# Discussion of "Strategic Sample Selection"

Di Tillio, Ottaviani, and Sørensen

Montreal, October 2017

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  - It is left to the reader to decide how important or realistic this assumption is.

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  - If the empirical relevance of log(- log F) is to be a selling point, then it is important to argue that location experiments are realistic.
- NB: In the scale experiment, log x = log θ + log ε, where the distribution of log ε satisfies log(-log F) convex.

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  - In other words dispersion is, conveniently, "held constant" across states. Note that - log(- log H(x|θ)) has the same curvature for all θ.
  - Thus, we only have to worry about relative dispersion of F and G.

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  - Or (equivalently?) if (i) log(-log F) is convex and (ii) the transformation from x(θ<sub>L</sub>, ε) to x(θ<sub>H</sub>, ε) satisfies some condition.

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  - Hence, the relevance of  $-\log(-\log F)$  convex relies on (*i*) location experiments and (*ii*) unbounded support.
  - Explicitly state and justify/discuss both assumptions.

• Another way to think about this: With bounded support, it is possible to *eliminate* Type I or Type II errors; corner solutions.



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- x = 0.5: Zero Type II errors ( $\beta = 0$ ). By FOSD blue has fewer Type I errors than red.
- x = 1.5: Zero Type 1 errors ( $\alpha = 0$ ). By FOSD, red has fewer Type II errors than blue.

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- This assumes an interior solution because  $\alpha, \beta$  are the same for the random and the selected experiments at the corners.
- Conclusion: The theory is "neater" when  $\varepsilon$  is unbounded both below and above (ensures  $\alpha$ ,  $\beta$  interior).