## Stock Options in Executive Compensation Given Firm Competitions

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Stock options have long been used in executive incentive contracts and their ability to induce certain types of behavior from managers has been investigated in a large literature. However, there is still no clear reason for their existence under some circumstances. The competitive impacts of stock options might offer such a reason, which is absent from much of the literature. In a competitive environment, an owner granting a manager stock options might not just affect the behavior of that manager but also of the manager of the rival firm, since stock appreciation rights can induce aggressiveness by protecting the manager from potential loss. We investigate this issue both theoretically and experimentally by examining how the payoff structure with loss exemption affects managers' investment decisions in a winner-take-all contest. The Nash equilibrium suggests owners have little incentive to add stock options in the executive compensation. However, based on the investment behavior observed in our lab experiments, granting stock options is a profitable deviation for an owner when her rival granting no stock option, since it reduces the investment of the rival manager to a large extent. But, if both owners of the competing firms grant to stock option their profits would be much worse than if they both stick to only stocks.