The Economics of Favoritism

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Abstract

This paper analyzes why agents are interested in belonging to a group of friends which is used as an alternative search channel by both employers and workers. We use a principal-agent model with two types of workers (high and low productivity workers) and two effort levels, excluding any friendship-related externality in individuals' utility function. In this setting, we show that, for certain values of the relevant variables, the equilibrium involves workers hired by friends shirking, although they would have provided a high-effort level in a competitive labor market. That is, we show that the use of social links in matching processes might reduce the effort level that employees exert. In addition, by contrast to previous theoretical contributions in this area, we give theoretical support to the empirical evidence that points out that workers hired by friends or relatives receive lower salaries.

Keywords: Favoritism, Group formation, Labor market, Moral hazard, Adverse Selection, Social networks.

JEL Class.: D71, D8, J01.

1   Introduction

The empirical evidence underlining the importance of social networks in the labor market has not stopped growing since the 1960s. A commonly mentioned figure in this sense is that between a third and a half of jobs are found through friends or relatives in the US and the EU (Ioannides and Loury [12] is an accurate survey of the related literature). Nevertheless, the nature of the effects caused by this widespread use of social links is not uncontroversial. Some works point out that social contacts improve matching processes by providing firms and workers with reliable information, and by reducing search and monitoring costs (Rees [23], Granovetter [10], Holzer [11], Blau and Robbins [3], Fernández and Castilla [7], Marsden and Gorman [19], Finerman and Kelly [8], Kugler [13]). Other studies, by contrast, identify social links with firms investing inadequately

1

on screening, and workers reducing their search time and not fully exploiting their comparative productive advantages (Bentolila *et al.*[2], Pellizzari [21]).

The dispersion of results persists when salary differences are empirically related to the use of contacts in job search processes. Then, conclusions go from pointing out a positive correlation (Ullman [26], Granovetter [10], Rosenbaum *et al.* [24], Marmaros and Sacerdote [18]) to associating the use of social links to a wage discount (Simon and Warner [27], Elliott [6], Bentolila *et al.* [2], Loury [17]).[1]

The positive influence of informal search channels on wages has been theoretically justified by Montgomery [20] and Calvó-Armengol and Jackson [5]. They both assume that the social network is given and that is used as a means to transmit information in the labor market. In a two-period, adverse-selection model with an inbreeding bias which makes more probable the relation between workers with the same type, Montgomery [20] shows that in equilibrium informal hiring processes are used and referred workers receive higher wages. In addition, he concludes that workers who are connected to those in high-paying jobs might fare better, that firms hiring through referral might earn higher profits, ant that workers hired through referral are of higher average quality. For Calvo-Armengol and Jackson [5], on the assumption that information about jobs arrives randomly to agents, the probability of being an employee with a higher wage depends on the characteristics of the network to which that employee is connected; in particular, on having contacts that help to reduce the uncertainty about the productivity of that who search for a job.

Nevertheless, to our knowledge, there is no theoretical modelization that supports the empirical evidence relating social contacts to lower salaries. This paper develops a moral hazard model with adverse selection which explains this fact. Specifically, our setting shows that using contacts in hiring processes implies a trade-off where workers accepts a wage discount in return for job security, that is, for not running the risk of being unemployed. To provide this explanation, we assume that those workers that can avoid this risk belong to a group of friends that might organize a parallel labor market where friends with a vacant hire other friends. Whether in this market or in the standard one, workers can be of two different types, a high- or a low-disutility one, being the type unknown to the employer.

This paper attempts also to modelize favoritistic behavior in the labor market. Favoritism implies a decision where, as a result of an agent being preferred to others, s/he is unfairly benefited. Note in this regard that "favoring someone" is a case of favoritism if it involves unfairness –for instance, because of a clash with merit-based rewarding.[2]

This problem has been analyzed by Prendergast and Topel [22], and Kwon [14].[3] In their seminal paper, Prendergast and Topel [22] build a principal-

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[1] Some authors point out that there does not seem to exist a persistent effect (Bridges and Villemez [4], Marsden and Gorman [19]).

[2] Tthe *Oxford Dictionary* as "the unfair favoring of one person or group at the expense of another".

