Status, incentives and random favouritism

Dey, Oindrila and Banerjee, Swapnendu

Department of Economics, Jadavpur University, Department of Economics, Jadavpur University

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STATUS, INCENTIVES AND RANDOM FAVOURITISM

Oindrila Dey[♣]

Swapnendu Banerjee[♦]

Department of Economics

Jadavpur University, Kolkata-700032

Abstract:

The paper identifies a condition under which favouritism is beneficial to the principal even when the favoured agent is selected randomly. This paper also characterizes how the optimal incentive scheme changes in presence of random favouritism. Using a moral hazard framework with limited liability it is shown that in presence of favouritism principal can optimally decrease monetary incentive when the potentially favoured group size is small. Inspite of a fall in optimal effort the paper predicts that favouritism can emerge as an optimal outcome when return of the firm is low.

Keywords: *Favouritism, status-incentives, non-verifiability, moral hazard, optimal contract.*

JEL: D86, L14, L20

[♣] Email: d.oindrila@gmail.com

[♦] Corresponding Author. Department of Economics, Jadavpur University, Kolkata-700032, INDIA. Email: swapnendu@hotmail.com

1. Introduction:

Favouritism is considered to be an evil within an organization. Yet it persists and has serious economic consequences. This preferential bias of the principal, leading to inefficient decision taking and the consequent loss in productivity of the agent has been the major area of concern in the recent studies. In contrast to the usual discussion on favouritism, presented in organizational literature this paper identifies the condition under which favouritism is beneficial for the principal even when she prefers any agent randomly. The paper also explores how the optimal incentive scheme changes in presence of favouritism. Here, we have used a modified moral hazard framework with limited liability[1] a la Innes (), Besley and Ghatak (2008) among others to show how the optimal incentive structure changes in presence of random favoritism. By random favouritism we mean that the principal is impartial (in a way) as she does not have a pre-determined preferential bias for any particular agent. The principal selects an agent randomly from the potentially favoured group of homogenous agents. To some extent similar kind of an idea of favouritism has been used in Chen (2010). In his model agents has common knowledge that they are ex-ante equally likely to be favoured and nature plays the role of selecting the favoured agent by tossing of a coin. Chen (2010) has termed this as explicit favouritism which is very similar to the concept of 'random favouritism' that we use in this paper. We find that favouritism can be an optimal outcome for the principal if the return of the firm is sufficiently low. Like, Bramoullé and Goyal (2009) and Breuer et al. (2011), this paper asserts that favouritism is relatively easier to sustain in smaller groups, but together with that the return of the firm has to be low for favouritism to be beneficial to the principal. Thus, the paper generates an interesting result where return of the firm plays a pivotal role for existence of favouritism in an organization.

Favouritism is often considered as an obvious outcome of subjective performance evaluation[2] which happens to be the best measure when objective performance measure becomes difficult to execute. Again, emergence of favouritism in the form of depriving an agent outside a network and thus, leading to inefficient decision making in the organization has gained attention

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[1] We have assumed the agent to be risk neutral so that favouritism does not get misinterpreted as an outcome of the agent's attitude towards risk.

[2] See Prendergast (2002)

in recent studies[3]. Unlike these whole lots of papers, in this paper favouritism emerges when the favoured agent is offered with higher appraisal even when the outcome of the project is unsuccessful. Thus, the selected agent enjoys an undue advantage. But ex-ante agents know that they face equal probability of being selected as the favoured one as the principal selects the agent randomly from the homogenous pool of potentially favoured agents[4]. Similar to Prendergast and Topel (1996), Prendergast (2002) and Berger et al. (2011), we assume that the principal gains an additional utility from indulging in favouritism. This gain from favouritism can account from an ex-ante expected side payment from the selected agent or from the reduced cost which otherwise would have been spent on performance evaluation or can even account for psychological pleasure out of an ex-ante expected gratitude from the favoured agent. Fixing this idea, the optimal contract derived in presence of favouritism suggests that though the optimal effort falls with degree of favouritism the principal can optimally reduce monetary incentive when the favoured group size shrinks. Thus, favouritism acts an additional incentive which helps in reducing the burden on incentive bonus.

Inspite of the adverse impact of favouritism, which has been well documented in both empirical as well as experimental works[5], our paper contributes to the literature on positive view of favouritism. Prendergast and Topel (1996), in their seminal paper, have argued that favouritism can benefit an organization because of the utility that the principal derives from exercising bias. Kwon (2006) has shown that favouritism arises from within the firm decisions. It does not arise only due to preferential bias of the principal as shown by Prendergast and Topel (1996). If the principal does not execute her bias for an agent then also favouritism emerges as an optimal outcome by reducing the cost of searching the agent with best idea to implement. This paper borrows this view of favouritism and shows that even if principal does not exhibit directive preferential bias, she can gain from indulging in some form i.e. random favouritism. Yet, unlike Kwon (2006), favouritism is not endogenous in this paper. Viewed in terms of value of timing option, Arya and Glover (2003) have argued that favouritism is beneficial since it provides appropriate incentives to the unfavoured agents by reducing their option value of waiting.

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[3] For instance see Pérez-González (2006), Kramarz and Skans (2007), Bennedsen et al. (2007), Bandiera et al. (2009).

[4] They might belong to a network, influential or otherwise.

[5] For instance see Laband and Piette(1994), Ittner et al.(2003), Garicano, Palacios-Huerta and Prendergast(2005), Rickman and Witt(2006), Breuer et al.(2010), Berger et al.(2011)

The rest of the paper is arranged in the following manner: To start with Section 2 constructs the benchmark model without favouritism which is a simplified version of Besley and Ghatak (2008) where the optimal monetary incentive structure in derived in presence of status incentives. Random favouritism is introduced in Section 3. Finally Section 4 provides concluding remarks and throws some light on future works.

