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## Abstract

We develop a model in which there are firms and employees who care about profit-sacrificing higher purpose (HP) and those who do not. Firms and employees search for each other in the labor market. Each firm chooses its HP investment. When there is no social pressure on firms to adopt a purpose, HP dissipates agency frictions, lowers wage costs, yet elicits higher employee effort in firms that intrinsically value the purpose. However, social pressure to invest in HP can distort the HP investments of all firms and reduce welfare by making all agents worse off.

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Keywords: Higher purpose, Incentives, Labor market matching, Organizational performance

JEL Classifications: D02, D21, D23, D64

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# Purpose, Profit and Social Pressure*

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**Abstract**

We develop a model in which there are firms and employees who care about profit-sacrificing higher purpose (HP) and those who do not. Firms and employees search for each other in the labor market. Each firm chooses its HP investment. When there is no social pressure on firms to adopt a purpose, HP dissipates agency frictions, lowers wage costs, yet elicits higher employee effort in firms that intrinsically value the purpose. However, social pressure to invest in HP can distort the HP investments of *all* firms and reduce welfare by making all agents worse off.

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# 1 Introduction

In sharp contrast to the prescription in Friedman (1970)'s article, "A Friedman Doctrine: The Social Responsibility of Business is to Increase its Profits," many are now advocating that firms should focus instead on attending to goals with broader social welfare implications (Campbell (2007), Hart and Zingales (2017), Serafeim (2020)). Possibly in response, profit-centered firms have begun the pursuit of organizational higher purpose ("HP" henceforth), defined as a contribution goal that transcends the usual business goals but is intrinsically a part of the organization's business (Hedblom, Hickman, and List (2019), Henderson and Van den Steen (2015), Quinn and Thakor (2018, 2020)). For example, DTE Energy, an electric utility company, clarifies its HP as being "a force for growth and prosperity" by "improving lives and creating opportunity, partnering with communities for growth, and exhibiting leadership toward cleaner energy and environmental stewardship."[1] Marzetti, a food company, states its HP as "nourishing growth in all we do." Motivated by these examples, we analyze how the pursuit of HP affects contracting in organizations, wages, employee effort and organizational output. Our main focus is on how these outcomes are affected by social pressure to invest in HP.

While different firms pursue different HPs, some have greater support among social influence groups and activists. These groups will want more firms to adopt their preferred HPs. Examples are reducing global warming, cleaning up oceans, reducing racial inequalities, etc. Some firms may authentically wish to pursue one of these HPs, but not all.[2] If social pressure takes the form of (pecuniary or non-pecuniary) penalties on firms not adopting the HP preferred by influence groups, then sufficiently high pressure forces firms that do not believe in the HP to adopt it. Interestingly, we show that the pressure can *transmit* to firms that intrinsically value the HP – those that are not targets of the pressure – distorting their HP investments as well.

*Model:* Firms hire employees to provide effort to produce output. One type of firms (type 1) care about both profits and the firm's articulated HP, consistent with studies in which some firms are motivated by more than profit (Besley and Ghatak (2005), Henderson and Van den Steen

[1] Quinn and Thakor (2018, 2019) discuss DTE Energy and its HP.

[2] 4Ocean states its HP as ending the crisis of oceans being polluted by plastic garbage. This may not be an HP that authentically appeals to all firms.

(2015), Oehmke and Opp (2022)). The other type of firms (type 0) care only about profits. There are two corresponding types of employees: those who care about the firm's HP and whether they are personally "connected" to the HP (type 1), and those who care only about monetary compensations (type 0). Investing in the HP requires the firm to divert part of its revenue, so it is financially costly. How much to divert is a choice variable. Firms and employees, knowing their types privately, search for each other in the labor market.

There are two results. First, absent social pressure to invest in HP, type-1 firms invest in the HP and type-0 firms avoid investing. Therefore, each type of firm operates in its own labor submarket, matching with like-minded employees who attach the same value to the HP as the firm does. Firms that authentically value the HP experience lower wages yet higher employee effort, consistent with the stylized facts (Gartenberg, Prat, and Serafeim (2019), Hedblom, Hickman, and List (2019)).

Second, our main result is that, these benefits notwithstanding, social pressure to invest in a "preferred" purpose may lead to various distortions. Particularly, when the pressure is sufficiently high, all firms invest in HP, but type-1 firms invest *less* than in the no/low-pressure case. Efficient matching between like-minded firms and employees no longer obtains. This leads to an unambiguously Pareto dominated outcome in that *all* agents are worse off with social pressure to invest than without. The distortion arises because social pressure not only forces firms that do not value the HP to "waste" resources to invest in it, but the pressure on these firms ultimately transmits to firms and employees that authentically value the HP by distorting their matching in the labor market.

This paper is broadly related to the literature on how prosocial goals and social relationship benefits affect organizational outcomes (Allen, Qian, and Xie (2022), Bénabou and Tirole (2006, 2010), List and Momeni (2021)). Most closely related is the research on organizational purpose/mission, e.g., Besley and Ghatak (2005), Bunderson and Thakor (2022), Gartenberg, Prat, and Serafeim (2019), Gartenberg and Serafeim (2019), Hedblom, Hickman, and List (2019), Henderson and Van den Steen (2015), and Quinn and Thakor (2018, 2020). While some of these papers have provided valuable insights into corporate HP and also some of the stylized facts that motivate our paper, in contrast to these papers, we formally model organizational HP in an optimal contracting framework and show that social pressure on firms to embrace a preferred HP may reduce welfare. That is, imposing pressure on firms to do more good can result in less good.

# 2 Model

## 2.1 Contracting

Agents are risk neutral and the riskless rate is zero. A firm needs an employee ("he") to produce an output $z \in \{Z, 0\}$, with $Z > 0$. Let $\Pr(z = Z) = e$, where $e \in [0, 1]$ is the privately-observed, non-contractible effort supplied by the employee at a personal cost $\frac{\psi e^2}{2}$, with $\psi > 0$. The firm can observe and contract on $z$. The employee, protected by limited liability, is paid a wage $w(z)$, with $w(z) \geq 0 \ \forall z \in \{Z, 0\}$, based on the realization of $z$. The employee's reservation utility is zero.

