

Damned if you do and damned if you don't: Two masters ☆

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Abstract

We study common agency problems in which two principals (groups) make costly commitments to incentives that are conditioned on imperfect signals of the agent's action. Our framework allows for incentives to be either rewards or punishments. For our basic model we obtain a unique equilibrium, which typically involves randomization by both principals. Greater similarity between principals leads to more aggressive competition. The principals weakly prefer punishment to rewards, sometimes strictly. With rewards an agent voluntarily joins both groups; with punishment it depends on whether severe punishments are feasible and cheap for the principals. We study whether introducing an attractive compromise reduces competition between principals. Our framework of imperfect monitoring offers a natural perturbation of the standard common agency model of menu auctions, which results in sharper equilibrium predictions. The limit equilibrium prediction provides support to both truthful equilibria and the competing notion of natural equilibria, which unlike the former may be inefficient.

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No one can serve two masters, for either he will hate the one and love the other, or he will be devoted to the one and despise the other. *Matthew 6:24*.

1. Introduction

We study common agency problems where the agent may be rewarded or punished for what he does, and the level of punishment or reward is determined by the principals' effort. Effort, and therefore both rewards and punishments, is costly to the principals. A prototypical situation we have in mind is that of two groups competing for the indivisible effort of a member of both groups: for example to attend a rally for or against a referendum, or to vote with one party or the other. For example, you might be Catholic and a Democrat, and the Catholics say vote for the anti-abortion candidate and the Democrats say vote for the pro-abortion candidate. What do you do? How do the groups optimally provide incentives in the presence of a competing group? Typically social groups provide incentives not only through costly rewards but also through costly punishments. For instance, you may value your social connections with both groups, and both can threaten to deny you the benefits of belonging if you do not do as they say. The existing literature focuses on costly rewards, and when punishments take place they typically are not costly to the principal but instead constitute a transfer from the agent to the principal.

The other component of our analysis is imperfect monitoring of the agent's action. Besides the practical fact that noise is always present, this creates punishment costs on the equilibrium path and avoids the degenerate possibility that principals pile on punishment that will never take place. In our setup principals commit to incentives that are conditioned on imperfect signals of the agent's action. Combined with costly effort this means that the "losing" principal pays something and typically implies that equilibria must involve mixed strategies. This is in contrast to the standard common agency model of menu auctions which focuses on pure strategy equilibria.

Our basic model examines the case of two principals with the agent choosing one of three actions. One of these constitutes inaction, the other two favor one or the other principal. The equilibrium prediction under all parameter configurations is unique. For parameter values that lead to both principals actively competing, the equilibrium is in mixed strategies. Irrespective of whether effort translates into reward or punishment, making the principals more similar leads to more aggressive competition. The principal with the lower willingness to pay, dubbed disadvantaged, does not care whether incentives are provided in the form of punishments or rewards. By contrast the advantaged principal never prefers rewards to punishment and sometimes strictly prefers punishment. Intuitively the agent will often choose the action favored by the advantaged principal in which case rewards must be paid while punishments are not. This may explain why in social contexts, unlike in work contexts where management is constrained to offer rewards, punishments – from shunning to sheer violence – are more commonly observed than reward schemes. The welfare implication for the agent is more subtle: we focus on analyzing which groups the agent would choose to join. With rewards he would join both. With punishments, it depends on a variety of factors such as the signal technology, the principals' valuations and the intensity with which effort gets translated to punishment. The outcomes span the entire spectrum from joining both to none to, in specific scenarios, only the advantaged principal but also, more surprisingly at first sight, only the disadvantaged principal. In particular, we find that if punishments are limited to exclusion from the benefits of joining a principal then both groups are

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