2. The Benchmark model:

Let us assume that a firm consists of a risk neutral principal and a risk neutral status conscious agent. The principal hires the agent to carry out a project. The project can either succeed or fail. The agent puts effort denoted by $e \in [0,1]$ which can be taken as the probability of success of the project. Therefore the project can succeed with probability e and fail with probability $1-e$ and this is in the sense of first order stochastic dominance. The effort of the agent is costly and the cost of effort is given by $\frac{e^2}{2}$. If the project succeeds it generates a payoff $\pi > 0$ and zero otherwise. The stochastic part of the principal's payoff is unobservable and also not third party verifiable. Since the outcome of the project is non-verifiable; it is not ex-post incentive compatible for the principal to reward the agent even when the project succeeds and therefore it weakens the ability of the principal to structure an incentive scheme which can overcome the moral hazard problem. However, there exists a weakly informative and contractible signal $\sigma \in \{0,1\}$ on which contracts can be conditioned where $\sigma = 1$ is 'good news' and $\sigma = 0$ is 'bad news'. Let v_σ be the probability that the project is a success conditional on the signal being σ. Put differently v_1 is the probability that the project is successful conditional on the signal being 1 and v_0 is the probability that the project is successful conditional on the signal being 0. We assume that the signal is weakly informative in the sense that $v_1 \geq v_0$. When $v_1 = 1$ and $v_0 = 0$ the signal is perfectly informative. Since the contract is conditioned upon σ, the monetary payoff $b(1)$ is offered to the agent with probability $p(\sigma = 1|e) = ev_1 + (1-e)v_0$ and $b(0)$ is paid with probability $p(\sigma = 0|e) = 1 - [ev_1 + (1-e)v_0]$. The following table explicitly explains the conditional probability of success under different situations[6].

[6] For more on weakly informative signals refer to Laffont and Martimort (2001).

Signal \ Effort	$e = 0$	$e = 1$
σ = 1	v_0	v_1
σ = 0	$1 - v_0$	$1 - v_1$

We assume that the principal also confers status (positional good) to the agent in case he produces high output. In line with Besley and Ghatak (2008) we assume that offering the positional good can in principle be conditioned on π rather than just on σ. We also assume that conferring status is almost costless to the principal. Deviating from Besley and Ghatak (2008) we assume that the agent gains a constant utility from status which is denoted by $\lambda(> 0)$[7].

For the sake of simplicity we assume that the outside option of the agent is zero. We assume that the agent has no wealth, thus a limited liability constraint operates.

As a benchmark, at first we consider the first- best case where effort is observable and hence contractible. To find out the first best effort level we maximize the expected joint surplus of the principal and the agent. Therefore under the first-best the optimization problem becomes

$$Max_{e\epsilon[0,1]}\, S^* = \{e(\pi + \lambda) - \frac{e^2}{2}\} \tag{1}$$

Therefore, the optimal first best effort will be $\hat{e}^{FB} = (\pi + \lambda)$ and we assume that $(\pi + \lambda) < 1$ to focus on the interior solution. Now we look into the case where effort is unobservable and hence non-contractible. To obtain the optimal contract under unobservability we have to perform the following optimization exercise.

$$Max\ \ U^P = e\{\pi - \Delta[b(1) - b(0)\} - v_0[b(1) - b(0)] - b(0) \tag{2}$$

subject to the following constraints:

a) *Limited liability constraint* requiring that the agent be left with a non negative level of wealth :

$$b(1) \geq 0, b(0) \geq 0 \tag{3}$$

[7] In contrast to Besley and Ghatak (2008) the agent's utility from status remains unaffected by fractions of other workers receiving status. Thus, we have assumed away the disutility factor accounting from crowding out effect.

b) *Individual Rationality constraint* stating that for participation in the job it is necessary that the agent is offered at least her outside option (reservation utility)

$$U^A = e\Delta[b(1) - b(0)] + v_0[b(1) - b(0)] + b(0) - \frac{e^2}{2} + e\lambda \geq 0 \tag{4}$$

c) *Incentive compatibility constraint* which shows that the effort level maximizes the private payoff of the agent:

$$e = \ argmax_{e\epsilon[0,1]} \ \{e\Delta[b(1) - b(0)] + v_0[b(1) - b(0)] + b(0) - \frac{e^2}{2} + e\lambda\}$$

After simplification the incentive compatibility constraint can be written as

$$e^* = \lambda + \Delta[b(1) - b(0)] \tag{5}$$

where $e^* \in [0,1]$. Since the outside option is sufficiently low, therefore participation constraint will not bind in this case[8]. The assumption of risk neutrality along with limited liability makes the incentive compatibility constraint costly and hence gives rise to moral hazard incentive for the agent. Also observe that $b(0) \geq 0$ is the relevant limited liability constraint and the other one is a slack constraint. Now substituting the incentive compatibility constraint in the principal's utility function, the optimization exercise becomes

$$Max\ U^P = [\lambda + \Delta\{b(1) - b(0)\}][\pi - \Delta\{b(1) - b(0)\}] - v_0 b(1) - (1 - v_0)b(0)$$

subject to

Limited liability constraint: $b(0) \geq 0$

The principal will maximize her expected utility to determine the optimal contract which can be stated in the following proposition.

Proposition 1:

I. *The optimal payments are characterized as follows*

a) $b(0) = 0$

b) $b(1) = \begin{cases} \frac{\Delta(\pi-\lambda)-v_0}{2\Delta^2} & when\ \pi - \lambda > \frac{v_0}{\Delta} \\ \end{cases}$

[8] It is also possible, though cumbersome to extend this model when the outside option is high such that the participation constraint binds.

