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## WORK GROUP COMPETITION AND PERFORMANCE DYNAMICS

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In Economics relations between market structure and economic performance have been studied extensively. Several authors criticized monopoly; for example, Arrow [1] showed that the incentive to innovate is greater under competition than under monopoly. This view is not new; more than two centuries ago, Hadley observed the tendency of monopolies to retard the introduction of industrial improvements [7]. On the contrary, according to this author, competition has an important function as a stimulus to efficiency [7]. For these reasons practitioners, consultants and even academics have long advocated increasing internal competition for example by bringing the market inside the firm.

The idea behind is to make transactions within the firms more market-like. Even if it has been shown that in some situations bringing the market inside the firm is not feasible [2], competitive markets are often perceived as being more efficient [12]. One source of competition is given by promotion policies; these serve not only to assign people to the roles where they can best contribute to the organization's performance but also as incentives and rewards [9]. Even if according to [9] the extensive use of promotion as incentive devices presents a puzzle, it is a common practice and sometimes it leads to tournaments. Among the disadvantages of tournament as incentive scheme, we list collusion among employees and sabotaging. In the first case, when rewards depends only on relative performance the expected returns to each individual are the same if everyone decides to take things easy as if they all work hard. In the second case is that for a contestant in a tournament it may be easy to sabotage others' performance and get ahead.

Competition is often related to conflict. For example, according to Tjosvold people believe their goals are negatively related; as a consequence, one's successful goal attainment makes others less likely to reach their goals [11]. This is certaintly the case of comparative evaluation, but also other practices – such as pay for performance – are known for giving employees motivations either to hurt the effort of coworkers or to collude among themselves against the employer [4].

We model the dynamics of a work group interacting with a manager and assume that upon to a certain level team performance increases as the result of internal competition. This is consistent to some contributions about competition and corporate performance [10] and to some incentive

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scheme such as the so called competitive group rewards [6], and the piece-rate incentive scheme (see, for example, the case of Lincoln Electric HBS case). It is well known that comparative evaluation may hinder cooperation [4] and consequently may also increase conflict. Therefore, it is quite important to achieve a balance between cooperation and competition. Also, when agents have to compete over scarce resources conflict occur and can have important consequences [3]. Outcomes are related to a well known managerial theory: when the dynamics is predictable it confirms classical results [5]; when it is more complex it follows the extended work of [8].

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