*, **52**, 84–100). When are symmetric grim-trigger strategies, as they assume, optimal, *e.g.*, joint-profit maximizing across PPE? (Make assumptions on F and γ_i as you see fit. In particular, assume that γ_i is independent of i ; there are two questions here, really; when is static Nash the optimal "bad" state, and when are symmetric strategies best. I am mostly interested in the second.)