[3] Levine *et al.* [16] explain favoritistic behavior in a similar way to Prendergast and Topel.

agent model where supervisors' utility function depends on the payoff of their subordinates, whose non-verifiable performance can be observed by the former. Managers, however, obtain also private observation on workers' performance and can monitor supervisors' reports. In this exogenous modelization of favoritistic preferences, stronger incentive pay for workers reduces the accuracy of supervisors' reports, so that favoritism depends on the incentives offered to the worker.[4] Kwon [14] builds an agency-theory model with endogenously-motivated favoritism. Its keystone is that principals do not know which agent has the best idea to be implemented. Hence, they follow only one employee's recommendations, thus demotivating the rest of workers.

In our approach to favoritism, preferred individuals are those who belong to the group of friends of the employer seeking a worker. The unfairness that characterizes favoritism is found in the fact that decision-makers consciously favor their friends at the expense of someone else who is more deserving. In this sense, we show that friends are hired in spite of the fact that employers know that in equilibrium their friends shirk with some probability, whereas identical strangers would have provided a high-effort level. Moreover, as a result of resorting to the group of friends in the hiring process, strangers face a higher probability of being unemployed. Nevertheless, by contrast to Prendergast and Topel [22], favoritism is the result of endogenous decisions in our setting. If members of the group of friends behave in a favoritistic way in our analysis, they pursue to increase their own welfare, which does not depend on their friends'.

The remaining of the paper is divided in three sections. In Section 2, a simple model of the labor market is put forward. This model is used as the benchmark to introduce and analyze favoritistic behavior in Section 3. The concluding section synthesizes the main features of the analysis.

2   The benchmark model

Hiring in our paper is done through a standard moral hazard problem with unobservable effort: (i) the boss offers to the worker a salary contract contingent on the output; (ii) the worker accepts or rejects the contract; (iii) upon rejection a reservation utility is obtained, and (iv) if the contract is accepted, the worker exerts an effort level and the realized output is distributed according to the contract.

To make our point clearer, we simplify the moral hazard problem by assuming risk neutral agents[5] and a simplified technology, although we want to emphasize that our results extend to the general case.

Favoritism has also been analyzed in sports (Garicano *et al.* [9], Sutter and Kocher [25]), or school admissions (Lentz and Laband [15]). Bandiera *et al.* [1] conduct a field experiment based on a model of favoritism closely linked to that of Prendergast and Topel [22].

[4] In Levine *et al.* [16], favoritistic behaviors are explained in a similar way.

[5] Besides simplicity, there is another, no less important reason to assume risk-neutrality. Since favoritistic decisions resemble acquiring an insurance policy, this assumption avoids misinterpreting favoritism as an effect of agents' attitude towards risk.

TABLE 1. A BASIC MORAL HAZARD PROBLEM

EFFORT	OUTPUT		DESUTILITY
H	1		e
L	1	prob $1/2$	0
	0	prob $1/2$	

Note that a high effort always provides a unit output, whereas a low effort some times (half of them) provokes bankrupcy and others goes unnoticed by yielding output 1. The disutility associated to a high effort is positive; by contrast, a low effort implies no disutility at all. A reservation utility $\overline{u}$ of 0 is also assumed.

For a low-effort level, worker's utility is $\frac{1}{2}w$ (positive for any positive salary), whereas, in case of a high effort, the utility is $w - e$; that is, it is positive for salaries above e. Therefore, the incentive compatibility constraint implies that for wages smaller than $2e$ a low effort is exerted; otherwise, a high effort is chosen. Given that the participation constraint is non-binding as the reservation utility is set to 0, the boss optimal behavior is derived from the comparison of the profits $\pi(0) = \frac{1}{2}$ when offering a wage 0 and $\pi(2e) = 1 - 2e$ when offering a wage $w = 2e$. As a result, the optimal contract consists in offering a zero wage whenever the worker's disutility associated to high effort is larger than $\frac{1}{4}$. Otherwise, the offered wage is positive and equal to $2e$.

Let us now enrich our principal-agent model by introducing some heterogeneity among workers. Specifically, let us assume that there are two types of workers. For type A, the disutility associated to providing a high-effort level is $e_A = 0$[6] whereas for type B workers, the desutility is $e_B = e < \frac{1}{4}$. This implies that, for both types, the optimal effort to be induced is the highest one, although the optimal wage would be different as the associated disutilities vary across types. Upon observing workers' type, the optimal contract is to offer a salary $w_A = 2e_A = 0$ to A-type workers and a salary $w_B = 2e_B = 2e$ to B-type ones.