## 2.2 Types and HP

There are two types of firms (0 and 1). A type-0 firm is a pure profit maximizer that does not care about any HP. A type-1 firm derives utility from investing in the HP. A firm's HP investment starts with it publicly declaring a *binding* precommitment to divert a fraction $\alpha \in [0, 1]$ of its output to serving a purpose. This diversion is a subtraction from the firm's tangible output, so the output will be $(1 - \alpha)z$, but it generates for the firm a utility $\beta_o u(\alpha z)$ from the resulting HP investment, where $\beta_o \in \{0, 1\}$, $u(\cdot)$ is an increasing and concave function satisfying Inada conditions ($u'(0) = \infty$, $u'(Z) = 0$), $u(0) = 0$ and $u(x) < x$.[3] We view $\beta_o$ as the strength of the firm's "authentic HP commitment." There is authentic commitment ($\beta_o = 1$) by a type-1 firm, and no authentic commitment ($\beta_o = 0$) by a type-0 firm. A firm knows its $\beta_o$ privately.

There are also two types of employees, indicated by $\beta_\ell \in \{0, 1\}$: type 0 ($\beta_\ell = 0$) who do not care about any HP, and type 1 ($\beta_\ell = 1$) who value the HP. We specify below the utility a type-1 employee derives from the HP. All employees care about wealth. An employee knows his $\beta_\ell$ privately.

The labor market in which employees match with firms opens after all agents observe each firm's HP commitment $\alpha$. Once matched, a firm and its prospective employee negotiate the employee's wage $w(z)$. Given the non-negativity constraint on wages and universal risk neutrality, it is clear $w(0) = 0$, so the negotiation is over $w(Z)$, which we simply denote as $w$. As in Diamond (1981,

[3] This implies a direct loss of $x - u(x)$ to the firm from the diversion. For the HP to have a *net* social value, there must be some other surplus generated from the HP pursuit. As described shortly, this comes in the form of the (type-1) employee's derived utility from the HP and his consequently enhanced incentive to produce a high output.

1982), the resulting $w$ will be the outcome of Nash bargaining; the bargaining weights of the firm and the employee will be specified in Section 2.3.

After accepting $w$ and joining the firm but *before* choosing his effort, the employee will need to be "connected" to the firm's HP. The idea is that a firm's HP is a high-level statement, and it is typically not clear to the employee how that statement relates to his job. The employee must "translate" the HP in a job-specific way to determine how the HP will motivate him and influence his work.[4] The cost of connection is 0 for a type-1 firm, while it is $\infty$ for a type-0 firm. Denote a firm's connection decision by $\delta \in \{1, 0\}$, where $\delta = 1$ indicates the firm "connects the people to the purpose" (Quinn and Thakor (2018, 2019)), while the firm's HP fails to connect to its employee if $\delta = 0$. The employee observes $\delta$ after agreeing on the wage contract but before choosing his effort.

A type-1 employee joining a type-1 firm derives utility, $\delta v(\alpha z)$, from the firm's HP, where $v(\cdot)$ is an increasing and concave function satisfying Inada conditions ($v'(0) = \infty$, $v'(Z) = 0$), $v(0) = 0$ and $v(x) < x$.[5] That is, conditional on being connected ($\delta = 1$), the utility the type-1 employee ($\beta_\ell = 1$) derives from the HP depends on the size of the firm's HP investment ($\alpha z$). Absent the connection ($\delta = 0$), the type-1 employee derives no utility from the HP. Since a type-0 firm has a prohibitive connection cost, it never makes the connection, so it does not benefit from hiring a type-1 employee (nor does the type-1 employee). Likewise, since a type-0 employee ($\beta_\ell = 0$) does not value the HP, he derives no benefit from a type-1 firm's HP even if he joins such a firm and the firm connects him to its HP. Summarizing, we write an employee's utility from the HP as $\delta\beta_\ell v(\alpha z)$.

### 2.3 Matching

Firms and employees search for each other in a labor market. For type $i \in \{0, 1\}$, there are $F_i$ firms and $L_i$ agents seeking jobs, with $F_0 + F_1 = F$ and $L_0 + L_1 = L$. Each firm hires one employee, so the firm-employee (vacancy-unemployment) ratio is $\eta_i = \frac{F_i}{L_i}$ for type $i$, a measure of tightness for submarket $i$; that market is tighter with a higher $\eta_i$. The firm-employee ratio for the whole market is $\eta = \frac{F}{L}$. Assume $\frac{F_i}{F} = \frac{L_i}{L} = \theta_i$, with $\theta_0 + \theta_1 = 1$. So, $\eta_0 = \eta_1 = \eta$,[6] i.e., the firm-employee ratio is type-independent. The probability that a type-$i$ employee meets a type-$i$ firm in submarket $i$

[4] See Quinn and Thakor (2018). A firm's salesperson and IT employee will operationalize its HP differently.
[5] Like $u(x) < x$, this ensures that output diversion to the HP does not trivially increase social surplus.
[6] Note $\eta_0 = \frac{\theta_0 F}{\theta_0 L}$ and $\eta_1 = \frac{\theta_1 F}{\theta_1 L}$; both equal $\eta = \frac{F}{L}$.

is $m(\eta_i) = m(\eta)$, with $m' > 0$ and $m'' < 0$; $m(\eta)$ is also the probability that an arbitrary type of employee meets an arbitrary type of firm in the whole market. In submarket $i$, the probability that a type-$i$ firm meets a type-$i$ employee is $\frac{m(\eta_i)L_i}{F_i} = \frac{m(\eta)}{\eta}$, which is decreasing in $\eta$; $\frac{m(\eta)}{\eta}$ is also the probability that an arbitrary type of firm meets an arbitrary type of employee in the whole market.

