

Evolution Reinforces Cooperation with the Emergence of Self-Recognition Mechanisms: an Empirical Study of the Moran process for the Iterated Prisoner's Dilemma - Online Materials

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This document contains graphical materials accompanying the manuscript entitled: **“Evolution Reinforces Cooperation with the Emergence of Self-Recognition Mechanisms: an Empirical Study of the Moran process for the Iterated Prisoner's Dilemma”**.

- Figures 1-12 show the fixation probability x_1 for each strategy. The mean and error bars are shown against the collection of all opponents.
- Figures 13-24 show the fixation probability x_{N-1} for each strategy. Again, the mean and error bars are shown against the collection of all opponents.
- Figures 25-27 show the ranks of each strategy according to mean absorption probability across all population sizes.

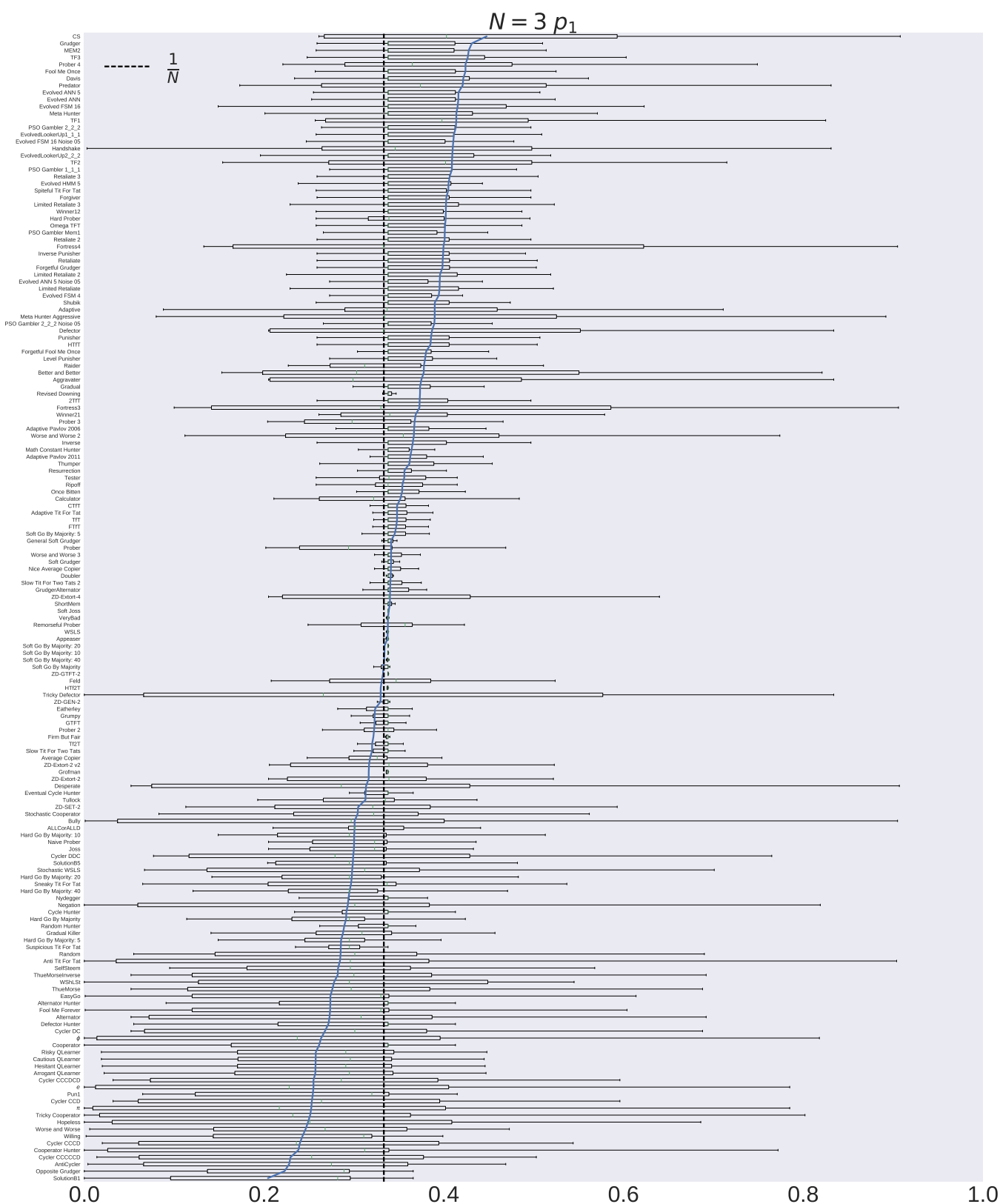
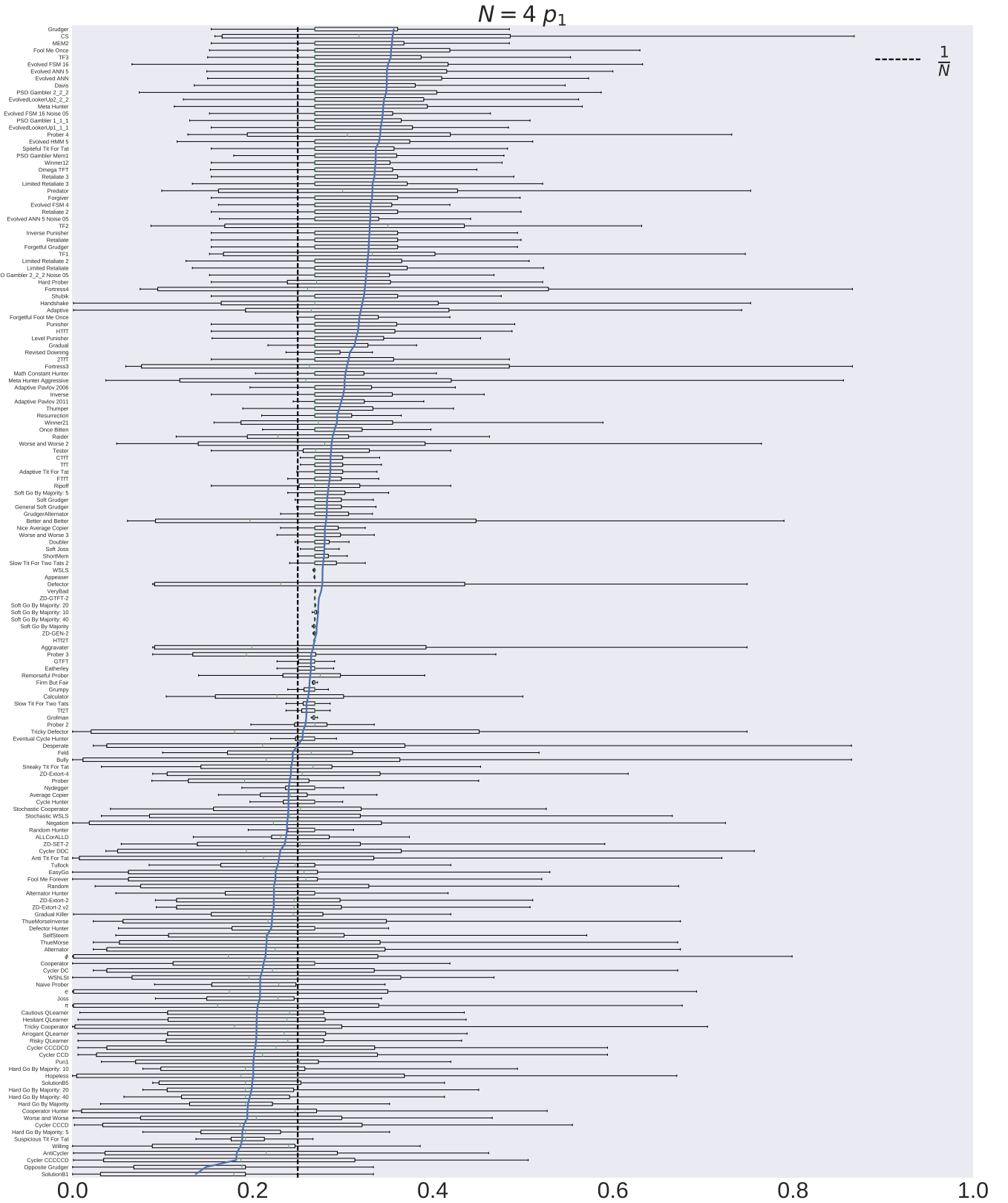


