1145-60-404 **Oleksii Mostovyi*** (`oleksii.mostovyi@uconn.edu`), University of Connecticut, Department of Mathematics, 341 Mansfield Road, U1009, Storrs, CT 06268. *Asymptotic analysis of the expected utility maximization problem with respect to perturbations of the numeraire.*

In an incomplete model, where under an appropriate numeraire, the stock price process is driven by a sigma-bounded semimartingale, we investigate the sensitivity of the expected utility maximization problem to small perturbations of the numeraire. We establish a second-order expansion of the value function and a first-order approximation of the terminal wealth. Relying on a description of the base return process in terms of its semimartingale characteristics, we also construct wealth processes and corrections to optimal strategies that match the indirect utility function up to the second order. Finally, we relate the asymptotic expansions to the existence of the risk-tolerance wealth process. (Received September 05, 2018)