

About four centuries ago, the great ancestor of the contemporary social dilemma researchers, Thomas Hobbes, published the most influential book on social dilemmas ever (Hobbes, 1651), and argued that social order can not be maintained without authority who control individuals' unrestricted pursuit of their self-interest. According to Hobbes, people who prefer peace (mutual cooperation) to war of all against all (mutual defection) should agree to give birth to *Leviathan*, or a government or an authority that enforces social order. In "the tragedy of commons," Garrett Hardin (1968) talks about the modern version of the Hobbesian problem of social order. In this influential article, Hardin (1968) illustrates how and why communities fail to maintain their resources using a parable of English commons. Consider the pasture that is open to all herdsmen in a village. Suppose there is no rule for regulating the use of the pasture or social institutions that enforce such rules. Each herdsman can freely add his sheep on the common pasture. The increase in the demand for wool in fact induced English villagers to add more sheep than the pasture could sustain. This "rational" behavior of each herdsman produced depletion of grasses on the commons. This familiar parable drew attention of the general public in the seventies when people became aware of resource problems on a global scale. Hardin's (1968) recommendation for the prevention of the "tragedy" echoes that of Hobbes; he recommended that coercion—"coercion, mutually agreed upon by the majority of the people affected" (Hardin, 1968, p. 1247)—not conscience, provides a solution to the tragedy. He even stated that "a call for voluntary compliance would be counterproductive" (Hardin, 1977, p. 129). However, the two giants' recommendations have met much warmer greetings in economics. Another earlier giant in social dilemma research, Mancur Olson (1965), emphasized selective incentives as a solution to the public goods problem even before Hardin's (1968) influential article, though not as early as Hobbes'. Especially during the last decade, experimental economists re-vitalized social dilemma researchers' interest in "coercion" as a solution to the social dilemma

problem.

The purpose of this paper is to provide a review of the studies and findings on the use and effectiveness of sanctions conducted in recent years mostly by experimental economists, and add a few suggestions for future studies from social psychological perspectives.