Figure 1: The fixation probabilities x_1 for $N = 3$



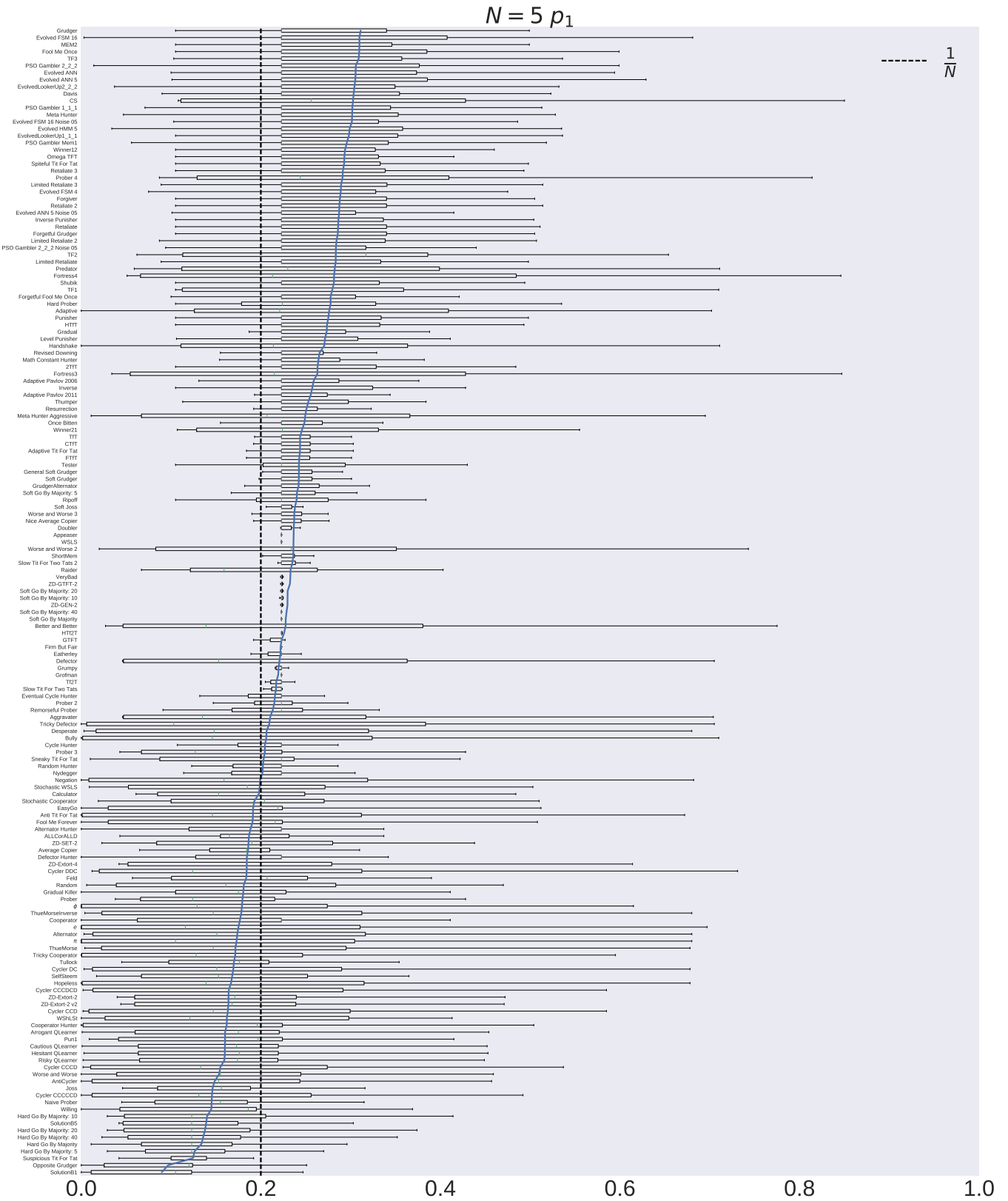
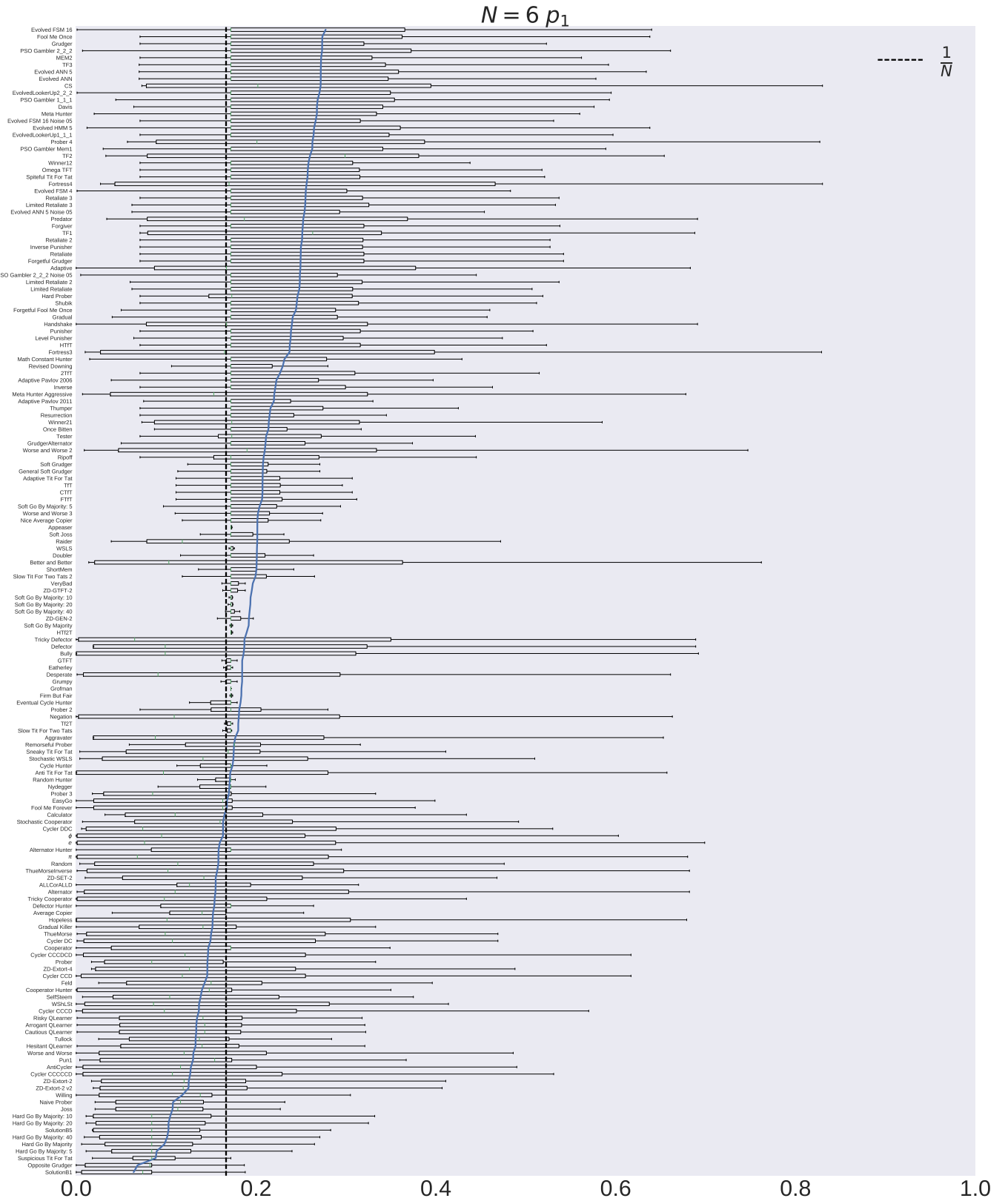
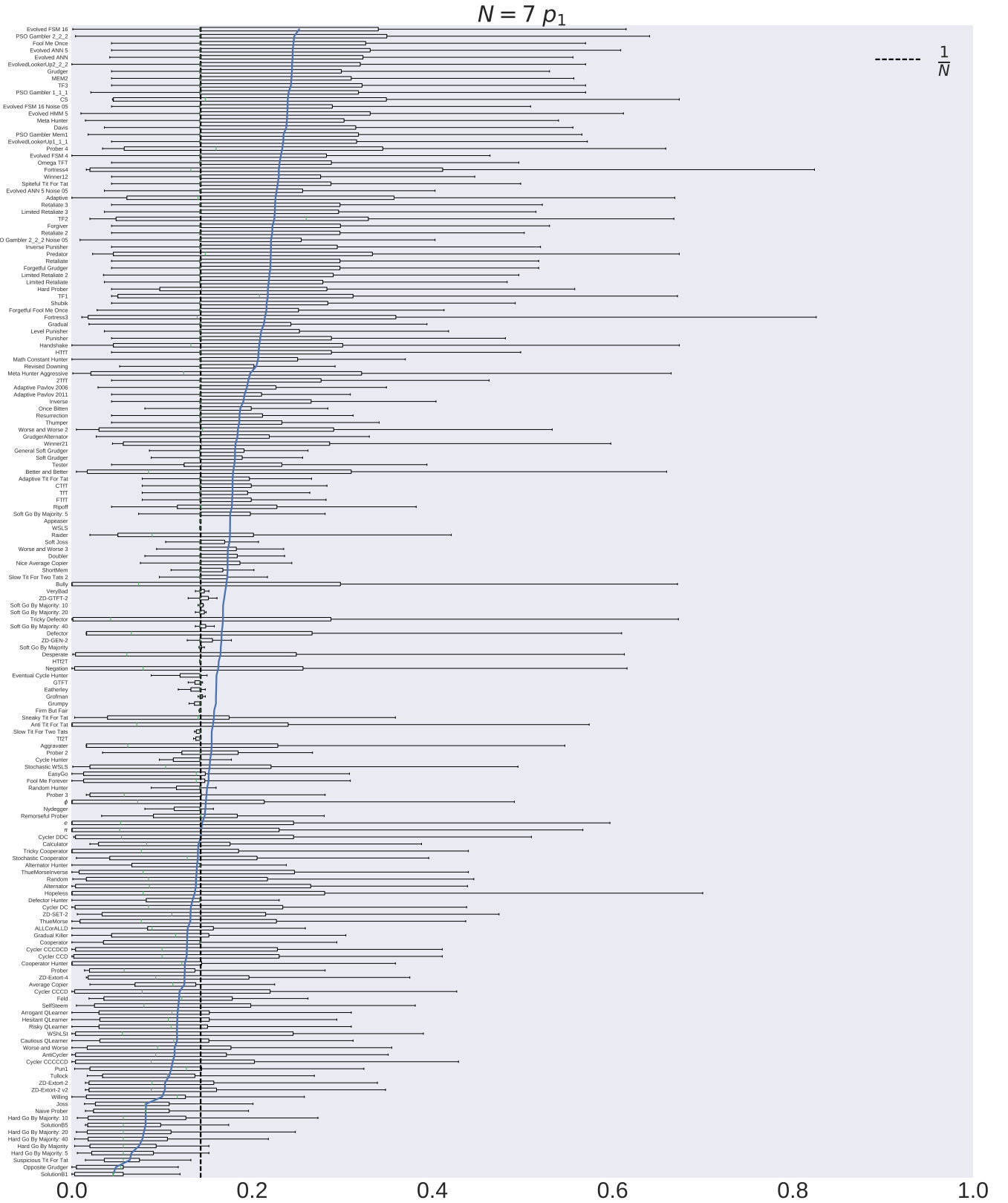
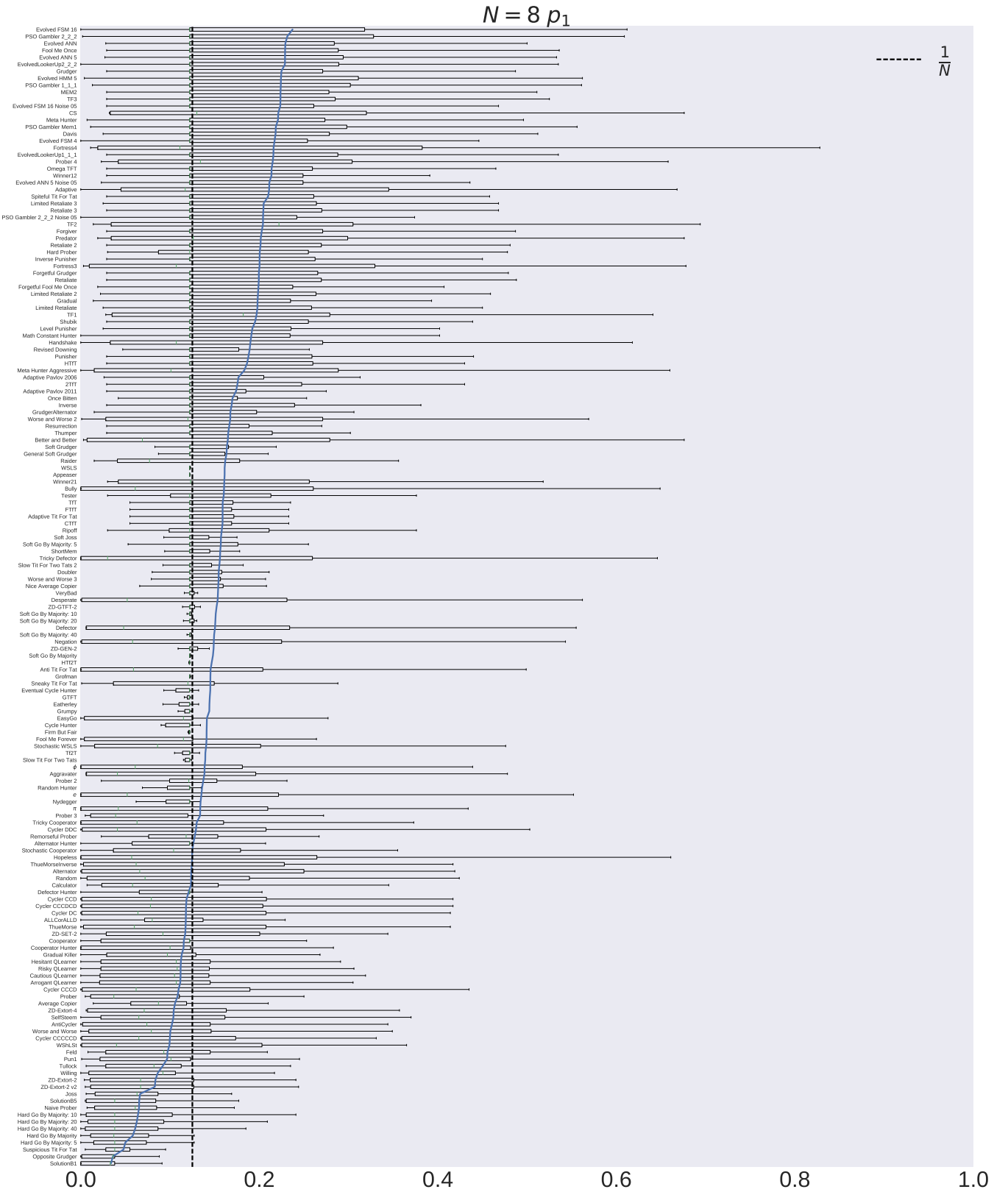