Once matched, the firm and the employee negotiate the wage $w$, according to Nash bargaining with $\kappa$ being the firm's bargaining power, and $1-\kappa$ the employee's bargaining power. We assume the Hosios (1990) condition holds: an agent's bargaining power is commensurate with its contribution to matching. Therefore, in each submarket $i$ and the whole market, a firm's bargaining power equals the elasticity of $m(\eta)$ with respect to market tightness $\eta$, i.e., $\kappa = \frac{\eta m'(\eta)}{m(\eta)}$. We adopt a common meeting technology (Kiyotaki and Wright (1993)) for tractability, $m(\eta) = \frac{\lambda\eta}{1+\eta}$, where $\lambda \in [0,1]$ captures labor market efficiency, with a larger $\lambda$ corresponding to higher efficiency. Thus, in each submarket $i$ and the whole market, the probability a firm finds an employee is $\frac{m(\eta)}{\eta} = \frac{\lambda}{1+\eta}$, the firm's bargaining power is $\kappa = \frac{\eta m'(\eta)}{m(\eta)} = \frac{1}{1+\eta}$, and the employee's bargaining power is $1-\kappa = \frac{\eta}{1+\eta}$.

We have described $m(\eta)$ and $\kappa$ in either submarket $i$ (with only type-$i$ firms and type-$i$ employees) or the whole market (with all firms and all employees pooled). The description does not apply to type-$i$ employees interacting with *only* type-$j$ firms ($i \neq j$) in a "mixed" submarket, in which the probability for an employee to meet a firm is in general not $m(\eta)$.[7] However, we will see later that there are only two equilibrium situations – there is either a separating equilibrium in which type-$i$ employees search in the submarket with only type-$i$ firms or a pooling equilibrium in which all employees and all firms search in the same pooled market.

### 2.4 Summary and Remarks

The timeline below summarizes the model:

- Each firm publicly declares its HP commitment $\alpha \in [0,1]$.
- Firms and employees search in the labor market and bargain over the wage $w$.
- Firms make HP connection decisions $\delta \in \{0,1\}$.
- Employees privately exert effort $e \in [0,1]$ after observing $\delta$.
- Output $z \in \{Z, 0\}$ is publicly realized; firms and employees get paid.

Our modeling of HP commitment as a revenue diversion is meant to capture the idea that there

[7] This is because the firm-employee ratio in this mixed submarket, $\frac{F_j}{L_i}$, in general does not equal $\eta$.

must be a tradeoff between profit and social impact. If the profit-maximizing action also maximizes social impact, then the analysis will be trivial because every firm will choose that action and HP pursuit will be indistinguishable from profit maximization. In many cases, the HP investment is a direct reduction of revenue/profit, mirroring precisely the way we model it. Hobby Lobby gives a 10% in-store discount to churches, schools and charities. This is closely related to the firm's HP,[8] is integrated with its day-to-day operations and has the direct effect of reducing revenue.[9] White (2016) discusses three more examples. In 2014, CVS stopped selling cigarettes, at an estimated revenue sacrifice of $2 billion per year. Unilever announced it would source 100% of its raw materials using environmental, social and ethical principles. The food company Mars has focused on aligning its business activities with its stated purpose of "better food today, a better world tomorrow." White (2016) observes: "In all [these] three cases, we are not only seeing companies articulate a purpose that goes beyond just delivering returns to shareholders – but also making decisions that, at least in the short-term, will cost them in terms of reduced revenues and/or increased costs."

Our model of HP differentiates it from corporate social responsibility (CSR). While CSR initiatives may divorce from a firm's routine business and hence employees' jobs, HP intimately relates to the firm's business decisions, and thus is ineffective unless employees are connected to the purpose.

## 3 Baseline Analysis

Each firm solves the following problem:

$$\max_{\alpha,w,\delta} \ \frac{\lambda e}{1+\eta}[(1-\alpha)Z + \beta_o u(\alpha Z) - w] \tag{1}$$

$$\text{s.t. } e[w + \delta\beta_\ell v(\alpha Z)] - \frac{\psi e^2}{2} \geq 0, \tag{2}$$

$$e \in \arg\max_{e\in[0,1]} \ e[w + \delta\beta_\ell v(\alpha Z)] - \frac{\psi e^2}{2}, \tag{3}$$

$$w \in \arg\max_{w\in[0,(1-\alpha)Z]} \ A_o^\kappa A_\ell^{1-\kappa}, \tag{4}$$

[8] Hobby Lobby states its HP as honoring God and "operating the company in a manner consistent with Biblical principles," serving its employees and their families, and "investing in our community."

[9] SpaceX states its HP as helping mankind colonize other planets. It has experienced impressive revenue growth and received high valuation estimates from analysts. But its profit performance has been weak, primarily because of large reinvestments in innovation and new hardware and software, initiatives that facilitate its HP.

where $A_o \equiv e[(1-\alpha)Z + \beta_o u(\alpha Z) - w]$, $A_\ell \equiv e[w + \delta\beta_\ell v(\alpha Z)] - \frac{\psi e^2}{2}$, and $\kappa = \frac{1}{1+\eta}$.

We first explain the firm's objective function (1). The firm meets an employee with probability $\frac{m(\eta)}{\eta} = \frac{\lambda}{1+\eta}$. Conditional on matching and given employee effort $e$, the production yields output $Z$ with probability $e$, from which the firm invests $\alpha Z$ in the HP and pays the employee his wage $w$. The firm derives utility $u(\alpha Z)$ from the HP investment only if it is type 1 ($\beta_o = 1$).[10]

The employee's participation constraint (2) ensures that he accepts the wage contract in that, given the contract and his effort choice in response ($e$ with a cost $\frac{\psi e^2}{2}$), the employee gets at least his reservation utility of 0. To understand the left-hand side (LHS), note that conditional on successful production (with probability $e$), the employee receives his wage $w$ and derives utility $v(\alpha Z)$ from the firm's HP if he is type 1 ($\beta_\ell = 1$) *and* has been connected to the HP ($\delta = 1$).