0 otherwise

II. *The corresponding optimal effort level is given by*

$e^* = \lambda + \Delta b(1)$

III. *The corresponding expected utility of the principal can be written as follows*

$U^P = \frac{[\Delta(\pi-\lambda)-v_0]^2}{4\Delta^2} + \pi\lambda$

The first part of the proposition gives the optimal incentive scheme. It shows that it is optimal for the principal to set the bonus at minimum level when the signal is bad since decreasing $b(0)$ would increase the effort and hence will increase the expected payoff of the principal at the same time. When the signal is good it is worthwhile for the principal to pay a positive amount to the agent only if $\pi - \lambda > \frac{v_0}{\Delta}$. On the contrary if the utility from status is sufficiently high in the sense $\lambda > \pi - \frac{v_0}{\Delta}$ then the principal need not offer any financial incentive to elicit costly effort from the agent. Put differently increased λ leads to a fall in $b(0)$ and therefore presence of status as an incentive relaxes the burden on financial incentive as a tool for the principal to elicit costly effort. Given λ firms with higher profits are likely to offer positive financial incentives even in the presence of status as an incentive. Also noteworthy is the fact that when the signals are more informative i.e. when $v_0 \approx 0$ the condition $\pi - \lambda > \frac{v_0}{\Delta}$ is likely to hold and therefore this condition always holds. Thus, the return of the firm is always greater than the utility from status. But if the condition does not hold then it is not optimal for the principal to offer any positive amount of incentive pay. The second part of the proposition tells us that the optimal effort level is always less than the first best since $\Delta b(1) < \pi$. Moreover even when the condition for positive payment does not hold the agent elicits positive effort because of the presence of utility from status incentive. The final part of the proposition gives the optimal payoff of the principal and one can easily check that $\frac{\partial U^P}{\partial \lambda} = \frac{\pi+\lambda}{2} + \frac{v_0}{2\Delta} > 0$.

3. Random Favouritism:

The benchmark model explained above basically shows how the use of status incentive reduces the burden on monetary payments. Thus, it provides the optimal incentive structure in presence of status incentive. But this framework ex-ante implicitly assumes that the principal evaluates[9] the performance of the agent perfectly before disbursing incentive to the deserving agent. In this section we depart from this assumption and incorporate the fact that the principal indulge herself into the act of favouritism[10] while providing appraisal to the agent, yet it is random in nature.

By random favouritism we mean that the principal does not follow any specified rule to choose her favourite agent from the group of homogenous agents. It is assumed that each agent of the group faces a probability μ[11] of being picked as the favourite one. Thus, the group consists of the $\frac{1}{\mu}$ number of identical potentially favoured agents. An increase in μ implies that the size of the favoured group shrinks, which in turn indicates an increase in the number of agents outside the group[12]. Thus, degree of favouritism increases with the increase in the parameter $\mu \in [0,1)$. Therefore, now onwards, in this paper, we term a change in μ as a change in the degree of favouritism. It is further assumed that μ is common knowledge. Since favouritism is random therefore the probability of being selected as the favoured one is independent of the effort that the agent puts in the production process. We assume that the principal involves in favouritism in providing appraisal to the agent, which consists of a combination of status as well as monetary incentive. Thus, favouritism is incorporated in the model via two channels; monetary incentive, $b(1)$ and status incentive λ. In this scenario, the agent will receive $b(1)$ under two mutually exclusive events (i) if the signal is good and (ii) if the signal is bad but the agent is selected as the favourite one. Thus the probability of the agent receiving $b(1)$ is $[ev_1 + (1-e)v_0] + \mu[1 - (ev_1 + (1-e)v_0]$ when the informative signal is independent of the probability of being selected as favourite one. Thus now the agent enjoys an increased probability of the amount $\mu[1 - (ev_1 + (1-e)v_0]$ to receive $b(1)$ and this captures favouritism in the case of receiving the monetary incentive. Similarly, $b(0)$ is given out only in the event when the signal is bad and the agent is not picked as the favourite one, that is, with probability of $(1-\mu)[1-(ev_1 + (1-e)v_0]$. Thus, the agent faces a lower probalibity of receiving the low level bonus of amount

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[9] It should be mentioned that for many of the cases an objective performance evaluation becomes too costly and sometimes even impossible (See Murphy and Cleveland (1995), Prendergast (1999))

[10] Favouritism is often an outcome of subjective performance evaluation (See Prendergast (2002)) which is considered as the best measure where objective performance measures fails to work.

[11] $\mu \in [0,1]$ can also be interpreted as preference parameter.

[12] It should be noted that unfavoured agents are not captured in the model. So, the unfavoured agents can represent the deprived lot existing within the firm or can also represent the agents belonging outside the firm. Thus, even when we extend the logic to outside the firm, the results of the model holds through.

$b(0)$. Again as assumed in the previous section, since status is costless to the principal, it can in principle be conditioned just on π rather than on σ. But now an agent can acquire status even when the outcome of the project is poor, if she is favoured. Therefore in this structure status is conditioned on π as well as on μ. Status is now conferred under two independent situations (i) when the project is successful and (ii) when the agent is favoured and the project is unsuccessful. In the above mentioned two cases, the second situation captures favouritism and hence, the probability of attaining status now increases to$[e+\mu(1-e)]$.Thus, $\mu(1-e)$ is the increased probability of receiving status out of favouritism. Similar to Prendergast and Topel (1996), Prendergast (2002), Berger et al. (2011) the principal receives a utility from executing favouritism of the amount $\delta b(1)$[13], where $\delta \in [0,1)$,signifies the amount of benefit that the principal gain from favouring an agent. One interpretation of this increased utility from favouritism can be an ex-ante expected side payment made by the favoured agent or from the reduced cost which otherwise would have been spent on performance evaluation or can even account for psychological benefit which the principal enjoys from the ex-ante expected gratitude which the selected agent is expected to shower on the principal.