Figure 3: The fixation probabilities x_1 for $N = 5$







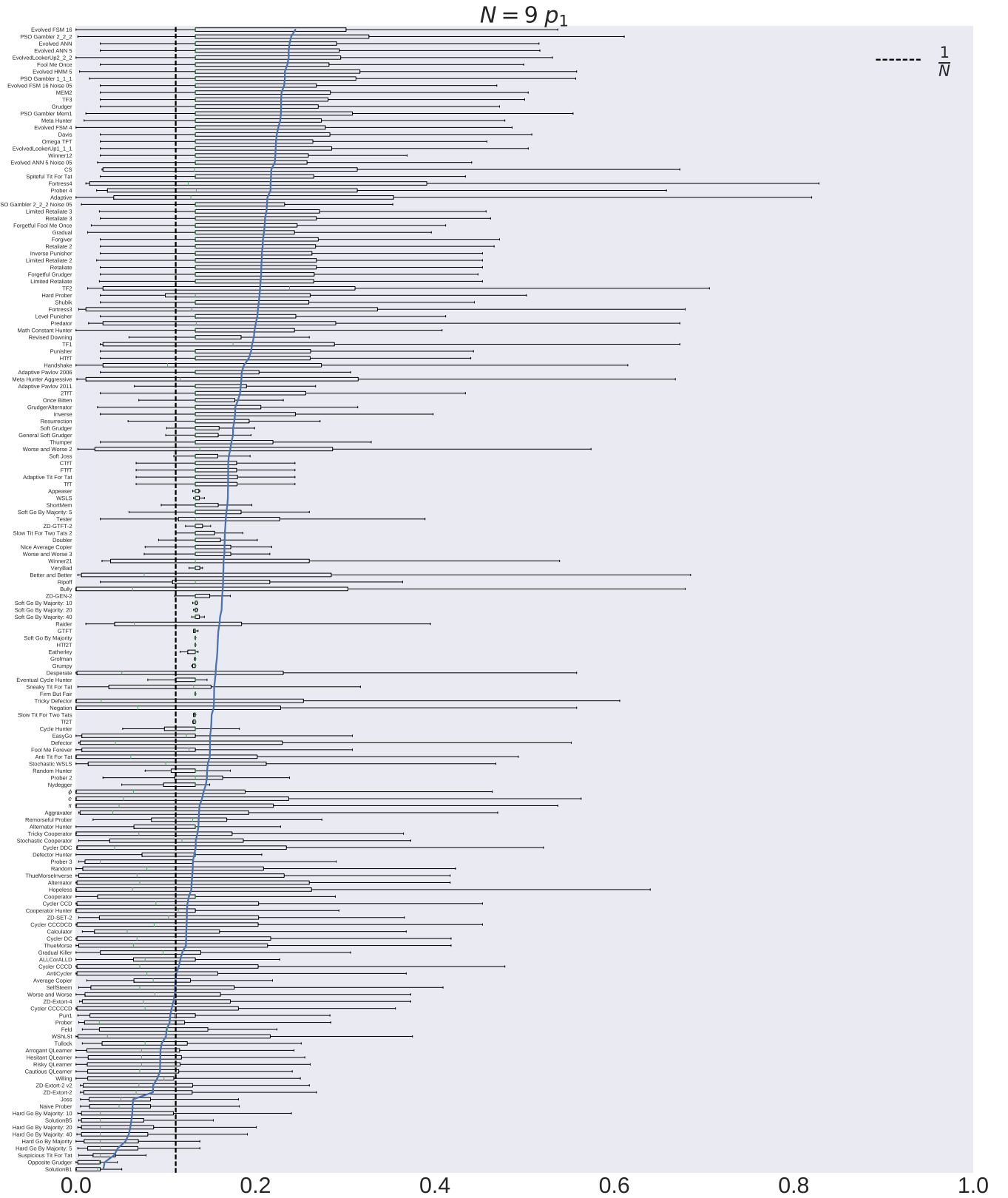
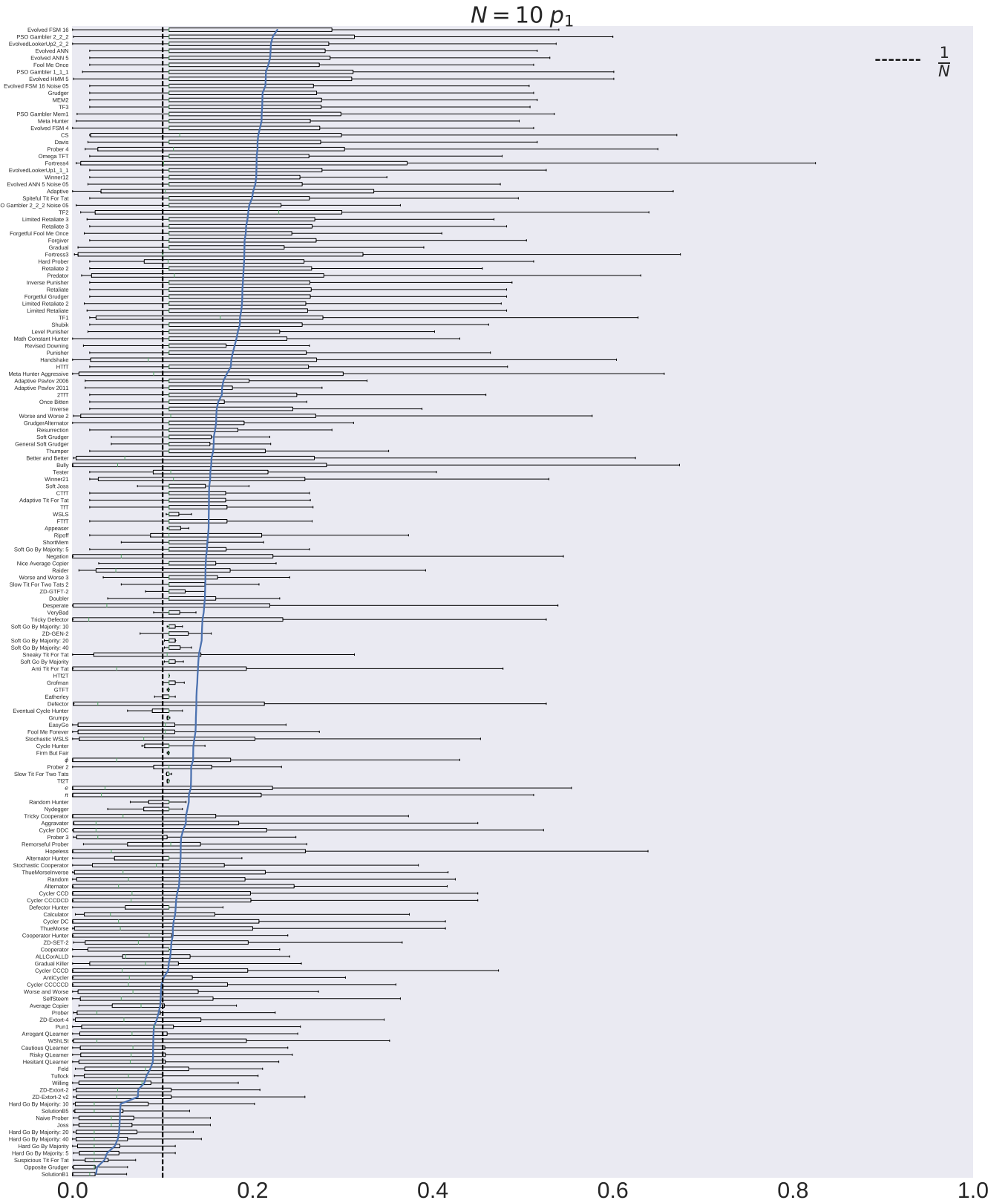


Figure 7: The fixation probabilities x_1 for $N = 9$



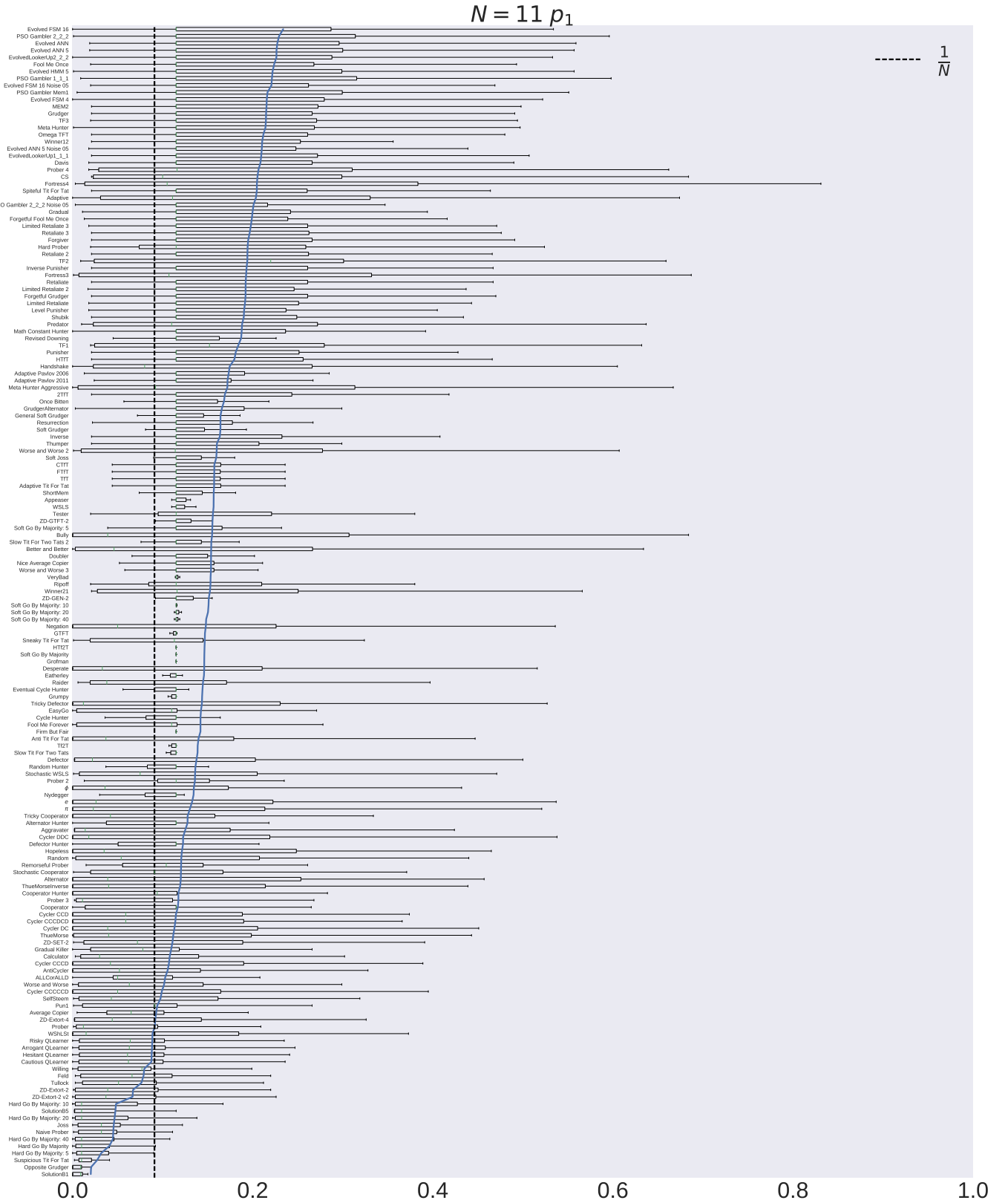
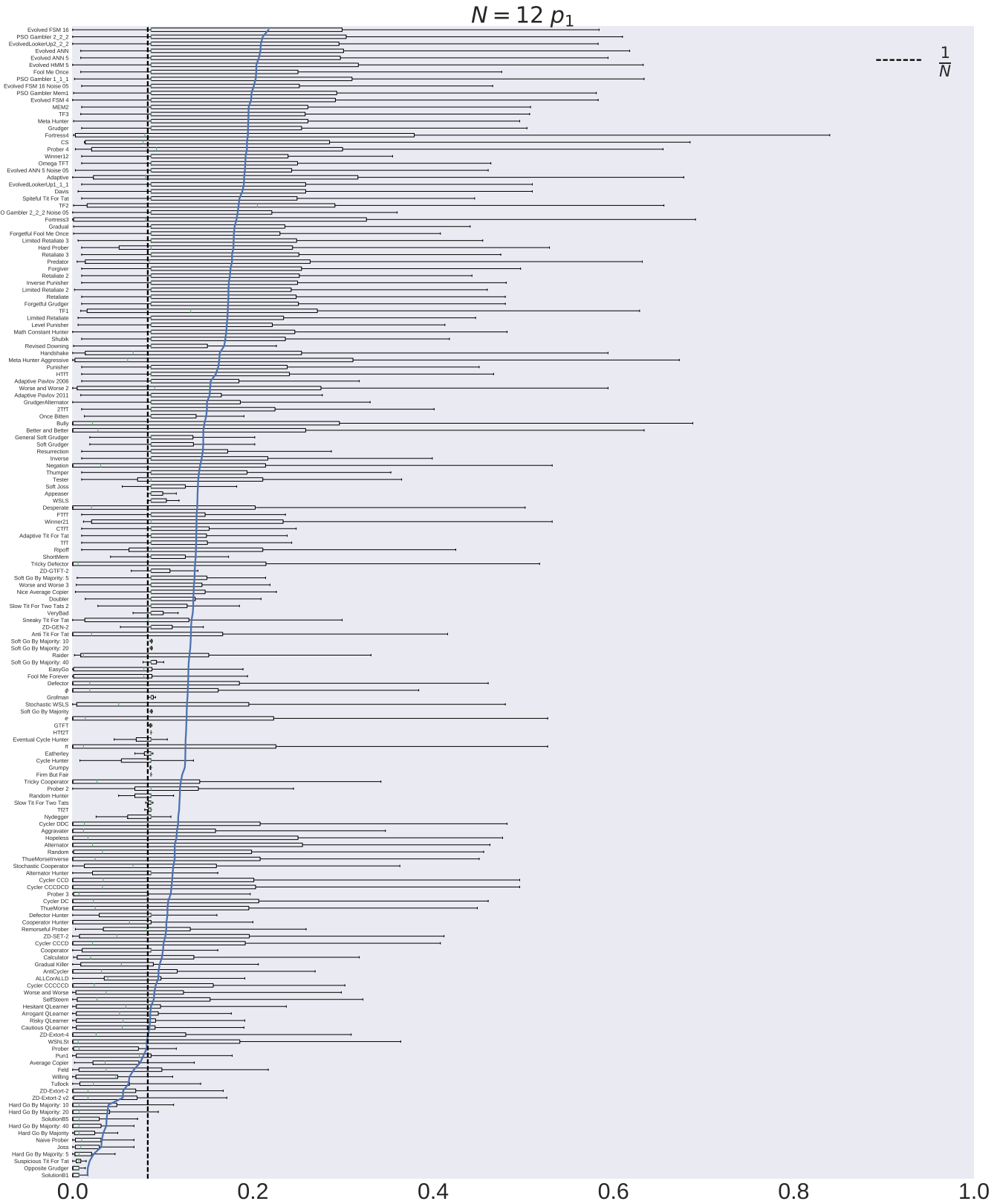