The employee's incentive compatibility constraint (3) says that the firm's expectation in offering $w$ that the employee's corresponding choice of $e$ will maximize his expected utility (derived from the offered wage and, if any, the HP) is validated by the employee's actual choice of $e$.

Lastly, $w$ is a solution to the Nash bargaining problem in (4); the bargaining weights of the firm and the employee are $\kappa$ and $1-\kappa$, respectively (Section 2.3). Through their relationship by having production commence and investing in the HP, the firm generates surplus $A_o$ (from (1)), and the employee generates surplus $A_\ell$ (the LHS of (2)). They bargain over $w$ to split the total surplus, $A_o + A_\ell = e[(1-\alpha)Z + \beta_o u(\alpha Z) + \delta\beta_\ell v(\alpha Z)] - \frac{\psi e^2}{2}$, conditional on matching.

Two comments are appropriate. First, unlike usual contracting models wherein $w$ is directly chosen to maximize the principal's utility, here $w$ is determined by bargaining. This is a dynamic optimization problem: the firm chooses $\alpha$ first, anticipating the impact of the chosen $\alpha$ on the surplus it will split with the employee, and hence the bargaining outcome $w$, which then affects $e$.

Second, in expressing the matching probability as $\frac{m(\eta)}{\eta}$, we have assumed, as discussed in Section 2.3, that there are only two possible matching scenarios in equilibrium (in which the firm-employee ratio is $\eta$): (i) separating, so type-$i$ employees seek jobs only with type-$i$ firms; and (ii) pooling, so any arbitrary employee seeks employment with any arbitrary firm. This will be verified.[11]

[10] Conditional on $z = Z$, the type-1 firm enjoys $u(\alpha Z)$ regardless of whether it connects its employee to the HP.

[11] Stating the maximization problem to include matching in a mixed submarket wherein type-$i$ employees interact with only type-$j$ firms ($i \neq j$) would introduce notational clutter that serves little useful purpose.

A firm's choice of $\alpha$ acts as a signal of its type. The equilibrium concept is Bayesian Perfect Nash Equilibrium (BPNE).

**Proposition 1** (Benchmark)**.** *There is a separating BPNE involving:*

1. *Firms choosing $\alpha_0^* = 0$ are identified as type 0 and those choosing $\alpha_1^* \in (0,1)$ are identified as type 1, where $\alpha_1^*$ is uniquely determined by*

$$u'(\alpha_1^* Z) + v'(\alpha_1^* Z) = 1. \tag{5}$$

2. *Type-0 employees seek jobs only with firms choosing $\alpha_0^*$. Once matched, such firm and employee negotiate a wage $w_0^* = \frac{2(1-\kappa)}{2-\kappa} Z$, the firm does not make the HP connection ($\delta = 0$), and the employee exerts effort $e_0^* = \frac{w_0^*}{\psi}$.*

3. *Type-1 employees seek jobs only with firms choosing $\alpha_1^*$. Once matched, such firm and employee negotiate a wage $w_1^* = \frac{2(1-\kappa)}{2-\kappa}[(1-\alpha_1^*)Z + u(\alpha_1^* Z)] - \frac{\kappa}{2-\kappa} v(\alpha_1^* Z)$, the firm makes the HP connection ($\delta = 1$), and the employee exerts effort $e_1^* = \frac{w_1^* + v(\alpha_1^* Z)}{\psi}$. Moreover, $w_1^* < w_0^*$, but $e_1^* > e_0^*$.*

4. *Firms with $\alpha = \alpha_1^*$ are believed to be type 1 for sure, while any firm choosing $\alpha < \alpha_1^*$ is viewed as type 0 almost surely. This BPNE survives the Cho and Kreps (1987) Intuitive Criterion.*

**Proof.** Subscript $i \in \{0,1\}$ indicates type $i$. We assume and verify labor market sorting: type-$i$ employees seek jobs only with firms choosing $\alpha_i$, so $\beta_o = \beta_\ell$ in the problem. Type-1 firms choose $\delta = 1$ (zero connection cost) and type-0 firms choose $\delta = 0$ ($\infty$ connection cost). Solving (3) yields

$$e_1 = \frac{w_1 + v(\alpha_1 Z)}{\psi}, \tag{6}$$

$$e_0 = \frac{w_0}{\psi}. \tag{7}$$

The first-order condition (FOC) to (4) is $A_o = \kappa(A_o + A_\ell)$. For type-1 firms and employees, substituting $\beta_o = \beta_\ell = 1$, $\delta = 1$, and (6) into the FOC yields

$$w_1 = \frac{2(1-\kappa)}{2-\kappa}[(1-\alpha_1)Z + u(\alpha_1 Z)] - \frac{\kappa}{2-\kappa} v(\alpha_1 Z). \tag{8}$$

For type-0 firms and employees, substituting $\beta_o = \beta_\ell = 0$, $\delta = 0$, and (7) into the FOC yields

$$w_0 = \frac{2(1-\kappa)}{2-\kappa}(1-\alpha_0)Z. \tag{9}$$

There are five remaining steps:

1. Determine $\alpha_1^* \in (0,1)$. Then, show:
2. $\alpha_0^* = 0$.
3. $w_1^* < w_0^*$, $e_1^* > e_0^*$.
4. Type-$i$ employees seek jobs only with type-$i$ firms.
5. The above is a BPNE surviving the Intuitive Criterion.

*1.* Substituting (6) and (8) into (1), we rewrite (1) as

$$\max_{\alpha_1} \ \frac{\lambda}{1+\eta}\frac{1}{\psi}\frac{2\kappa(1-\kappa)}{(2-\kappa)^2}[(1-\alpha_1)Z + u(\alpha_1 Z) + v(\alpha_1 Z)]^2. \tag{10}$$

Its solution $\alpha_1^*$ is in (5).[12] Replacing $\alpha_1$ in (6) and (8) with $\alpha_1^*$ yields $e_1^*$ and $w_1^*$.

