1016-90-22   **Qiji Jim Zhu*** (`zhu@wmich.edu`), 1903 West Michigan University, Kalamazoo, MI 49008. *Convex Optimization and Investment Systems.* Preliminary report.

The efficiency index for an investment system, defined as the average expected exponential growth rate per trade under the best investment size in logarithmic scale, is proposed as a measure to compare investment systems for their intrinsic merit. This efficiency index can be viewed as a generalization of Shannon's information rate for a communication channel. Tools in variational analysis and convex optimization are used to analyze the efficiency index. Applications are illustrated. (Received January 08, 2006)