Figure 9: The fixation probabilities x_1 for $N = 11$



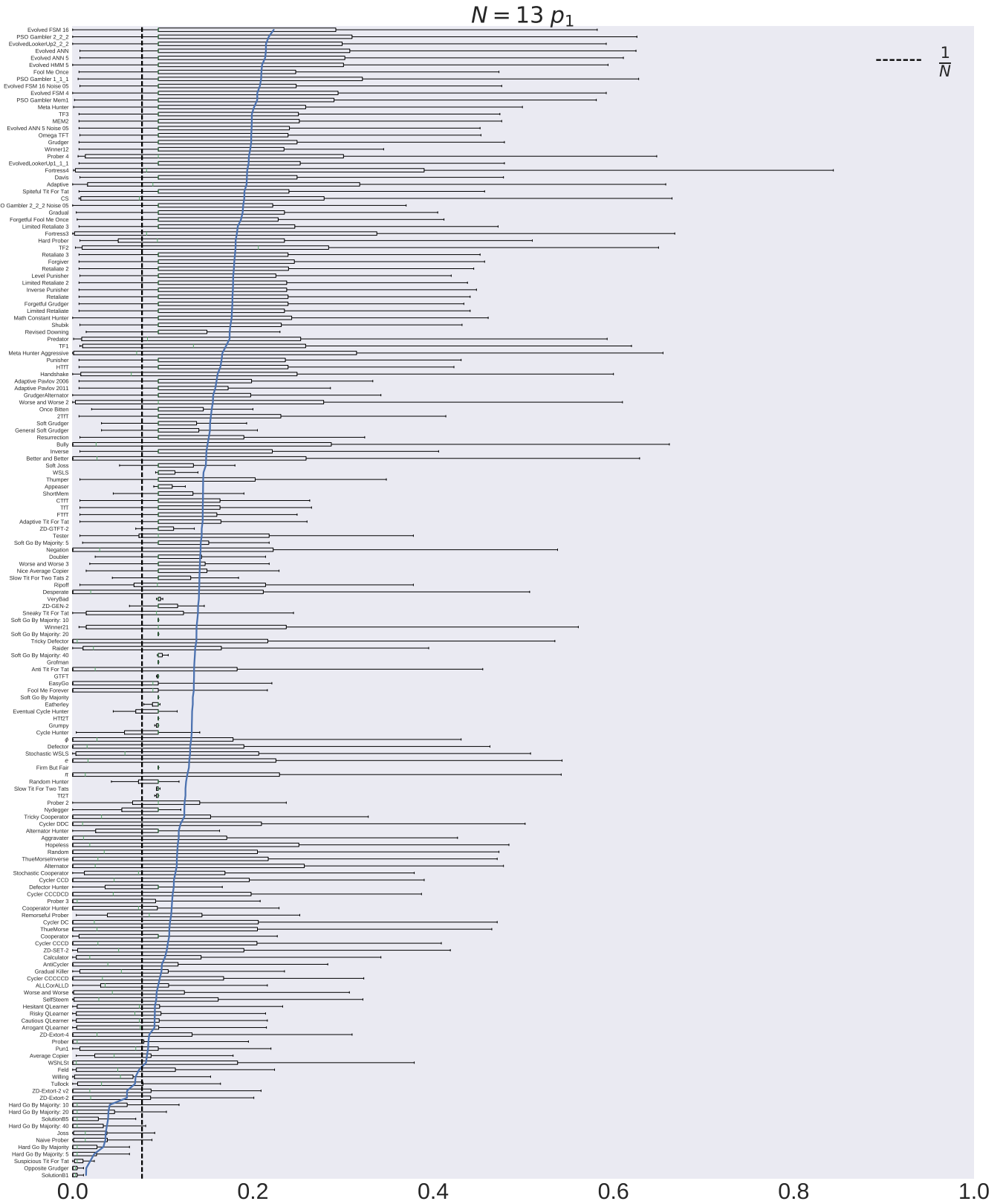
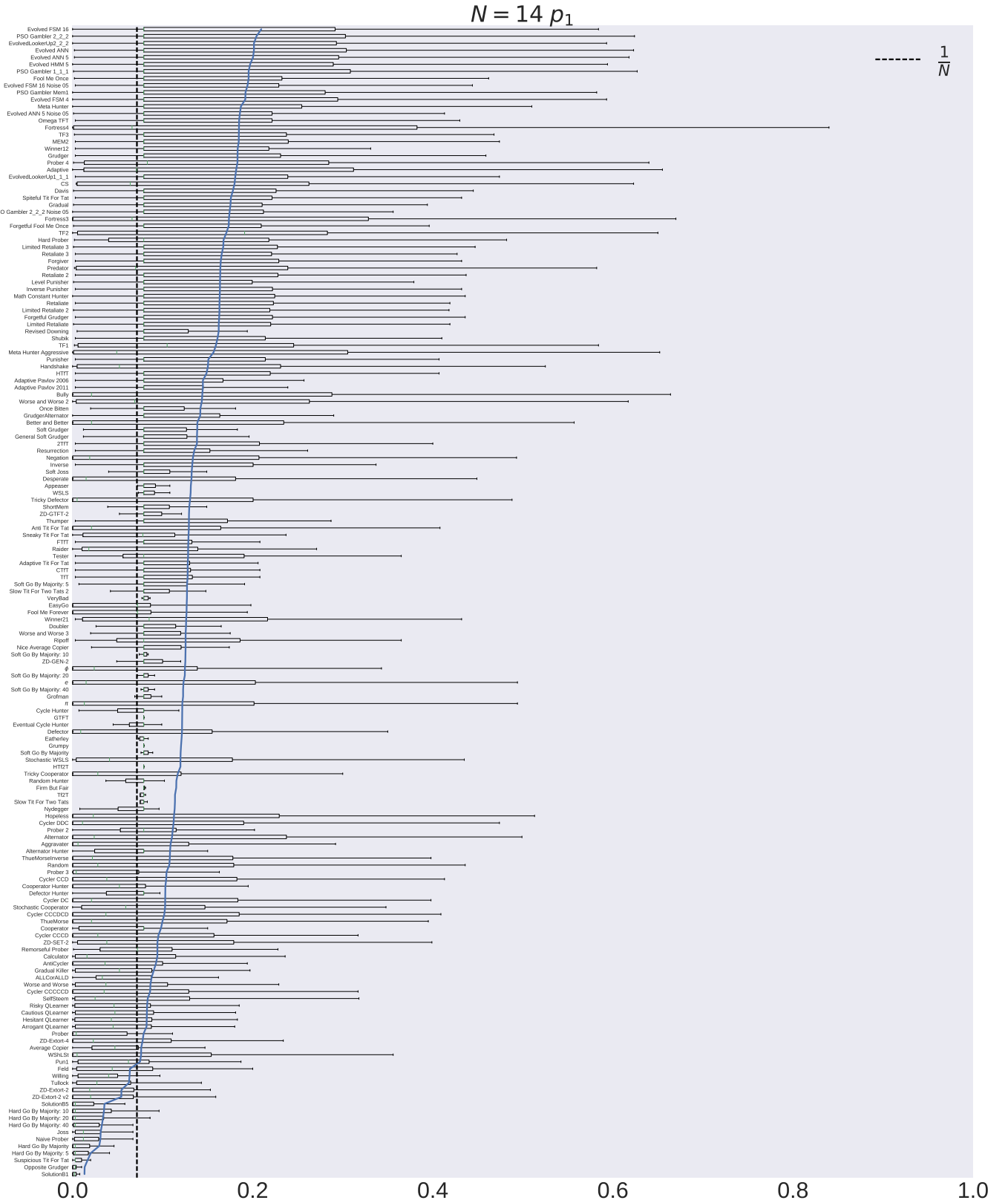