*2.* Suppose a type-0 firm chooses $\alpha_1^*$, thereby hiring a type-1 employee. Given $\delta = 0$ by the type-0 firm, the type-1 employee exerts effort $\frac{w_1^*}{\psi}$, so the firm's payoff is $\frac{w_1^*}{\psi}[(1-\alpha_1^*)Z - w_1^*]$. Evaluate the derivative of this payoff with respect to $\alpha$ at $\alpha = \alpha_1^*$ by holding $w_1^*$ fixed (because the firm mimics the type-1 firm's offered wage). This derivative is negative, so the firm will not mimic the type-1 firm. Moreover, since any $\alpha > 0$ is a waste for the type-0 firm, it chooses $\alpha_0^* = 0$.

*3.* $w_0^*$ is given by (9), replacing $\alpha_0$ with $\alpha_0^* = 0$. We have

$$\begin{aligned} w_0^* - w_1^* &= \frac{2(1-\kappa)}{2-\kappa}Z - \frac{2(1-\kappa)}{2-\kappa}[(1-\alpha_1^*)Z + u(\alpha_1^* Z)] + \frac{\kappa}{2-\kappa}v(\alpha_1^* Z) \\ &> \frac{2(1-\kappa)}{2-\kappa}Z - \frac{2(1-\kappa)}{2-\kappa}[(1-\alpha_1^*)Z + u(\alpha_1^* Z)] \\ &> 0, \end{aligned} \tag{11}$$

where the last inequality follows from $u(\alpha_1^* Z) < \alpha_1^* Z$. We prove $e_1^* > e_0^*$ below.

*4.* A type-0 employee's utility from joining a type-0 firm is $e_0^* w_0^* - \frac{\psi(e_0^*)^2}{2} = \frac{(w_0^*)^2}{2\psi}$; his utility from joining a type-1 firm is $\frac{(w_1^*)^2}{2\psi}$. Since $w_1^* < w_0^*$, he seeks a job only with type-0 firms. A type-1

[12] Existence and uniqueness of $\alpha_1^* \in (0,1)$ follow because (i) $u'(x) + v'(x)$ monotonically decrease with $x$; and (ii) $u'(0) + v'(0) = \infty > 1 > u'(Z) + v'(Z) = 0$, ensured by Inada conditions on $u(\cdot)$ and $v(\cdot)$.

employee's utility from joining a type-1 firm is $e_1^*[w_1^* + v(\alpha_1^* Z)] - \frac{\psi(e_1^*)^2}{2} = \frac{[w_1^* + v(\alpha_1^* Z)]^2}{2\psi}$; his utility from joining a type-0 firm is $\frac{(w_0^*)^2}{2\psi}$. To show he seeks a job only with a type-1 firm, we prove

$$w_0^* - w_1^* = \frac{2(1-\kappa)}{2-\kappa}[\alpha_1^* Z - u(\alpha_1^* Z)] + \frac{\kappa}{2-\kappa} v(\alpha_1^* Z) < v(\alpha_1^* Z), \tag{12}$$

i.e., $u(\alpha_1^* Z) + v(\alpha_1^* Z) > \alpha_1^* Z$. The right-hand side (RHS) is the output diverted to HP, and the left-hand side (LHS) is the benefit of HP. This inequality must hold for $\alpha_1^* > 0$; otherwise, type-1 firms would have chosen $\alpha_1^* = 0$. Lastly, (12) also validates $e_1^* = \frac{w_1^* + v(\alpha_1^* Z)}{\psi} > \frac{w_0^*}{\psi} = e_0^*$.

*5.* Given the out-of-equilibrium (*ooe*) beliefs stipulated in Proposition 1, it is clear no firm will deviate from its equilibrium choice of $\alpha$. To see this BPNE survives the Intuitive Criterion, note that when $\alpha > \alpha_1^*$, there is no benefit to either firm type from deviating for any *ooe* beliefs,[13] so both types can be eliminated in Step One of the Intuitive Criterion. If $\alpha < \alpha_1^*$, then only the type-1 firm can be eliminated in Step One,[14] so it must be believed with probability one that the deviating firm is type 0. But given this belief, no firm will deviate from the equilibrium. ■

We discuss the intuition. First, (5) shows that $\alpha_1^*$ is chosen at the surplus maximizing first-best level: for each unit of output diverted to HP by a type-1 firm, its marginal cost (1; RHS) equals the marginal surplus increase (LHS) accruing to the firm ($u'(\alpha_1^* Z)$) and its type-1 employee ($v'(\alpha_1^* Z)$). Type-1 firms can do so because they do not need to engage in costly signaling (overinvesting in $\alpha$) to achieve separation from type-0 firms. By mimicking a type-1 firm, a type-0 firm can attract a type-1 employee, but this yields the type-0 firm no effort-elicitation benefit because of its inability to connect the employee to its HP. Thus, type-0 firms do not mimic type-1 firms.[15]

Second, purpose-motivated type-1 employees are paid less than type-0 employees ($w_1^* < w_0^*$), but work harder ($e_1^* > e_0^*$). HP investments increase the surplus shared between type-1 firms and employees. Since an agent's bargaining weight is type-independent,[16] type-1 employees are more motivated to work to increase the total surplus, i.e., $e_1^* > e_0^*$. Type-1 employees also derive utilities from the HP, so $w_1^* < w_0^*$. Labor market sorting obtains: type-0 employees seek jobs with type-0

[13] Choosing $\alpha > \alpha_1^*$ is equilibrium-dominated for type 1. For type 0, given that it will not mimic type 1 by choosing $\alpha = \alpha_1^*$, choosing $\alpha > \alpha_1^*$ is even worse.