Given this structure, the expected utility of the principal written as

$$U_F^P = e\pi - e\{(1-\mu)\Delta[b(1)-\ b(0)]\} - [(1-\mu)v_0+\mu][b(1)-b(0)] - b(0) + \delta b(1)$$

whereas, the expected payoff of the agent is written in the following expression

$$U_F^A = e[(1-\mu)\Delta\{b(1)-\ b(0)\}] + [(1-\mu)v_0+\mu][b(1)-b(0)] + b(0) - \frac{e^2}{2} + [e+\mu(1-e)]\lambda$$

The optimal effort which the agent chooses by maximizing her expected payoff is $\hat{e}_f^* = (1-\mu)[\Delta\{b(1)-\ b(0)\}+\lambda]$. Thus, this is the incentive compatible effort level. Substituting the optimal effort in the expected utility function of the principal we get the modified optimizing exercise as follows

$$Max\ U_F^P = [(1-\mu)[\Delta\{b(1)-\ b(0)\}+\lambda]][\pi-(1-\mu)\Delta\{b(1)-b(0)\}] - [(1-\mu)v_0 + \mu][b(1)-b(0)] - b(0) + \delta b(1)$$

subject to

[13] The utility that the principal receives is $\mathrm{Max}[\delta b(1), \delta b(0)] = \delta b(1)$ since $b(1) \geq b(0)$.

Limited liability constraint: $b(0) \geq 0$

Given this optimization exercise we can state the optimal contract under this situation in the following proposition.

Proposition 2:

I. *When the principal indulges in favouritism then the optimal monetary incentive scheme is characterized as follows*

a) $b_f(1) = \begin{cases} \frac{\Delta(\pi-(1-\mu)\lambda)-v_0}{2\Delta^2(1-\mu)} - \frac{\mu-\delta}{2\Delta^2(1-\mu)^2} > 0 & \text{when } \pi - \lambda > \frac{v_0}{\Delta} + \frac{\mu(1-\Delta\lambda(1-\mu))-\delta}{\Delta(1-\mu)} \\ 0 & \text{otherwise} \end{cases}$

b) $b_f(0) = 0$

II. *The corresponding optimal effort level is given by*

$$\hat{e}_f^* = (1-\mu)[\Delta b(1) + \lambda]$$

III. *The corresponding expected utility of the principal can be written as follows*

$$U_f^P = \frac{[\Delta(\pi-\lambda(1-\mu))-v_0]^2}{4\Delta^2} + (1-\mu)\lambda\pi + \frac{(\mu-\delta)^2}{4(1-\mu)^2\Delta^2} - \frac{(\mu-\delta)[\Delta(\pi-(1-\mu)\lambda)-v_0]}{2(1-\mu)\Delta^2}$$

The first section of the above proposition gives the optimal contract. We find that in the presence of favouritism positive monetary incentive is offered only when the return of the firm is sufficiently high and/or the utility from status is low. But the presence of favouritism makes the condition for paying a positive amount of monetary incentive more stringent. In fact the condition becomes increasingly stringent with an increase in μ and thus zero incentive bonus is likely the smaller is the favoured group size. Put differently favouritism acts as an additional incentive and relaxes the burden on financial incentive. Again, if the utility from status is sufficiently low then the principal has no other option but to offer positive bonus to elicit effort. Noteworthy is the fact that $b_f(1)$ increases with δ and therefore it is optimal for the principal to pay more incentive bonus to the agent with an increase in the benefit from favouritism (side payments). It can also be verified that $b_f(1)$ can be lower than $b(1)$ when the group size is small and return of the firm is low. We can rewrite the optimal bonus as $b_f(1) = \frac{b(1)}{(1-\mu)} + \frac{\mu\lambda\Delta}{2\Delta^2(1-\mu)} - \frac{\mu-\delta}{2(1-\mu)^2\Delta^2}$ one can easily show that when $\mu \leq \delta$ then $b_f(1) > b(1)$ since $\mu < 1$. When the potentially favoured group size is large then the principal needs to compensate the agent with higher monetary incentive as the agents are exposed to lower probability of being selected as the favourite one. But if $\mu > \delta$ and $\pi < \frac{v_0}{\Delta} + \frac{\mu-\delta}{\Delta\mu(1-\mu)} = \pi^*$ then optimal bonus under favouritism will be lower than $b(1)$. Thus, when $\frac{v_0}{\Delta} + \frac{\mu(1-\Delta\lambda(1-\mu))-\delta}{\Delta(1-\mu)} + \lambda \leq \pi \leq \frac{v_0}{\Delta} + \frac{\mu-\delta}{\Delta\mu(1-\mu)}$ [14] and group size is small then it is optimal for the principal to offer positive yet a lower than $b(1)$ monetary incentive. Observe, $\frac{\partial\pi^*}{\partial\mu} = \frac{1}{(1-\mu)^2} + \frac{\delta}{\mu^2(1-\mu)^2} > 0,$ which implies that the condition for paying lower bonus becomes more relaxed with the increase in the level of favouritism, whereas the condition becomes stringent with the increase in the benefit of the principal from favouritism. When the size of the group shrinks then each agent enjoys higher probability of receiving the appraisal and hence it becomes easier for the principal to exploit this fact and offer a lower pay. But the benefit of the principal from favouritism rises with the increase in incentive pay, hence the condition for lower payment is more stringent when δ raises. Note that, similar to proposition 1, when the signal is bad and the agent is not favoured, the monetary incentive can be set equal to zero since decreasing $b_f(0)$ will increase the probablity of success of the project. The second part of the proposition gives the optimal effort which is a negative function of level of favouritism. When μ increases the agent is more reluctant to put in productive effort as they know that the probability of being selected as the favourite one is high and it is independent of their effort that they put in.[15] Thus, we observe that even when the optimal effort level is lower than the benchmark effort level yet the principal can offer lower bonus when the group size is small and the return of the firm is low as well. To elicit desirable effort the principal offers higher (than benchmark case) bonus only when μ is smaller than δ. Substituting the optimal