Figure 11: The fixation probabilities x_1 for $N = 13$



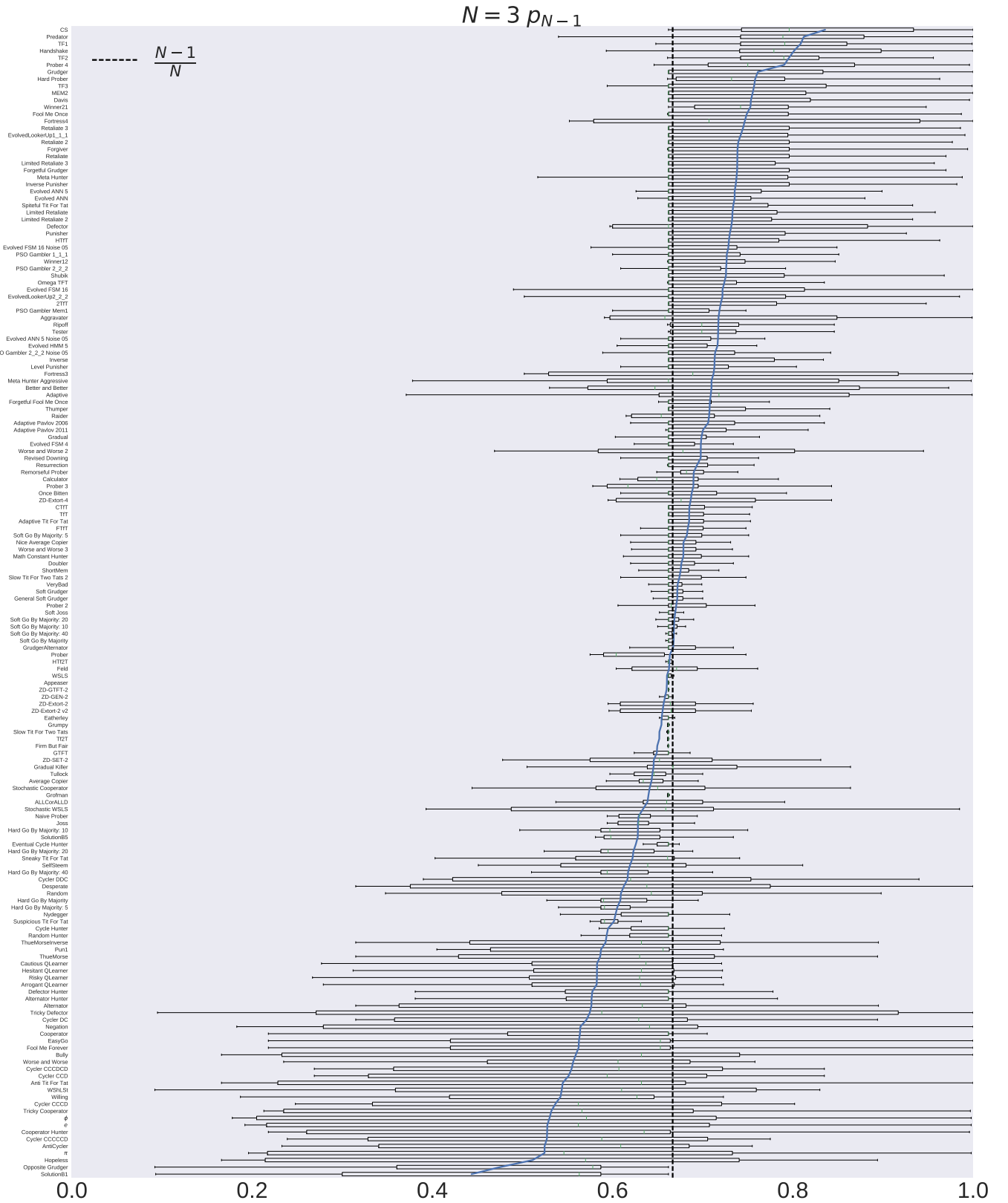


Figure 13: The fixation probabilities x_{N-1} for $N = 3$

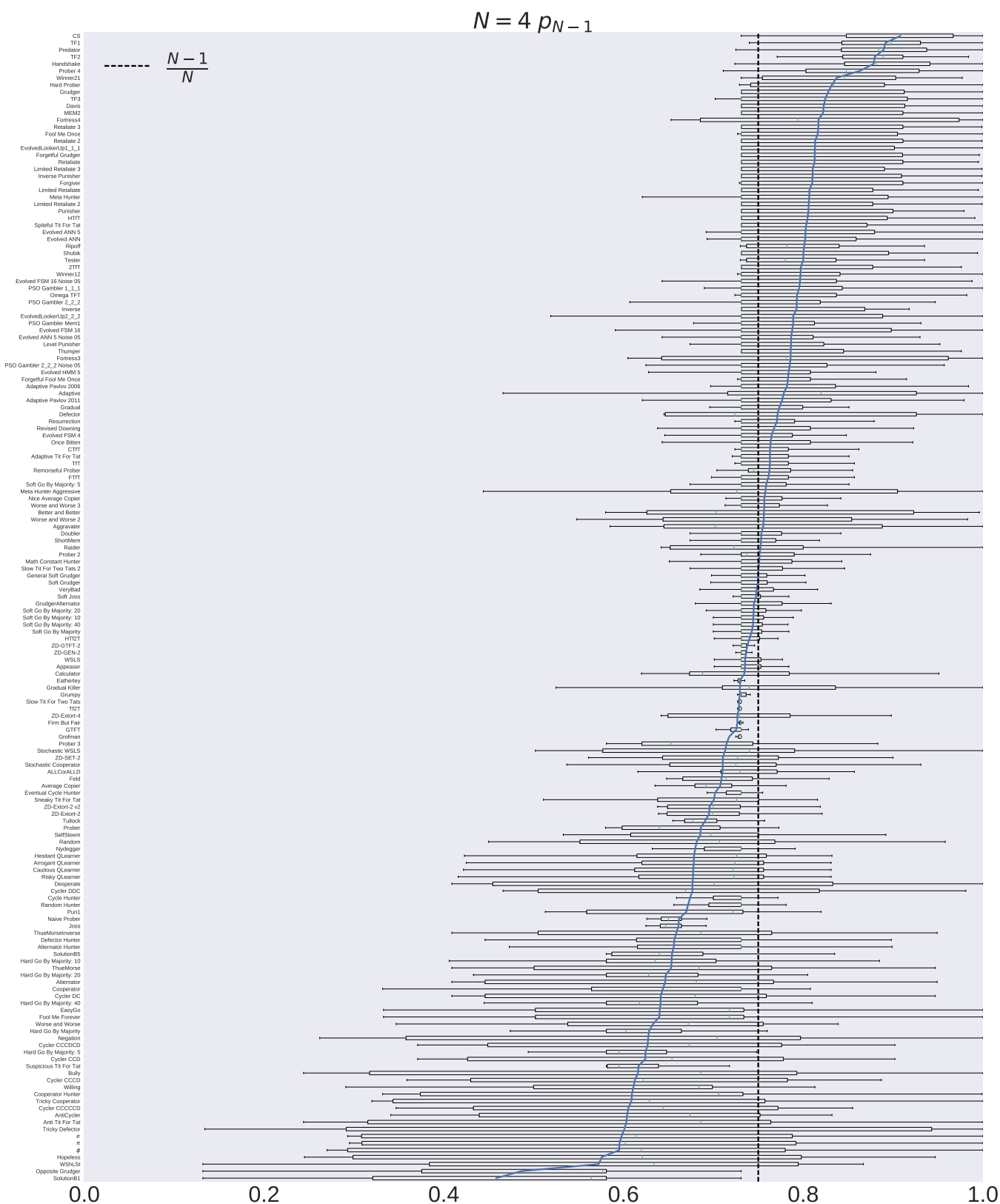


Figure 14: The fixation probabilities x_{N-1} for $N = 4$

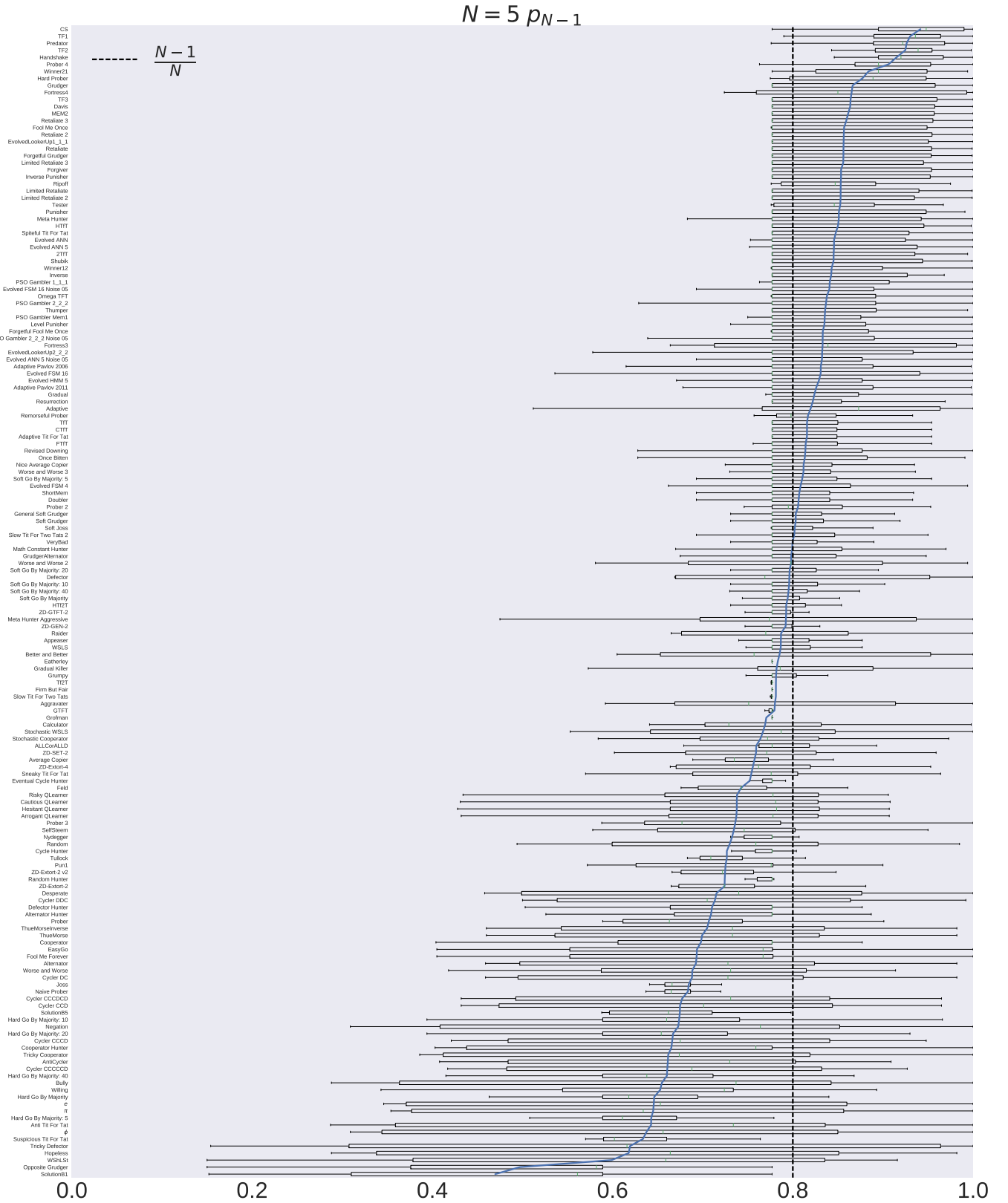


Figure 15: The fixation probabilities x_{N-1} for $N = 5$

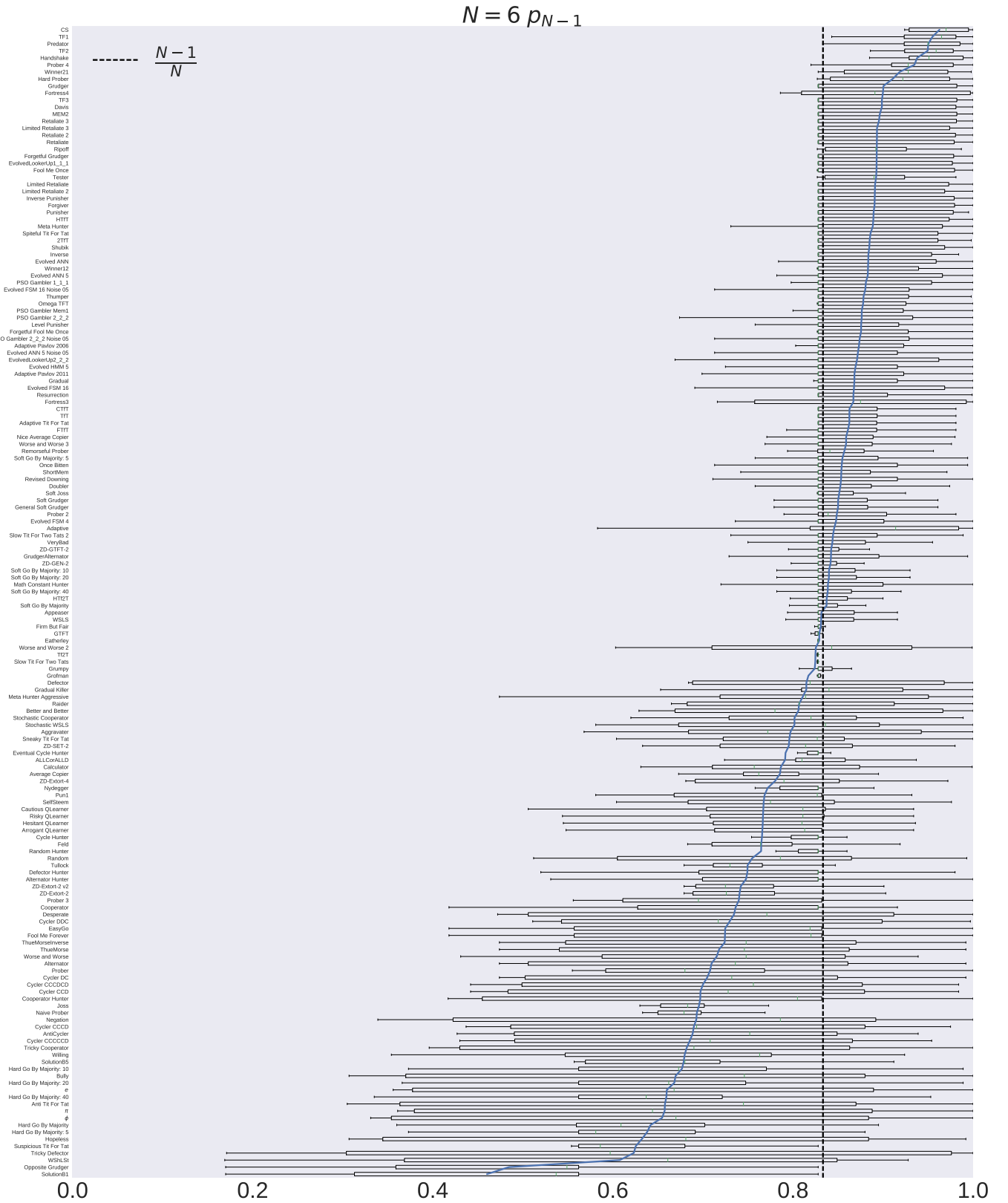


Figure 16: The fixation probabilities x_{N-1} for $N = 6$