[14] Choosing $\alpha < \alpha_1^*$ is equilibrium-dominated for type 1, but may not for type 0.

[15] This costless separation obtains due to our assumption of a prohibitive connection cost for type-0 firms. By eliminating signaling, we keep the benchmark case clean for the subsequent analysis which involves signaling.

[16] Bargaining weights for type-$i$ firms and type-$i$ employees are $\kappa$ and $1-\kappa$, respectively, $\forall i \in \{0, 1\}$ (Section 2.3).

firms to receiver higher wages, and type-1 employees seek jobs with type-1 firms despite lower wages because they value the HP.

# 4 Main Analysis: Social Pressure

In Section 3, the motivation for the HP pursuit comes from the value that type-1 firms and employees attach to the HP. We did not model a social benefit of the HP beyond these private benefits. But there are many examples of HPs with perceived social benefits going beyond the boundary of the firm and its employees, as indicated in the Introduction, so there may be considerable social pressure on firms to embrace the HP, with non-compliant firms being subject to social sanctions, ostracization and other "penalties." Below, we examine implications of such pressure for HP investments (Proposition 2) and welfare (Proposition 3).

Those imposing a penalty on non-compliant firms do not engage in social welfare calculations, but merely want to change behavior. This penalty, $P$, is purely dissipative: it simply imposes a cost on the firm with no direct offsetting benefit to others. For simplicity, we assume $P$ is imposed on any firm investing less in the HP than the maximum invested by others.

**Proposition 2** (Pressure)**.** *Possible equilibria depending on the magnitude of $P$:*

1. *There exists a cutoff $P_{sep}$ such that when $P \leq P_{sep}$, type-0 firms choose $\alpha_0^* = 0$ and type-1 firms choose $\alpha_1^* \in (0,1)$ given by (5). There is labor market sorting in that type-0 employees seek jobs only with firms choosing $\alpha_0^*$, and type-1 employees seek jobs only with firms choosing $\alpha_1^*$. Firms with $\alpha_1^*$ are believed to be type 1 almost surely, while any firm choosing $\alpha < \alpha_1^*$ is viewed as type 0 almost surely. This BPNE survives the Cho-Kreps Intuitive Criterion.*

2. *There exists another cutoff $P_{pool} > P_{sep}$, increasing with the fraction of type-0 employees ($\frac{\partial P_{pool}}{\partial \theta_0} > 0$), such that when $P \in (P_{sep}, P_{pool}]$, type-0 firms choose $\alpha_0^* = 0$ and type-1 firms choose $\alpha_1^{**}$, with $\alpha_1^{**} > \alpha_1^*$ and $\frac{\partial \alpha_1^{**}}{\partial P} > 0$. Type-0 employees seek jobs only with firms choosing $\alpha_0^*$, and type-1 employees seek jobs only with firms choosing $\alpha_1^{**}$. Firms with $\alpha_1^{**}$ are believed to be type 1 almost surely, while any firm choosing $\alpha < \alpha_1^{**}$ is viewed as type 0 almost surely. This BPNE survives the Cho-Kreps Intuitive Criterion.*

3. *When $P > P_{pool}$, all firms choose an HP investment $\alpha_{pool}$, with $\alpha_{pool} < \alpha_1^*$ and $\frac{\partial \alpha_{pool}}{\partial \theta_0} < 0$. There is no labor market sorting. Any firm choosing $\alpha < \alpha_{pool}$ is viewed as type 0 almost surely. This BPNE survives the Cho-Kreps Intuitive Criterion.*

Figure 1 illustrates the proposition.