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[14]The condition for positive bonus payment is $\pi - \lambda > \frac{v_0}{\Delta} + \frac{\mu(1-\Delta\lambda(1-\mu)-\delta}{\Delta(1-\mu)}$, whereas, the condition for $b_f(1) < b(1)$ is $\pi < \pi^* = \frac{v_0}{\Delta} + \frac{\mu-\delta}{\Delta\mu(1-\mu)}$. Therefore, π should lie between $[\frac{v_0}{\Delta} + \frac{\mu(1-\Delta\lambda(1-\mu)-\delta}{\Delta(1-\mu)} + \lambda, \frac{v_0}{\Delta} + \frac{\mu-\delta}{\Delta\mu(1-\mu)}]$ so that $b_f(1)$ is positive as well as less than $b(1)$. Thus, we need to check the validity of the range. For that, $\left(\frac{v_0}{\Delta} + \frac{\mu-\delta}{\Delta\mu(1-\mu)}\right) - \left(\frac{v_0}{\Delta} + \frac{\mu(1-\Delta\lambda(1-\mu)-\delta}{\Delta(1-\mu)} + \lambda\right) = \frac{\mu-\delta}{\Delta\mu} - \lambda(1-\mu)$should be greater than zero. By assumption 2, λ can be atmost equal to $\frac{2(\mu-\delta)}{\mu(2-\mu)}$. Substituting the value of λ in the above expression we get, $\frac{(\mu-\delta)(2-\mu-2\Delta(1-\mu))}{\Delta\mu(2-\mu)}$. If this expression is positive, then it is valid even for lower values of λ. But, for that, $(2-\mu) > 2\Delta(1-\mu)$must hold. Note that Δ can take the maximum value of unity when the signal is perfect and putting the maximum value in the above inequality we observe that it reduces to $-\mu < 0$, which is always true. Thus, the inequality holds for for every value of Δ and hence the range is valid.

[15] Observe, when there is no favouritism within the firm (i.e., μ=0) then the $\hat{e}_F^* = \hat{e}^*$

bonus and effort in the expected utility function of the principal we get the third part of the proposition. It can be easily verified that when μ is set equal to zero then $U^P = U_F^P$. But with positive level of favouritism, it is difficult to comprehend unambiguously whether the principal is better off or not. Thus, we observe that when the group size is small such that $\mu > \delta$, it generates interesting results and therefore for tractability of the solutions we make the following assumptions:

Assumption 1:

$$\lambda < \frac{2(\mu - \delta)}{\mu(2 - \mu)}$$

Assumption 2:

$$\delta \leq \mu \leq \frac{2 + \delta}{3}$$[16]

Technically put, assumption 1 ensures the feasibility of random favouritisn vis-à-vis no favoutitism and assumption 2 ensures that an interior solution in e exists. Further significance of the previous two assumptions will be made clear as we proceed.

(Besley and Ghatak (2008) shows that there exists a constant degree of substitution between monetary and non-monetary incentive tools. In this framework also the degree of substitution remains same at the constant value of $\frac{1}{2\Delta}$. Thus; even in presence of random favouritism the status plays the perfect role in reducing the burden on money bonus. It should be observed that principal's benefit from the use of status is positive $e + \frac{v_0}{\Delta} = \frac{\partial U^P}{\partial \lambda} > 0$ in the benchmark model. Even in the presence of favouritism and when $(\mu - \delta) > 0$ with the increase in utility from status, the benefit of the principal increases to $(1 - \mu) + \frac{v_0(1-\mu)}{\Delta} + \frac{(\mu-\delta)}{\Delta} = (1 - \mu)\frac{\partial U^P}{\partial \lambda} + \frac{(\mu-\delta)}{\Delta} > 0$.)

Given the above assumptions we can now state the following proposition:

[16] Note that $\frac{2+\delta}{3} - \delta = \frac{2(1-\delta)}{3} > 0$.Thus, μ lies within a valid range.

Proposition 3:

Random favouritism will be beneficial for the principal if

$$\pi < \tilde{\pi} = \frac{(1-\mu)^2 \Delta\lambda\mu[\Delta\lambda(\mu-2)-2v_0]+2(1-\mu)(\mu-\delta)[(1-\mu)\Delta\lambda+v_0]+(\mu-\delta)^2}{[2\Delta(1-\mu)][\Delta(1-\mu)\lambda\mu+\mu-\delta]}. \quad (1)$$

Proof: It is straightforward to check that $U_f^P - U^P > 0$ given the above condition. QED.

The above proposition says that if the return of the firm is not very high only then it is beneficial for the principal to indulge in favouritism. Assumption 1 is the sufficient condition for the critical value of π to be positive. The upper limit of μ (given in the assumption 2) ensures that $\tilde{\pi} < 1$. The logic behind this result can be cited as follows: random favouritism might lead to inappropriate disbursement of incentives which may induce the agent in choosing lower level of effort. But, at the same time random favouritism ensures that the principal receives an additional payoff out of favouritism. Suppose that the additional benefit accounts for the reduced cost which the principal otherwise had to incur for performance evaluation. For a low return firm this cost saving (in this example) is substantial vis-à-vis a high return firm. Put differently for a low-return firm the loss accruing from low probability of the success of the project is outweighed by the gain that the principal enjoys from the saved cost of performance evaluation[17]. Thus, even though the principal of the low return firm faces a lower probability of success due to the presence of favouritism but the benefit out of favouritism ensures that indulging in favouritism is beneficial. For a high return firm the cost of performance evaluation may be considerably insignificant compared to the scale of profit that they earn, hence it is not beneficial for those firms to indulge in some kind of favouritism.