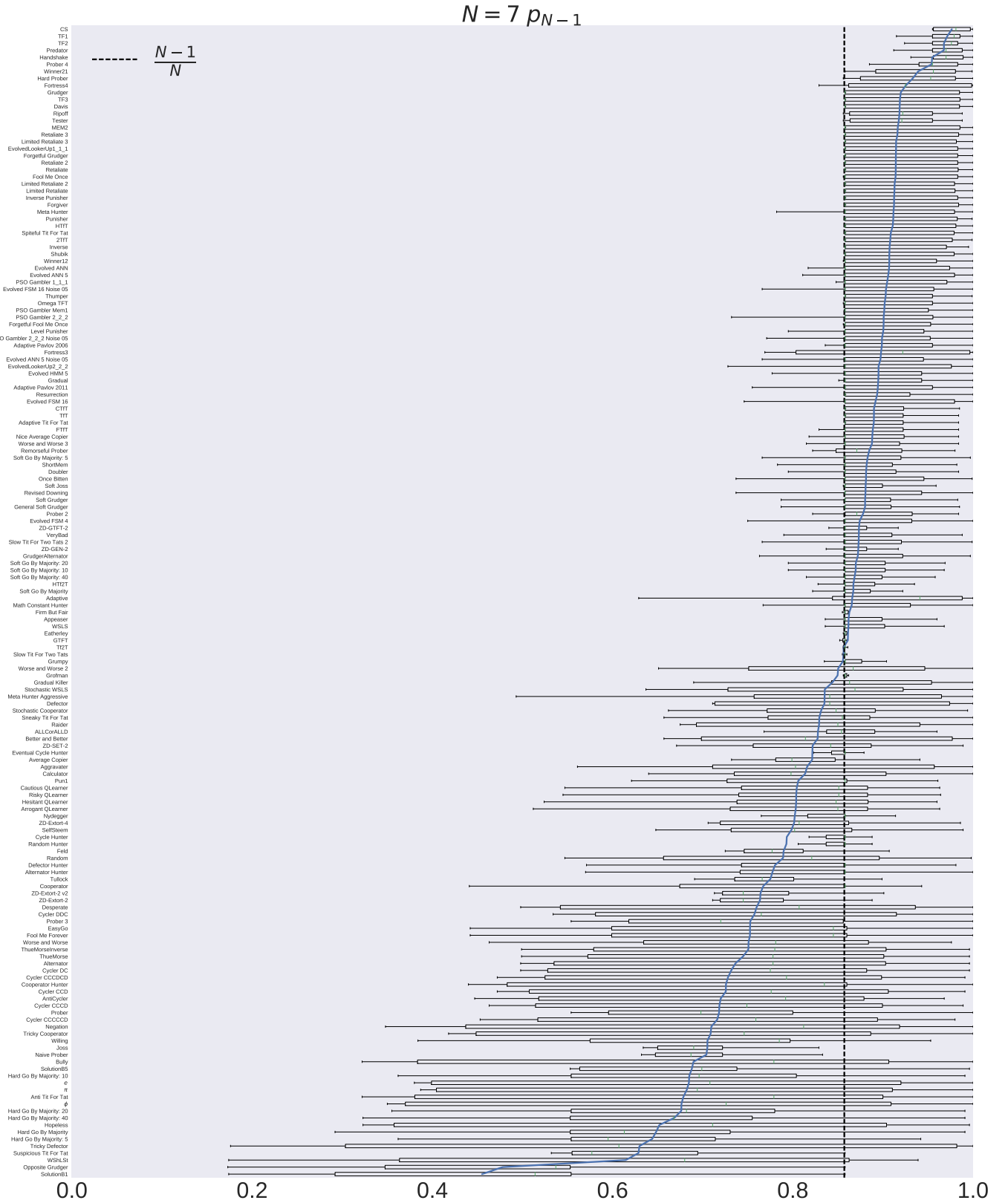


Figure 17: The fixation probabilities x_{N-1} for $N = 7$

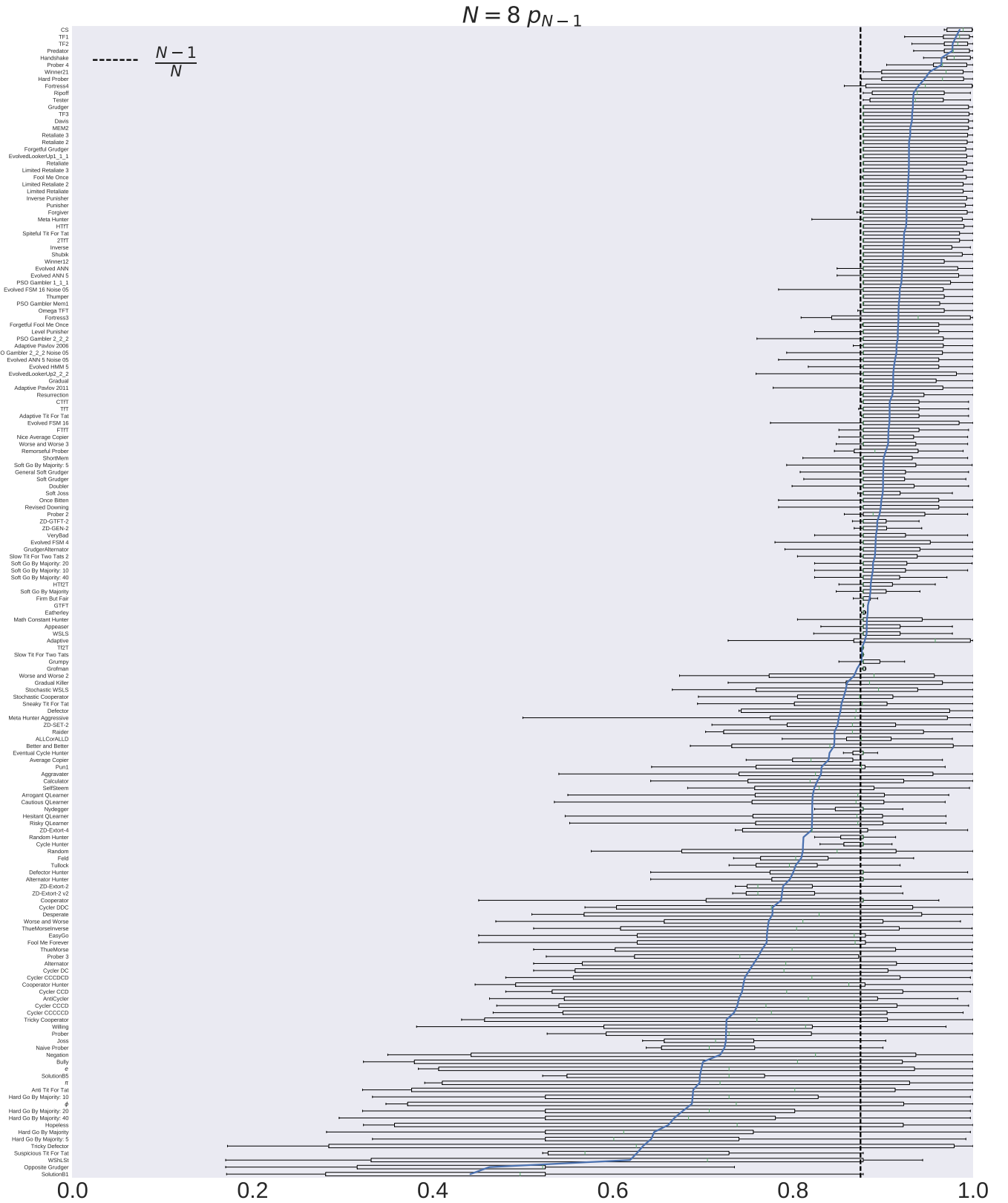


Figure 18: The fixation probabilities x_{N-1} for $N = 8$

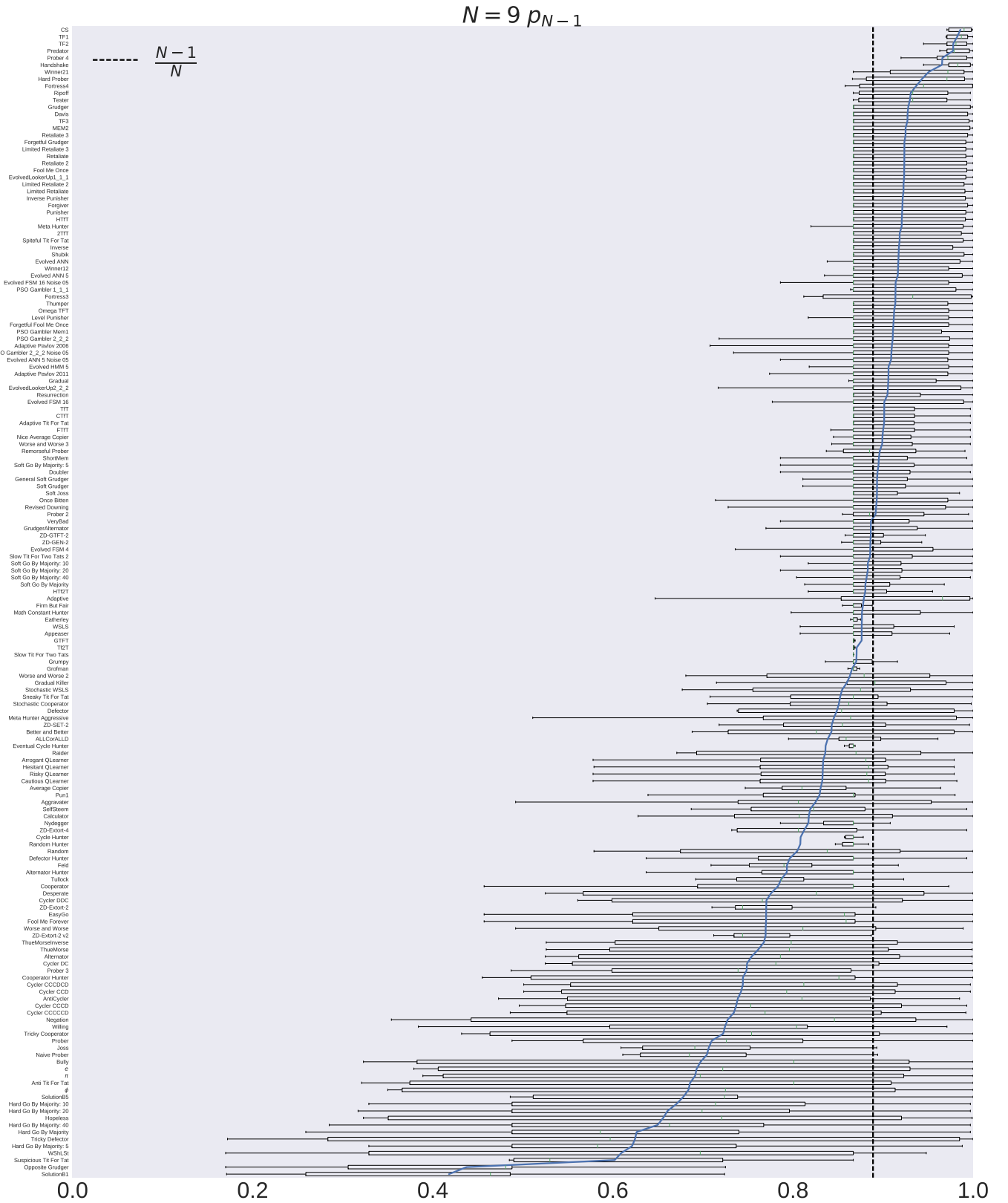


Figure 19: The fixation probabilities x_{N-1} for $N = 9$

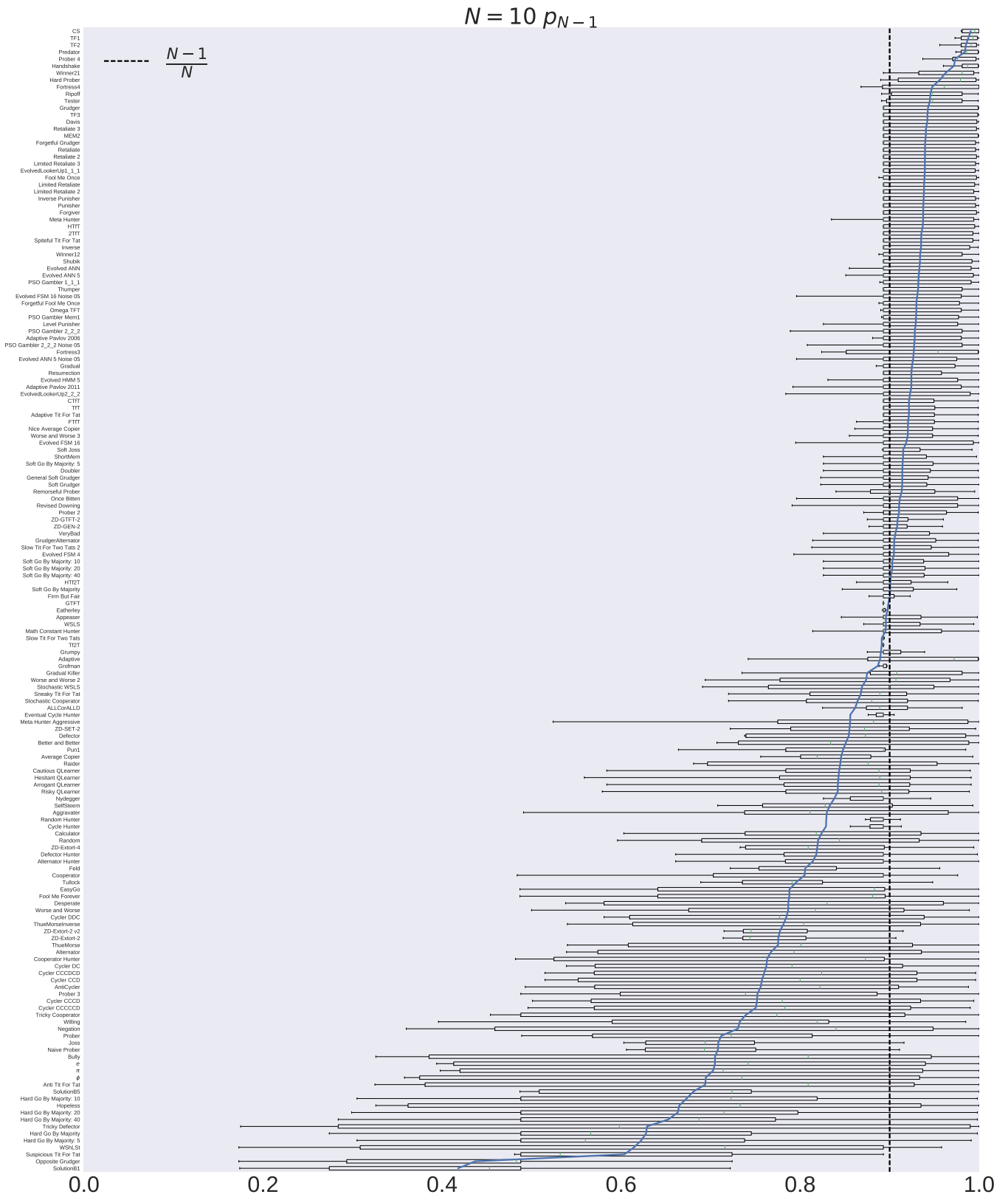


Figure 20: The fixation probabilities x_{N-1} for $N = 10$

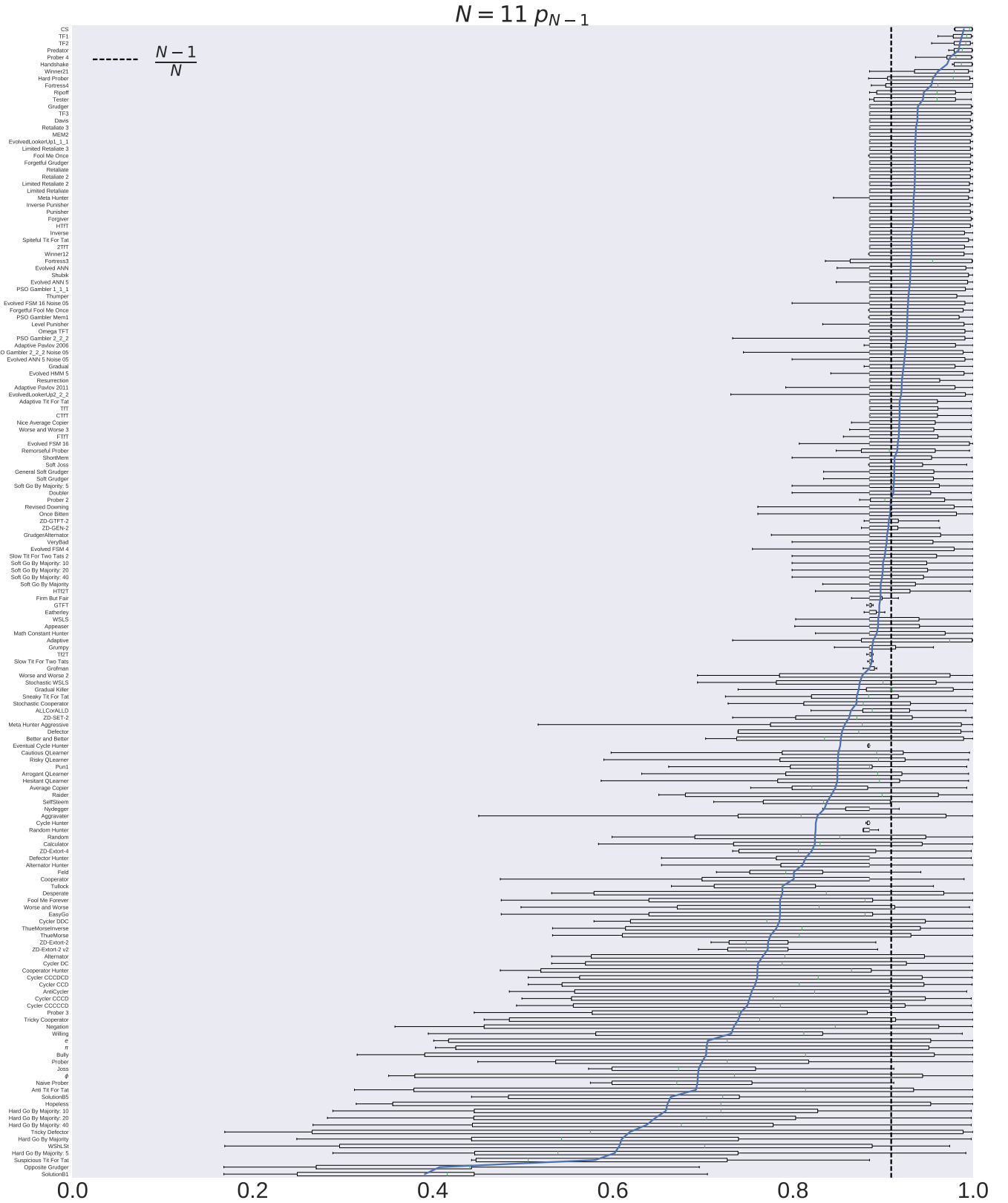


