Entropic Selection of Nash Equilibrium*

Zeynel Harun Alioğulları† Mehmet Barlo‡

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Abstract

Observing that more variable best responses necessitate more precise anticipation and imply more complex behavior, we follow Shannon (1948) of information theory to measure the information content, i.e. variations, in best responses via a weak form of entropy. This delivers a refinement based on complexity aversion: The entropic selection of Nash equilibrium. We prove that given any normal form game this selection is non–empty, admits desirable properties, and does not have containment relations with perfection, properness and persistence. In fact, in well–known games that display important insights about virtues/problems of various refinement notions, our notion displays none of the criticisms associated with these examples.

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†Faculty of Arts and Social Sciences, Sabancı University, Orhanlı, Tuzla, 34956, Istanbul, Turkey; email: zeynelharun@sabanciuniv.edu.

‡**Corresponding Author**: Faculty of Arts and Social Sciences, Sabancı University, Orhanlı, Tuzla, 34956, Istanbul, Turkey; Phone: +90 216 483 9284; Fax: +90 216 483 9250 (CC. M. Barlo); email: barlo@sabanciuniv.edu.