Bramoullé and Goyal (2009) have explored that favouritism is relatively easier to sustain in smaller groups, whereas, Breuer et al. (2011) have empirically validated the fact that an upward bias of the supervisor persists when the group size is small. This proposition states that together with the fact that favouritism is sustainable in small group size, the return of the firm has to be low for the existence of favouritism as an optimal outcome. Thus, we find an interesting result which relates the return of a firm to participation in the act of favouritism.

[17] The logic holds through even when the additional utility from favouritism arises out of side payment made by the agent or the psychological benefit which the principal gains out of favouritism.

3.1. Informativeness of the Output Signal: Implications:

Through our model we try to comprehend how the use of status and monetary incentives change in the presence of random favouritism. To understand which firm benefits the most from the use of status we find that for firms with higher returns, marginal increment in principal's expected payoff from status is higher[18]. Even for firms where favouritism prevails we find that the firm's marginal benefit from using status incentive increases with an increase in the returns of the firm that is, $\frac{\partial^2 U_f^P}{\partial\lambda\partial\pi} = \frac{(1-\mu)}{2} > 0$. But this increase in marginal increment is more for firms where there is no favouritism, i.e. $\frac{\partial^2 U^P}{\partial\lambda\partial\pi} = \frac{1}{2} > \frac{\partial^2 U_f^P}{\partial\lambda\partial\pi} = \frac{(1-\mu)}{2}$.

The model also predicts how the informativeness of the signal affects the use of status incentives. To observe more clearly we normalize $v_1 + v_0 = 1$ and let $v_0 \equiv x = 1 - v_1$. This implies that higher is the value of x less informative is the signal as a measure of output. We find that $\frac{\partial^2 U^P}{\partial\lambda\partial x} = \frac{1}{2(1-2x)^2} > 0$ and $\frac{\partial^2 U_f^P}{\partial\lambda\partial x} = \frac{(1-\delta)+(\mu-\delta)}{2(1-2x)^2} > 0$. It can be verified that $\frac{\partial^2 U^P}{\partial\lambda\partial x} < \frac{\partial^2 U_f^P}{\partial\lambda\partial x}$ when μ is sufficiently large[19]. Therefore, when the output is harder to verify the marginal gain from introducing status incentives is greater in the presence of favouritism vis-à-vis when there is no favouritism, given that the favoured group size is small. The intuition is that when output is difficult to verify then bonus acts as an inefficient and costly instrument to elicit effort. So status incentive increases the effort level of the agent and at the same time reduces the burden on monetary incentive (i.e. bonus). Thus when the signal is less informative, the principal's utility increases from the use of status incentive. But in the presence of favouritism the marginal gain from status incentives is lower since status is now conferred not only on the basis of output but also on a random component arising from favouritism. Again, when the favoured group size is small (μ is large) it ensures that the principal can offer lower incentive bonus. Thus, when we compare the degree of gain from status incentive due to increase in non-verifiability between both the cases, we observe that the gain from offering lower bonus (when μ is large) outweighs the loss out of lower marginal benefit from status incentive in presence of favouritism. We can record this above stated facts as:

[18] This finding echoes the result established in Besley and Ghatak (2008).

[19] For $\frac{\partial^2 U_f^P}{\partial\lambda\partial x} > \frac{\partial^2 U^P}{\partial\lambda\partial x}$ we need $1 - 2\delta + \mu > 1$,which reduces to $\mu > 2\delta$.

Proposition 4:

The principal's marginal return from status incentives is higher for high-return firms. This marginal increment in payoff is lower in the presence of favouritism.

When the output is harder to verify the principal's gain from using status incentive increases. The magnitude of this gain increases in presence of favouritism for smaller group size.

Proof: Follows from above discussion. **QED**

It is also interesting to understand the effect of use of status incentive in presence of favouritism. It can be shown that $\frac{\partial^2 U_f^P}{\partial\lambda\partial\mu} = -e - \frac{v_0}{\Delta} + \frac{1}{\Delta}$. Now for $\frac{\partial^2 U_f^P}{\partial\lambda\partial\mu}$ to be positive we need $e < \frac{(1-v_0)}{\Delta}$. Under perfect signal[20] this condition reduces to $e < 1$ which holds true through out the model. Hence under perfect signal the principal's benefit from using status incentive increases when degree of favouritism increases. When the potentially favoured group size shrinks (i.e. μ increrases) then the principal optimally offers lower monetary incentive. Together with this fact, the use of status incentive reduces the burden on monetary payoff even further and at the same time increases effort. Thus, the principal's gain from use of status incentive is reinforced with the increase in the degree of favouritism. But, with the decrease in the informativeness of the signal, monetary incentive becomes dearer and inefficient as well. Hence, with the increase in non-verifiability of output gain from offering low bonus on account of increase in μ is dampened. Therefore, when the signal is more informative the principal's gain from status increases with the rise in level (degree) of favouritism.

This result can be stated formally in the following.

Proposition 5:

When the signal is more informative then the principal's benefit from status incentive increases with the level of favouritism.

Proof: Follows from above discussion. **QED.**

[20] Perfect signal implies $v_0 \to 0$ and $v_1 \to 1$ and hence $\Delta \to 1$

It is also interesting to check the effect of non-verifiability of output on principal's payoff with and without favouritism. For both the situations we can easily derive from the principal's payoff function that principal benefits more with the decrease in informativeness of the signal, given that the return of the firm is sufficiently low. A critical observation into the range of π for which non-verifiability of output is beneficial for the principal reveals that, for both the situations, this range is similar to that where it is optimal for the principal to offer zero monetary bonus.

Corollary:

When the return of the firm is sufficiently low the principal's benefit increases with non-verifiability of output.