Figure 21: The fixation probabilities x_{N-1} for $N = 11$

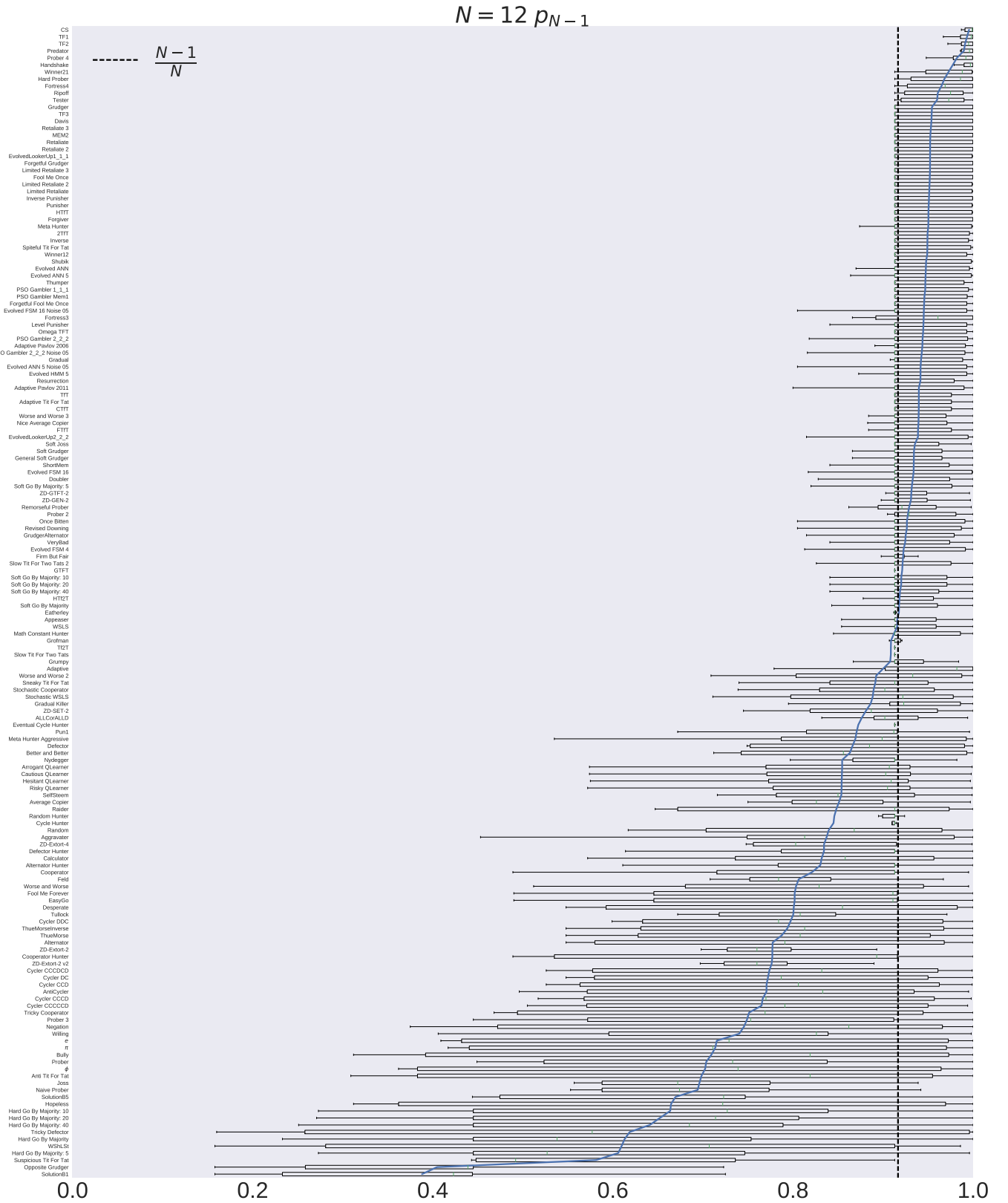


Figure 22: The fixation probabilities x_{N-1} for $N = 12$

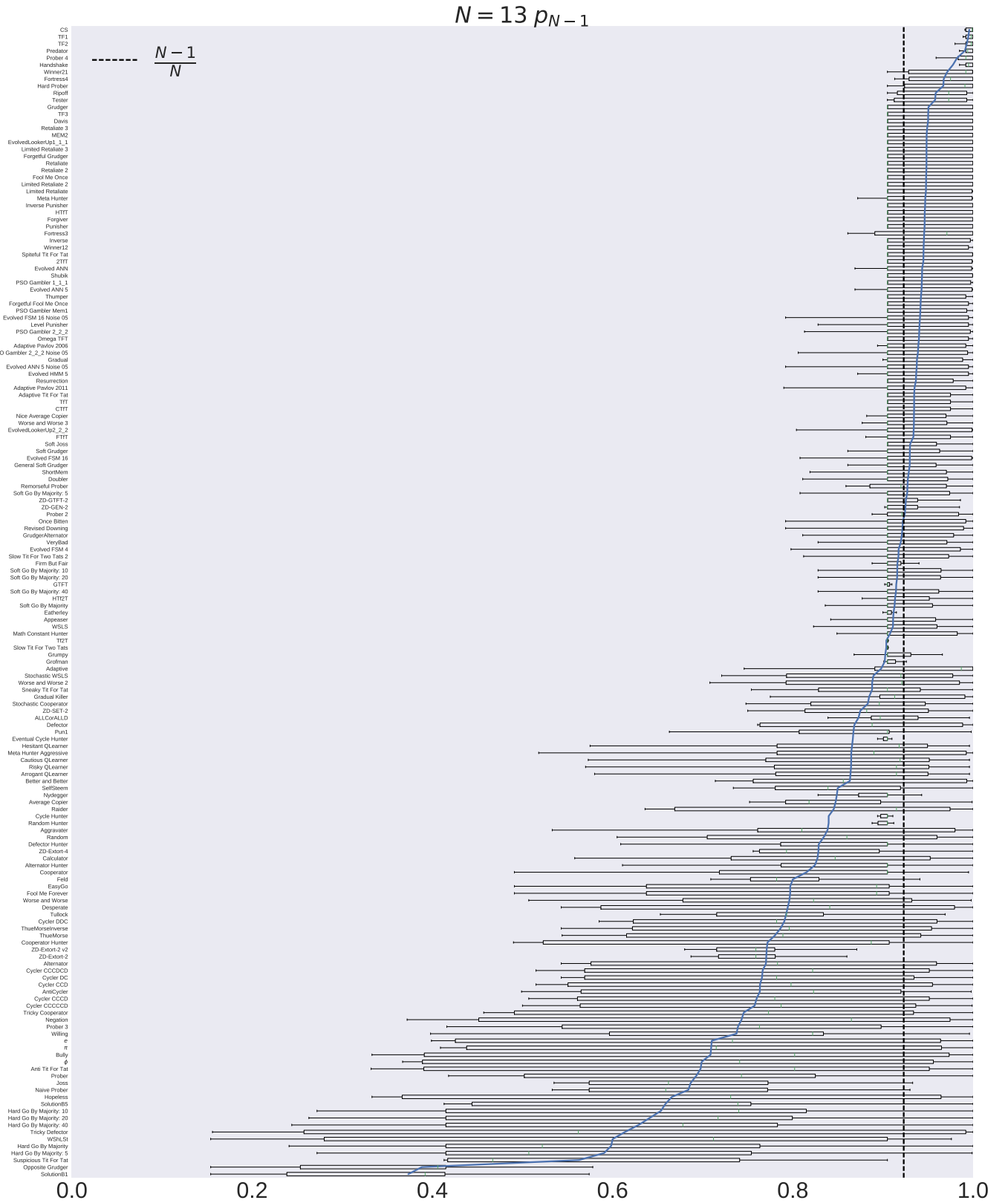


Figure 23: The fixation probabilities x_{N-1} for $N = 13$

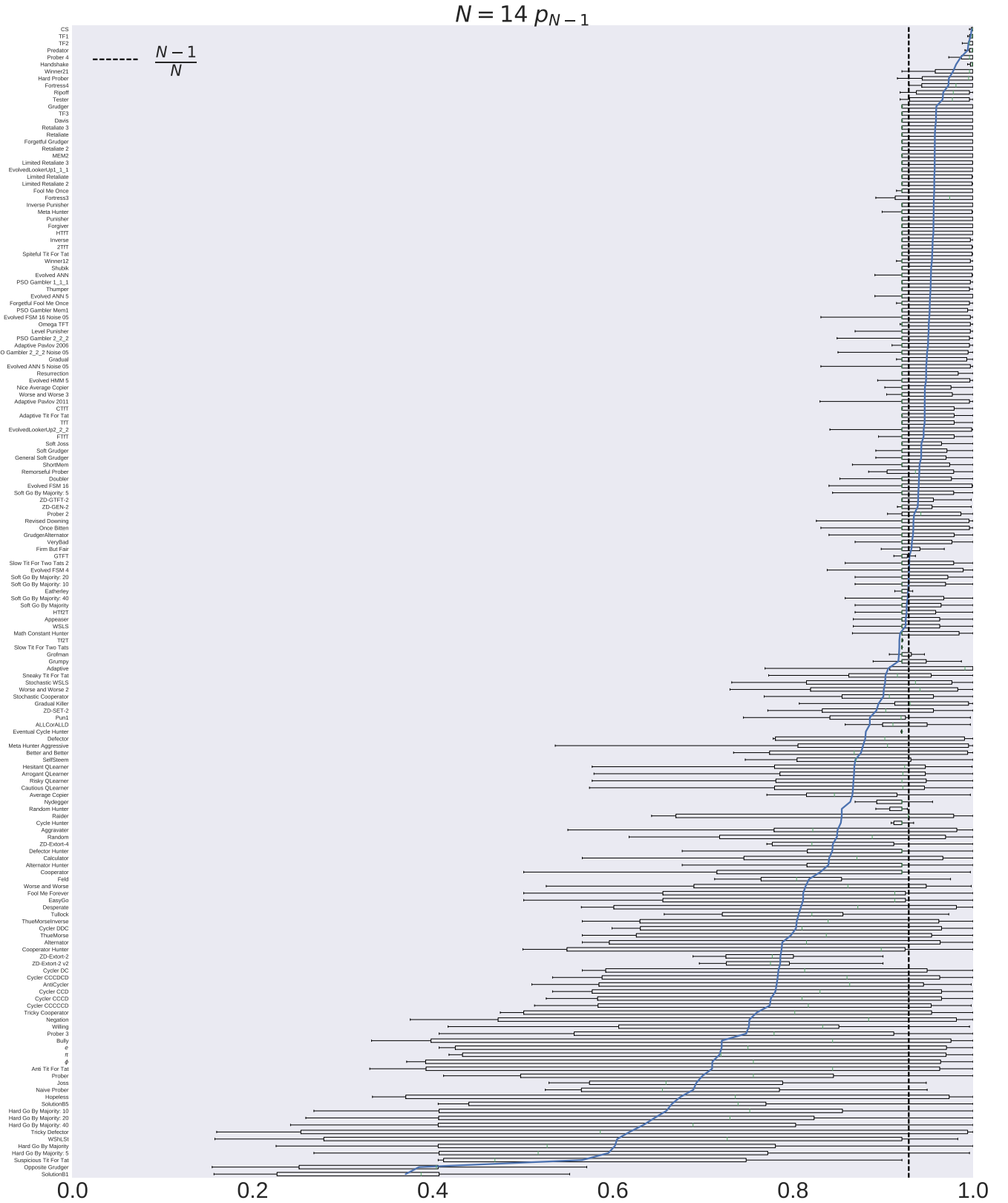


Figure 24: The fixation probabilities x_{N-1} for $N = 14$

Ranks of Players for p_1

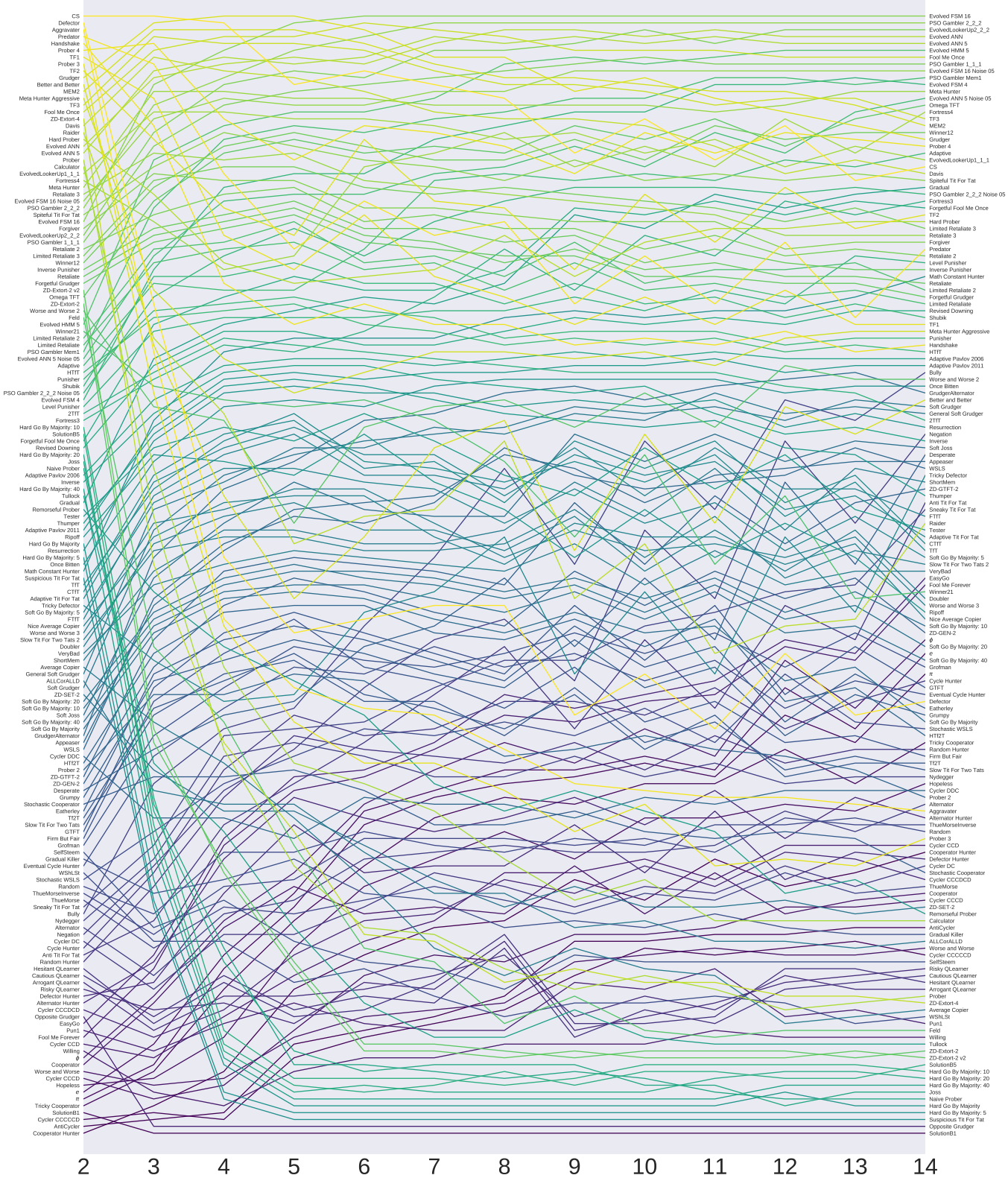


