

## REPUTATION AND INFORMATION DESIGN

Laurent Mathevet

David Pearce

Ennio Stacchetti

**Abstract:** Can the legal commitment assumption on which much of the information design literature depends be replaced by reputational enforcement? A long run sender (a public health authority or central bank, for example) periodically makes cheap talk announcements related to private information it obtains. Under ideal observational conditions, implicit enforcement mechanisms can perform as well as legal enforcement. Under more realistic conditions the sender's best equilibrium payoff may be highly inefficient relative to what he achieves with legal commitment. However, an institution should be able to build a reputation for using information in particular ways. Modeling reputation explicitly, in the tradition of Kreps, Milgrom, Roberts and Wilson (1982), restores efficiency if the institution is sufficiently patient. A dynamic version of the standard Bayesian persuasion example illustrates those effects: the nature of reputational dynamics in perfect Bayesian equilibrium is studied, and the speed of convergence to maximal payoffs (as the sender's impatience vanishes) is explored. A general existence theorem for PBE in the model with reputational types is established using a modification of the APS algorithm.