For both with and without favouritism, the principal's expected payoff increases from non-verifiability only when zero bonus is paid to the agent. Therefore, the gain accounts solely from the use of status incentive. Though, with the increase in return of the firm it is optimal to offer positive bonus, but when imperfection of signal increases, monetary incentive is no more an efficient instrument to elicit effort. Therefore, the gain out of non-verifiability of output decreases with the increase in return of the firm.

3.2. Random Favouritism under Perfect Signal:

When signal is perfect it indicates that the signal provides the correct information about the outcome of the project, in other words, output is verifiable. Under this situation, $v_0 = 0$ and $v_1 = 1$, therefore $\Delta = v_1 - v_0 = 1$. Then the condition for principal to involve in favouritism reduces to

$$\pi < \hat{\pi} = \frac{(1-\mu)^2\lambda^2\mu(\mu-2)+2(1-\mu)^2(\mu-\delta)\lambda+(\mu-\delta)^2}{2(1-\mu)[\lambda\mu(1-\mu)+\mu-\delta]} \tag{2}$$

Assumption 1 ensures that $\hat{\pi} < 1$[21]. Now, it is easy to observe that under perfect signal the principal has to offer a positive monetary incentive of $\hat{b}_f^*(1) = \frac{(\pi-(1-\mu)\lambda)}{2(1-\mu)} - \frac{\mu-\delta}{2(1-\mu)^2} > 0$ when

[21] For $\hat{\pi} < 1$ we need to show that $\lambda\mu(1-\mu)[\lambda(\mu-2)-2] < 2(\mu-\delta)[1-(1-\mu)\lambda] - \frac{(\mu-\delta)^2}{(1-\mu)}$.Since $0 \leq \mu \leq 1$, therefore the LHS is negative. From assumption $2\,\delta \leq \mu \leq \frac{2+\delta}{3}$. The inequality holds for the lower limit value of μ, i.e., when $\mu = \delta$, then the RHS is zero and hence the inequality holds. But for the higher value of μ the inequality

$\pi - \lambda > \frac{\mu(1-\lambda(1-\mu))-\delta}{(1-\mu)}$ and the optimal effort reduces to $\hat{e}_f^* = (1-\mu)\left[\hat{b}_f^*(1) + \lambda\right]$. Thus, under perfect signal the monetary incentive which is offered to the agent is greater than $b_f(1)$ and the condition for positive payment is also more relaxed. It is also optimal for the agent to elicit higher effort.

From the reduced condition for existence of favouritism we can predict some interesting results which are stated as follows:

Proposition 6:

I. *When the benefit from status increases then favouritism becomes less beneficial to the principal.*

II. *As the favoured group size falls the principal is more likely to indulge in favouritism.*

The first part of the proposition states that when λ increases the RHS of inequality (2) falls, this indicates that the condition for existence of favouritism is now more stringent. When the valuation of status increases the principal can ensure that the agent elicits desired effort even at lower monetary incentive. But when the principal indulges in favouritism then she gets back a fraction of the optimal bonus as additional benefit from exercising favouritism. Thus, when the optimal payment is low, it implies that the additional benefit is also low. This negative effect is greater for high return firms. This implies that firms with sufficiently low return are the one who can still benefit from favouritism[22] and hence the result.

The second part reveals that with the increase in μ the critical level of π increases, which indicates that favouritism is now feasible for firms with a larger level of return[23]. If the favoured group size is small then the agent faces a higher probability of being favoured. Therefore the principal can optimally offer a lower bonus and still make the agent accept the contract. This is

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reduces to $\lambda < \frac{18\delta}{(2+\delta)(\delta-4)}$. Now, substituting $\mu = \frac{2+\delta}{3}$ in assumption 1,we get $\lambda < \frac{4(1-\delta)}{\frac{(2+\delta)}{3}(4-\delta)}$ and $\frac{18\delta}{(2+\delta)(\delta-4)} - \frac{4(1-\delta)}{\frac{(2+\delta)}{3}(4-\delta)} = \frac{6}{\delta-4} < 0$, since $\delta \in [0,1)$. Thus, for the maximum value of μ, the inequality is maintained by assumption 1 itself and hence $\hat{\pi} < 1$..

[22] Since compared to their level of return the gain from favouritism is still large.

[23] The condition for favouritism is now relaxed with the increase in the level of favouritism

the positive effect of an increased μ. But this lower bonus also reduces the gain from favouritism for the principal. The positive effect of an increase in μ dominates the negative effect and favouritism per se becomes relatively more profitable.

4. Conclusion:

In this paper we explore the situation under which it is beneficial for the principal to indulge in favouritism in offering monetary and status incentives. By favouritism we mean random favouritism where as if the principal has a potentially favoured group of agents from which he/she in an impartial manner selects a particular agent[24]. In this structure we examine the associated change in the optimal incentive scheme in the presence of random favouritism. Using a moral hazard framework with limited liability we show that the optimal effort level reduces and the optimal monetary incentive decreases when favoured group size is small. It is also derived that the principal can benefit from indulging in favouritism (even if random favouritism) if return of the firm is sufficiently low. Though Bramoullé and Goyal (2009) and Breuer et al. (2011) has shown that it is easy to sustain favouritism in smaller group size, this paper suggests that together with a small size of favoured group, the return of the firm has to be low for favouritism to be beneficial for the principal and therefore to be an optimal outcome. Thus, an interesting result is generated which relates the level of return of a firm and the existence of favouritism. For a low return firm, the benefit out of favouritism may be considerably significant compared to the scale of profit that they earn and hence, in spite of the success probability (depends on agents effort) going down due to the presence of favouritism, it is beneficial for those firms to indulge into favouritism. We have also examined how the change in level of favouritism affects the marginal benefit from status incentive and how it is affected with changes in the verifiability of output. As an extension we have analyzed how changes in parameters like level of favouritism, valuation of status affects the condition for existence of favouritism, when the output is verifiable.