However, types are not observable, what makes the optimal contract less trivial. The first alternative is to offer a salary equal to 0. In this case, A-type workers provide a high-effort level, whereas B-type ones shirk. Thus, standing μ for the proportion of A-type workers in the economy, the boss's expected profits are:

$$\pi(w = 0) = \mu(1) + (1 - \mu)\left(\frac{1}{2}\right) = \frac{1}{2}(1 + \mu)$$

If the salary offered is $2e$, both types of workers provide a high-effort level, and the boss's expected benefits become:

$$\pi(w = 2e) = \mu(1 - 2e) + (1 - \mu)(1 - 2e) = 1 - 2e$$

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[6] This strong assumption facilitates the algebra without compromising the key elements of the optimal contract faced by the boss.

Given that profits associated to $w = 2e$ are independent of the distribution of types whereas those associated to $w = 0$ are increasing in μ, the optimal contract depends on the type distribution. If μ is larger than $\widehat{\mu} = 1 - 4e$, the boss prefers to offer a 0 salary and, as a result, A-type workers provide a high-effort level, but B-type ones do not. To put it differently, in this case the proportion of A-type workers is high enough as to make the boss prefers not to incentive the provision of a high-effort level by B-type workers. By contrast, if μ is smaller than $\widehat{\mu}$, the boss' optimal decision is to offer a salary $2e$, so that both A-type and B-type workers exert a high-level effort.

3 Favoritism in the labor market

In this section, we use the benchmark model above to capture the emergence of favoritism in the labor market. We do so by assuming that there is a group of friends and that a boss who belongs to this group considers the possibility of hiring a friend for a vacant. This group has been referred in the previous literature as a social network, arising through the use of social contacts and/or neighbors (Montgomery [20], Calvo-Armengol and Jackson [5]). Both interpretations work for our purposes.

Let σ denote the proportion of A-type workers in the boss's group, being μ now the proportion of this type of workers out of the group of friends. Any agent in the complementary set of the group of friends is a stranger to everybody else in the economy. This social network organizes a parallel labor market that is solved before the standard one.[7]

The boss now has two alternatives: to make a salary offer to a friend, or to go the standard labor market to look for a worker. In the first case, the friend who receives the offer can reject or accept it. If it is rejected, both boss and worker go to the standard labor market, which is solved in the way described in the section above. By contrast, in case of acceptance, the friend-worker decides the effort level to be provided, and then, output is realized and distributed according to the contract.

We assume that the probability of being hired in the standard labor market is ξ, which is a single parameter representing the cyclical situation of the economy; that is, how well or bad the economy is doing and how good or bad the chance to have an employment is.

This model captures in a double sense the favoritistic nature of the decisions adopted by friends. On the one hand, strangers are excluded from those job opportunities which a friend-boss offers to another group member and are accepted by the latter. On the other hand, since the favoritistic labor market is solved before the standard one, contacted friends are given a second opportunity to find a job. Both characteristics imply that the use of the social network

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[7]This assumption is also made by Montgomery (1991), the first paper to rationalize the use of informal hiring channels.

has the unfair consequence that strangers face a higher probability of being unemployed.

In relation to the optimal contract that arises among friends, we need to consider two different cases, depending on the optimal contract prevailing in the standard labor market.

Let us start by considering that the proportion of A-type workers out of the social network is larger than the critical value $\widehat{\mu}$. Then the salary offered in the standard labor market is $w^* = 0$. This implies that the reservation utility of a friend worker is also 0, being equal to the reservation utility of a worker in the standard labor market, $\overline{u} = 0$. Hence, if σ is also larger than $\widehat{\mu}$, the social network is irrelevant: The decisions concerning the salary contract to be offered and the effort level to be provided are identical in and out of the social network. If the proportion of A-type workers in the group of friends were non-larger than $\widehat{\mu}$, then the boss would prefer to offer his/her friend worker a salary $w_f^* = 2e$ rather than offering 0. Nevertheless, since $w^* = 0$, the friend-boss' optimal decision would be to hire a worker in the standard labor market, so the social network does not give rise to a favoritistic labor market either. This line of thought is captured in the following proposition.

