

## **Why do democracy and favoritism matter in promotion?:**

### **Theory and experiment on promotion mechanisms and working incentives**

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Competition rules, democratic opinions, and the personal preference of the manager are three main factors affecting promotions. To examine the effects of these three factors, we compare four promotion mechanisms in which the above three factors respectively dominate: (1) a promotion system based on Tullock contest; (2) a biased Tullock contest for promotion influenced by the preference of the manager; (3) a system where ingroup voting determines promotion; (4) an outgroup voting system of promotion. The current study suggests a model where all four mechanisms each represents a special case of the two-player asymmetric Tullock rent-seeking game with different values of  $r$  and  $f$ , where  $r$  is the discriminatory parameter in contest success function and  $f$  describes the bias towards the favored individual. In the first scenario, a symmetric Tullock contest has  $r = 1$  and  $f = 0$ , where the possibility of getting a promotion depends solely on the proportion of the individual effort to the total efforts of all group members. The second scenario has  $r = 1$  as in the first yet  $f > 0$ , representing an asymmetric Tullock contest in which the preference of the manager gives a head start for only one of the players. In the third scenario, given that everyone votes for themselves, we would have  $r = 0$  and  $f = 0$ . And finally, the fourth scenario suggests a  $f$  that equals 0 and a  $r$  with undetermined value. The value of  $r$  in the last case would depend on how much importance the judges (outgroup members that have voting rights) attach to efficiency as opposed to equity. A larger  $r$  shows greater consideration for efficiency. In the extreme case, the judge that only values efficiency would always vote for candidates that have made the highest effort, pushing the  $r$  to infinity. The model proposed by the current study predicts that different mechanisms would induce different promotion results as well as different work incentives. Comparatively scenario (3) should have less portion of the highest-effort-makers getting promoted than the other scenarios. And given a moderate  $r$  in the last scenario, we should see a result where scenario (1)&(4) induce more efforts among all players on average compared to scenario (2)&(3) as well as to the scenario with no promotion. To test the prediction of the model, we designed an experiment with five treatments each corresponding to one of the four scenarios and a control scenario where there is only piece-rate salary and no prize for promotion. The results of the experiment accord the model predictions. Our results suggest different impacts of four typical promotion designs on working incentives, and may assist institutions in designing promotion mechanisms.