

# LOCALLY STRATEGY PROOF PLANNING PROCEDURES AS ALGORITHMS AND GAME FORMS

KIMITOSHI SATO\*

GRADUATE SCHOOL OF ECONOMICS, RIKKYO UNIVERSITY<sup>†</sup>

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ABSTRACT. The paper revisits the procedure developed by Sato(1983) which achieves *Aggregate Correct Revelation* in the sense that the sum of the Nash equilibrium strategies always coincides with the aggregate value of the correct MRSs. The procedure renamed *the Generalized MDP Procedure* can possess other desirable properties shared by continuous-time locally strategy proof planning procedures, i.e., feasibility, monotonicity and Pareto efficiency. Under myopia assumption, each player's dominant strategy in the local incentive game associated at any iteration of the procedure is proved to reveal his/her marginal rate of substitution for a public good. In connection with the *Generalized MDP Procedure*, this paper analyses the structure of the locally strategy proof procedures as algorithms and game forms. An alternative proof to the theorem of locally strategy proof procedures is given by making use of the new Condition Transfer Independence. A *Measure of Incentives* is proposed to show that the power attached to the decision function of public good is characterized.

*Key Words:* aggregate correct revelation, Generalized MDP Procedure, local strategy proof, measure of incentives, Nonlinearized MDP Procedure or Fujigaki-Sato Procedure, Transfer Independence

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<sup>†</sup>e-mail address: satokt@rikkyo.ac.jp; 3-34-1, Nishi-Ikebukuro, Toshima-ku, Tokyo 171-8501, Japan.