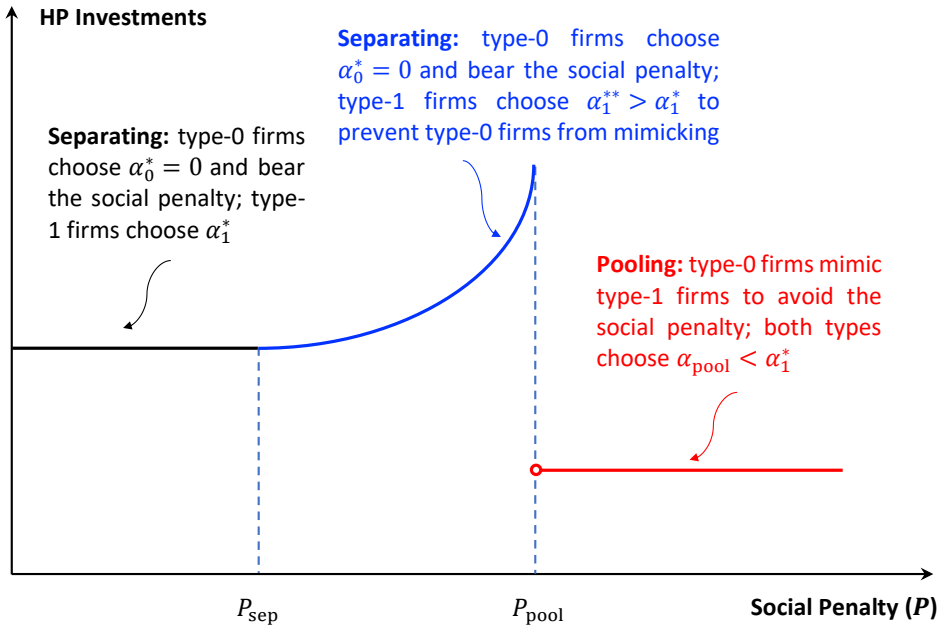


**Figure 1:** HP Investments under Social Pressure

**Proof.** Suppose type-1 firms choose $\alpha_1^*$ (see (5)) and type-0 firms choose $\alpha_0^* = 0$. A type-0 firm, upon meeting a type-0 employee (who exerts effort $e_0^* = \frac{w_0^*}{\psi}$), derives a utility $\frac{w_0^*}{\psi}(Z - w_0^*) - P$, where $w_0^* = \frac{2(1-\kappa)}{2-\kappa} Z$ (Proposition 1). If a type-0 firm deviates by choosing $\alpha_1^*$ and offering $w_1^*$ to mimic a type-1 firm, then its utility, upon meeting a type-1 employee (who exerts effort $\frac{w_1^*}{\psi}$, given $\delta = 0$ by the type-0 firm), is $\frac{w_1^*}{\psi}[(1-\alpha_1^*)Z - w_1^*]$, where $w_1^* = \frac{2(1-\kappa)}{2-\kappa}[(1-\alpha_1^*)Z + u(\alpha_1^* Z)] - \frac{\kappa}{2-\kappa} v(\alpha_1^* Z)$ (Proposition 1). No type-0 firm will deviate if $\frac{w_0^*}{\psi}(Z - w_0^*) - P \geq \frac{w_1^*}{\psi}[(1-\alpha_1^*)Z - w_1^*]$, i.e.,[17]

$$P \leq \frac{w_0^*}{\psi}(Z - w_0^*) - \frac{w_1^*}{\psi}[(1-\alpha_1^*)Z - w_1^*] \equiv P_{\text{sep}}. \tag{13}$$

[17] In writing this, note that the probability for the type-0 firm to meet a type-0 employee equals the probability for it to meet a type-1 employee (upon deviation): both are $\frac{m(\eta)}{\eta}$ because the firm-employee ratio in either submarket $i \in \{0, 1\}$ is $\eta$. We show $P_{\text{sep}} > 0$. Since $w_1^* < w_0^*$ (Proposition 1), it suffices to show $Z - w_0^* \geq (1-\alpha_1^*)Z - w_1^*$, i.e., $\alpha_1^* Z \geq w_0^* - w_1^*$. Since $w_0^* - w_1^* < v(\alpha_1^* Z)$ (see (12)), a further sufficient condition is $v(\alpha_1^* Z) \leq \alpha_1^* Z$, which is true.

The separating BPNE for $P \leq P_{\text{sep}}$ survives the Intuitive Criterion because a type-1 firm never wishes to choose $\alpha > \alpha_1^*$ (first-best HP investment) and neither does a type-0 firm which is even worse off than choosing $\alpha_1^*$ and being viewed as type 1. So, both types can be eliminated in Step One of the Intuitive Criterion. If $\alpha < \alpha_1^*$, only type 1 can be eliminated in Step One, so any firm choosing such $\alpha$ is identified as type 0 with probability one in the formation of out-of-equilibrium beliefs. Consequently, no firm deviates from the equilibrium.

Consider $P > P_{\text{sep}}$. If type-1 firms were to choose $\alpha_1^*$, type-0 firms would mimic (see (13)). We conjecture there exists $P_{\text{pool}} > P_{\text{sep}}$, such that for $P \in (P_{\text{sep}}, P_{\text{pool}}]$ type-1 firms choose $\alpha_1^{**} > \alpha_1^*$ to deter the mimicry, while both types choose $\alpha_{\text{pool}} < \alpha_1^*$ for $P > P_{\text{pool}}$. Suppose type-1 firms choose $\alpha_1^{**}$, with the corresponding wage $w_1^{**} = \frac{2(1-\kappa)}{2-\kappa}[(1-\alpha_1^{**})Z + u(\alpha_1^{**}Z)] - \frac{\kappa}{2-\kappa}v(\alpha_1^{**}Z)$. Comparing a type-0 firm's utility from mimicking, $\frac{w_1^{**}}{\psi}[(1-\alpha_1^{**})Z - w_1^{**}]$, with its utility without mimicking, $\frac{w_0^*}{\psi}(Z - w_0^*) - P$, yields $\alpha_1^{**}$ determined by

$$\frac{w_0^*}{\psi}(Z - w_0^*) - P = \frac{w_1^{**}}{\psi}[(1-\alpha_1^{**})Z - w_1^{**}]. \tag{14}$$

We show the RHS of (14) monotonically decreases with $\alpha_1^{**}$, so $\alpha_1^{**}$ is unique for a given $P > P_{\text{sep}}$ and $\frac{\partial \alpha_1^{**}}{\partial P} > 0$. Note $\frac{dw_1^{**}}{d\alpha_1^{**}} = \frac{2(1-\kappa)}{2-\kappa}[u'(\alpha_1^{**}Z) - 1]Z - \frac{\kappa}{2-\kappa}v'(\alpha_1^{**}Z)Z < 0$, since $v'(\alpha_1^{**}Z) > 0$ and $u'(\alpha_1^{**}Z) < u'(\alpha_1^*Z) < 1$.[18] So, it suffices to show $(1-\alpha_1^{**})Z - w_1^{**}$ decreases with $\alpha_1^{**}$. For this, note $(1-\alpha_1^{**})Z - w_1^{**} = \frac{\kappa}{2-\kappa}[(1-\alpha_1^{**})Z + v(\alpha_1^{**}Z)] - \frac{2(1-\kappa)}{2-\kappa}u(\alpha_1^{**}Z)$, which decreases with $\alpha_1^{**}$, since $u'(\alpha_1^{**}Z) > 0$ and $v'(\alpha_1^{**}Z) < v'(\alpha_1^*Z) < 1$. A higher $P$ causes $\alpha_1^{**}$ to further deviate from $\alpha_1^*$, lowering a type-1 firm's utility. For some $P_{\text{pool}} > P_{\text{sep}}$, type-1 firms prefer pooling. The separating BPNE for $P \in (P_{\text{sep}}, P_{\text{pool}}]$ survives the Intuitive Criterion for a reason similar to that for $P \leq P_{\text{sep}}$.