Figure 25: **Invasion:** Ranks of all strategies according to x_1 for different population sizes.

Ranks of Players for $p_N - 1$

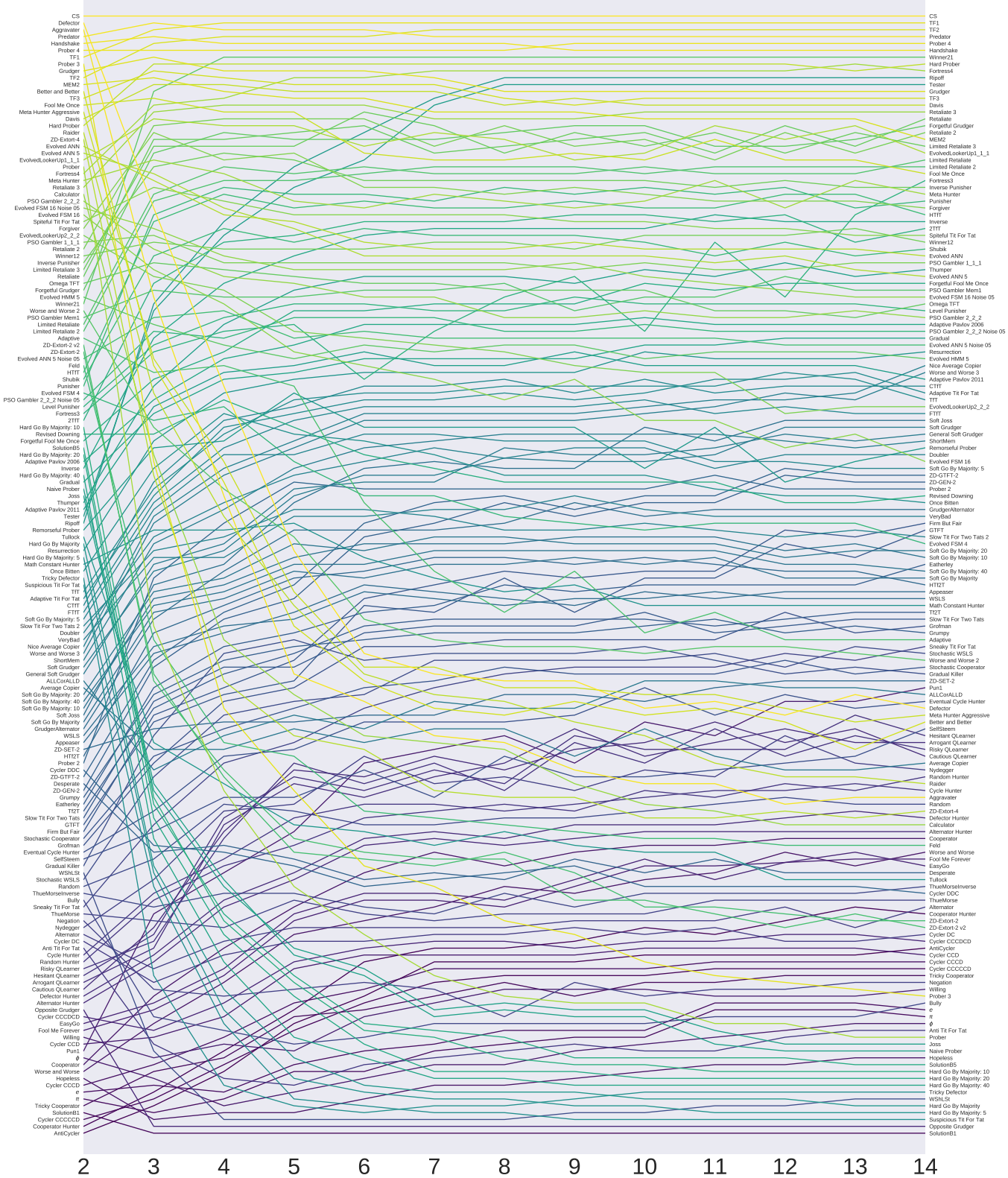


Figure 26: **Resistance:** Ranks of all strategies according to x_{N-1} for different population sizes.

Ranks of Players for $p_{N/2}$

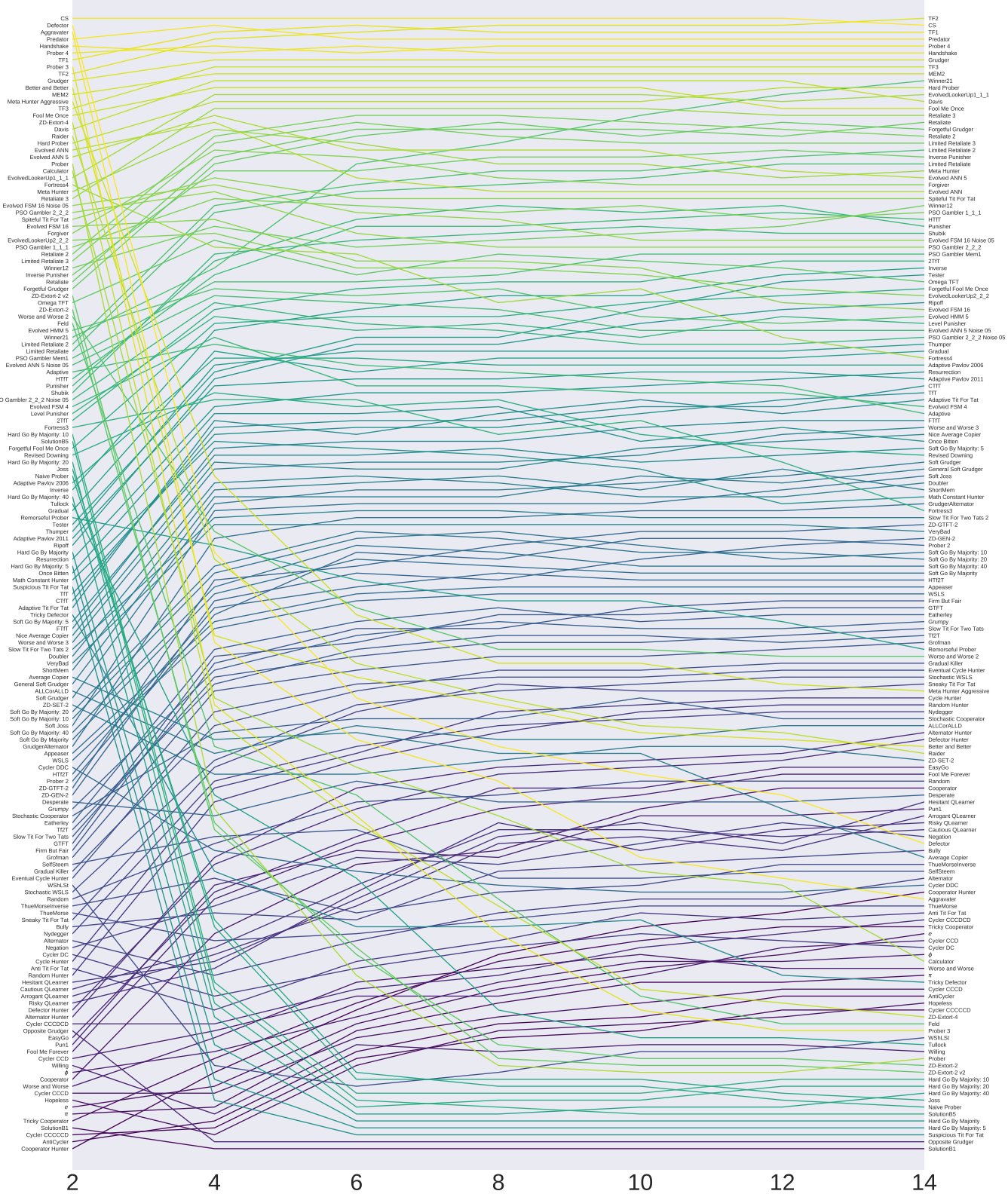


Figure 27: Fixation ranks of all strategies according to $x_{N/2}$ for different population sizes.