Proposition 1 *If the optimal contract that prevails in the standard labor market is $w^* = 0$, then hiring through the social network is not observed in equilibrium.*

We now consider the case in which the optimal standard salary is $w^* = 2e$ and the two types of worker provide a high-effort level in the standard labor market. In this case, the reservation utility of friend-workers depend on their type. For an A-type, the reservation utility is $\overline{u}_f^A = \xi 2e$, whereas for a B-type, given his/her disutility for providing a high-effort level, is $\overline{u}_f^B = \xi e$. Accordingly, there are two salaries that friend-bosses can consider to offer to the friend-workers they have been matched with.

The first possibility is $w_f = 0$. In this case, friend-workers of type A and B reject the offer, so that the friend-boss goes to the standard labor market, obtaining a payoff:

$$\pi_f \left(w_f = 0 \right) = 1 - 2e$$

The second possible offer is a salary w_f such that $u \left(w_f \right) = \overline{u}_f^B = \xi e$. For any salary whose utility is below e, workers prefer to shirk. Therefore, $w_f = 2\xi e$. Note that this salary provides A-type workers also with their reservation utility, so that both types accept the contract; but B-type workers shirk and A-type provide a high-effort level. In these circumstances, the expected benefits of the friend-boss are:

$$\pi_f \left(w_f = 2\xi e \right) = \sigma \left(1 - 2\xi e \right) + \left(1 - \sigma \right) \frac{1}{2} \left(1 - 2\xi e \right)$$

Thus, the optimal decision of the boss comes from the comparison of $\pi_f(w_f = 0)$ vs. $\pi_f(w_f = \xi 2e)$.

Then this proposition follows:

Proposition 2 *If the optimal contract that prevails in the standard labor market is $w^* = 2e$, friends are hired whenever the proportion of A-types in the group of friends is large enough and/or the probabilities of finding a job in the standard labor market are low enough. Under this contract, at a lower wage, only A-type friends exert a high-effort level, whereas B-type friends shirk.*

Proof. The proof is trivial upon noticing that $\pi_f(2e)$ is bounded away from 1, whereas $\pi_f(2\xi e)$ converges to 1 as $\sigma \to 1$ and $\xi \to 0$. ∎

Note that the favoritistic hiring practices which result from the existence of the social network have two important consequences. First, there are differences in the effort level that workers provide in and out of the group of friends. Specifically, B-type workers exert a low-level effort when they belong to the group and are hired by a friend at a salary $\xi 2e$. This underlines the characteristic unfairness of favoritism: a friend-boss has the opportunity to hire an employee who would work hard whatever his/her type; but, under the circumstances described in the proposition above, that boss prefers to hire a friend knowing that with some probability, the latter will be a B-type and will shirk.

Second, favoritism implies a different way of distributing the outcome. On the one hand, bosses in the favoritistic market have higher payoffs than those in the standard one. Although this conclusion is shared by Montgomery [20], our model also predicts, in contrast with his, that friend-workers receive a lower portion of the output than in the standard labor market. This consequence is supported by empirical evidence which points out that there is a wage discount for jobs found through family and friends (Simon and Warner [27], Elliott [**?**], Bentolila *et al.* *[2]*, Loury [17]).[8] Underlying this wage discount there is a trade-off with job security: if a friend- worker randomly matched with a boss did not accept the salary offer, the rejector, with no certainty of being hired, would have to apply for a job in the standard labor market. That is, candidates who belong to the social network and are matched to a boss in the favoritistic labor market accept to earn less in return for being treated in a privileged manner in the hiring process.

4   Extensions

Now, we are trying to extend the model in the following way:

- Endogeneize the decision to be a boss.

- Group formation incentives.

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[8] Recall that agents are assumed to be risk neutral in our model. Risk aversion would imply larger wage discounts in the favoritistic market.

5 Conclusion

The principal-agent model with adverse selection developed above gives theoretical support to the empirical evidence that associates the use of social contacts in the labor market to lower salaries. The main reason underlying this result is that at equilibrium workers who belong to a social network sacrifice a higher-salary in return for job certainty. The disposition to accept this trade-off benefits bosses in the group of friends, who get a higher payoff by hiring a friend than in the standard labor market.

This higher payoff of friend-bosses is also what allows our modelization to explain favoritism as a result of rational decisions. If bosses in the group had gone to the standard labor market, they would have had the opportunity to hire workers who, whatever their type, provide a high-effort level at equilibrium. Nevertheless, with no friendship-related externality in their utility function, bosses that are group members rationally prefer to hire a friend who shirks with certain probability and might even cause bankruptcy. To put it differently, bosses prefer to hire friends although the latter are less deserving that others, thus committing favoritism.

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