This paper contributes to the literature which captures the positive view of favouritism and show that under certain situations the principal (and hence an organization) is better off indulging in favouritism. Like Prendergast and Topel (1996), Prendergast (2002), Berger et al. (2011) we

[24] To some extent similar to Chen (2010).

have also assumed that the principal receives an additional benefit from indulging in favouritism. This paper also incorporates the fact that even when the principal does not exercise her discretionary power to select an agent from the favoured group and therefore selects randomly then also she can derive some benefit out of it. The benefit can arise out of an expected side payment by the agent and/or from reduced cost of performance evaluation and/or from an expected psychological pleasure. But unlike Kwon (2006), here favouritism arises due to exogenous reasons. Kwon (2006) has shown that favouritism can arise even if the principal does not exercise her preferential bias. It can arise endogenously depending on the motivation of the agent and they show that favouritism dominates fairness. Similar positive view point on favouritism has also been captured by Arya and Glover (2003).

Some extentions can be worked out in the future. So far, we have worked on a model where favouritism is exogenous. In the future, we intended to endogenize favouritism and analyze the associated economic consequences. Further, it would interesting to examine how the analysis changes if the principal indulges in some form of directed favouritism (favouring a specific agent) in a multiple agent framework.

References:

1) Arya, A. and Glover,J. (2003): "Real Options, Conflicting Valuations and Favoritism", *Topics in Economic Analysis & Policy*, Vol.3,No. 1,Article 1
2) Bandiera,O., I. Barankay and I Rasul (2009): "Social Connections and Incentives in the Workplace: Evidence from Personnel Data", *Econometrica*, Vol. 77, No. 4, pp 1047-1094.
3) Berger, J.,C. Herbertz and D. Sliwka (2011), " Managerial Incentives and Favouritism in Promotion Decisions: Theory And Field Evidence."*IZA Discussion Paper no. 5543.*
4) Besley, T. and M. Ghatak (2008): "Status Incentives", *American Economic Review*, Vol.98, No. 2, pp 206-211.
5) Bolton, P. and M. Dewatripont (2005): Contract Theory, The MIT Press.
6) Bramoullé, Y. and Goyal,S. (2009): "Favoritism", CIRPEE Working Paper 09-41
7) Breuer, K., P. Nieken, D. Sliwka (2011): "Social Ties and Subjective Performance Evaluations: An Empirical Investigation" *Review of managerial Science*, DOI 10.1007/s11846-011-0076-3.
8) Chen, Z. (2010): "Office Politics in Tournaments: Strategic Use of Favoritism to Fight Collusion" Working paper, University of Auckland.
9) Duran, M. and A. Morales (2009): "The Economics of Favoritism", Working Paper, University of Malaga.
10) Garicano, L., I. Palacios-Huerta and C. Prendergast (2005): "Favoritism under Social Pressure" *The Review of Economics and Statistics*, Vol. 87, No. 2, pp 208-216.
11) Herbertz, C.O. (2012): "Compensation, Favoritism, and Adverse Selection - Essays on Managerial Incentives in Firms," PhD thesis, Universität zu Köln
12) Innes, R.D. (1990): "Limited Liability and Incentive Contracting with Ex-Ante Action Choices', Journal of Economic Theory, 52, 45-67.
13) Ittner, C.D., D. F. Larcker and M. W. Meyer (2003): "Subjectivity and the Weighting of Performance Measures: Evidence from a Balanced Scorecard" *The Accounting Review*, Vol. 78, No. 3 pp. 725-758.
14) Kramarz, F. and O.N. Skans (2007), "With a Little Help from my Parents: Family Networks and Youth Labor Market Entry," *mimeo, CREST*.

15) Kwon,I.(2006): "Endogenous Favoritism in Organizations", *Topics in Theoretical Economics*,Vol.6,No.1, pp 01-24

16) Laband, D.N. and M. J. Piette (1994): "Favoritism versus Search for Good Papers: Empirical Evidence Regarding the Behavior of Journal Editors", *Journal of Political Economy*, Vol. 102, No. 1, pp 194-203.

17) Laffont, J.J., D. Martimort(2001): "Theory of Incentives: The Principal-Agent Model" Princeton University Press.

18) Lazear, E. P. and S. Rosen (1981): "Rank-Order Tournaments as Optimum Labor Contracts", *Journal of Political Economy*, Vol. 89, No. 5, pp 841-864.

19) Morten Bennedsen, M., F. Perez-Gonzalez, D. Wolfenzon (2006): "Do CEOs Matter?", *NYU Working Paper* No. FIN-06-032.

20) Murphy, K.R. and J.N. Cleveland (1995): "Understanding Performance Appraisal" Thousand Oaks, Sage.

21) Pérez-González, F. (2006): "Inherited Control and Firm Performance", *The American Economic Review*, Vol. 96, No. 5, pp 1559-1588.

22) Prendergast, C. (2002): "Uncertainty and incentives", *Journal of Labor Economics*, Vol. 20, No. S2, pp S115-S137

23) Prendergast, C. and R. Topel (1993): "Discretion and Bias in Performance Evaluation", *European Economic Review*, Vol.37, pp 355-365.

24) Prendergast, C. and R. Topel (1996): "Favoritism in Organizations", *Journal of Political Economy*, Vol. 104, pp 958-978

25) Prendergast, C.(1999): "The Provision of Incentives in Firms", *Journal of Economic Literature*, Vol. 37, No.1, pp 7-63.

26) Rickman, N., R. Witt(2007): "Favouritism and Financial Incentives: A Natural Experiment", *Economica*, Vol. 75, No. 298, pp 296-309.