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**Weicheng Ye\*** (yeweichengsuper26@hotmail.com), 56-32 206th street, Oakland Gardens, NY 11364. *Modeling and Analysis of Strategies in the Symmetric and Asymmetric El Farol Problem*. Preliminary report.

The El Farol Problem is related to minority games where agents use mixed strategies to make attendance decisions. Cross et al. established a strategy of asymmetric game based on agents' dominant psychological characteristic. In this research, we establish both symmetric and asymmetric El Farol games. Due to agents' psychological behavior and the unpredictable occurrence, we introduce noise and strategies for periodicity recognition. We compute the hamming distance to see agents' decision based on the same strategy space. We then analyze the model to test the periodicity, and establish the comparison of strategies between symmetric and asymmetric games. We study the agents' attendance's relationship to the past aggregate or individual attendance/minority side history. In the last section, we compare our program result of attendance behavior to the experimental result. Our results suggest that the simple model of human decision making in the El Farol game suggested by Cross et al, when modified with noise and periodicity recognition, is broadly consistent with experimental data in the symmetric game scenario. When the model is extended to deal with the asymmetric game we postulate, based upon the above observations, that the aggregate behavior is far less efficient. (Received September 16, 2013)