Lastly, we determine $P_{\text{pool}}$. In the conjectured pooling, type-0 firms mimic type-1 firms in HP investment ($\alpha_{\text{pool}}$) and wage ($w_{\text{pool}}$), determined similarly as in the proof of Proposition 1. For a type-1 firm, the matched employee is type 0 with probability $\theta_0$ (who exerts effort $\frac{w}{\psi}$) and type 1 with probability $\theta_1$ (who exerts effort $\frac{w+v(\alpha Z)}{\psi}$). The expected employee effort is

$$e_{\text{pool}} = \frac{w + \theta_1 v(\alpha Z)}{\psi}. \tag{15}$$

[18] Note $\alpha_1^{**} > \alpha_1^*$, so $u'(\alpha_1^{**}Z) < u'(\alpha_1^*Z)$. Since $u'(\alpha_1^*Z) + v'(\alpha_1^*Z) = 1$ (see (5)), we have $u'(\alpha_1^*Z) < 1$.

In the pooled labor market, a type-1 firm's bargaining weight is still $\kappa = \frac{1}{1+\eta}$, so the FOC for Nash bargaining remains $A_o = \kappa(A_o + A_\ell)$, where $A_o \equiv e_{\text{pool}}[(1-\alpha)Z + \theta_1 u(\alpha Z) - w]$ and $A_\ell \equiv e_{\text{pool}}[w + \theta_1 v(\alpha Z)] - \frac{\psi e^2}{2}$. Substituting (15) into the FOC yields

$$w_{\text{pool}} = \frac{2(1-\kappa)}{2-\kappa}[(1-\alpha)Z + \theta_1 u(\alpha Z)] - \frac{\kappa}{2-\kappa}\theta_1 v(\alpha Z). \tag{16}$$

Substituting (15) and (16) into the type-1 firm's objective function, we can rewrite it as

$$\max_{\alpha} \ \frac{\lambda}{1+\eta}\frac{1}{\psi}\frac{2\kappa(1-\kappa)}{(2-\kappa)^2}[(1-\alpha)Z + \theta_1 u(\alpha Z) + \theta_1 v(\alpha Z)]^2. \tag{17}$$

Its solution $\alpha_{\text{pool}}$ is determined by

$$u'(\alpha_{\text{pool}} Z) + v'(\alpha_{\text{pool}} Z) = \frac{1}{1-\theta_0}. \tag{18}$$

Since $u'' < 0$ and $v'' < 0$, we have $\alpha_{\text{pool}} < \alpha_1^*$ (note $u'(\alpha_1^* Z) + v'(\alpha_1^* Z) = 1$; (5)) and $\frac{\partial \alpha_{\text{pool}}}{\partial \theta_0} < 0$.

A type-1 firm's utility from pooling is $\frac{\lambda}{1+\eta}\frac{1}{\psi}\frac{2\kappa(1-\kappa)}{(2-\kappa)^2}[(1-\alpha_{\text{pool}})Z + \theta_1 u(\alpha_{\text{pool}} Z) + \theta_1 v(\alpha_{\text{pool}} Z)]^2$. If it continues to signal by choosing $\alpha_1^{**}$ (determined below), its utility is $\frac{\lambda}{1+\eta}\frac{1}{\psi}\frac{2\kappa(1-\kappa)}{(2-\kappa)^2}[(1-\alpha_1^{**})Z + u(\alpha_1^{**} Z) + v(\alpha_1^{**} Z)]^2$. The required $\alpha_1^{**}$ for signaling is determined by equating these two utilities:

$$(1-\alpha_{\text{pool}})Z + \theta_1 u(\alpha_{\text{pool}} Z) + \theta_1 v(\alpha_{\text{pool}} Z) = (1-\alpha_1^{**})Z + u(\alpha_1^{**} Z) + v(\alpha_1^{**} Z), \tag{19}$$

where $\alpha_{\text{pool}}$ is given by (18). This uniquely determines the cutoff value of $\alpha_1^{**}$, above which type-1 firms prefer pooling. The penalty corresponding to that cutoff value of $\alpha_1^{**}$ is $P_{\text{pool}} = \frac{w_0^*}{\psi}(Z - w_0^*) - \frac{w_1^{**}}{\psi}[(1-\alpha_1^{**})Z - w_1^{**}]$; this follows (14), except here $\alpha_1^{**}$ is given by (19).

We show the pooling BPNE survives the Intuitive Criterion. Consider a deviation $\alpha \in (\alpha_{\text{pool}}, \alpha_1^{**}]$, where $\alpha_1^{**}$ is the type-1 firm's minimum choice of $\alpha$ to deter mimicry by a type-0 firm for a given $P > P_{\text{pool}}$. In this case, type 0 will mimic type 1, so type 1 strictly prefers $\alpha_{\text{pool}}$ to any $\alpha$ in this range. While $\alpha > \alpha_1^{**}$ deters mimicry, it is also not preferred by type 1 even if it is identified as type 1 with probability one; this has been shown in the determination of $P_{\text{pool}}$. Pooling at any $\alpha > \alpha_{\text{pool}}$ is suboptimal for type 0 as well. Thus, for $\alpha > \alpha_{\text{pool}}$, both types can be eliminated in Step One of the Intuitive Criterion. If $\alpha < \alpha_{\text{pool}}$, then type 1 can be eliminated in Step One, since

the lower $\alpha$ will attract both types to deviate if the out-of-equilibrium belief corresponds to the prior, and we know that type 1 prefers $\alpha_{\text{pool}}$ with this belief. So, any deviation with $\alpha < \alpha_{\text{pool}}$ is believed to come from type 0 almost surely. Consequently, no firm deviates from the equilibrium. ■

We explain the intuition. When $P$ is low, type-0 firms prefer bearing this penalty to sacrificing revenue to invest in HP. So, type-1 firms make the first-best HP investment $\alpha_1^*$ without engaging in signaling. The only cost is the penalty incurred by type-0 firms. When $P$ is intermediate, type-0 firms are tempted to mimic type-1 firms. To deter this mimicry, type-1 firms invest more than $\alpha_1^*$ in HP. As $P$ increases, the temptation to mimic rises, so the overinvestment increases as well. The equilibrium is still separating, but losses are now suffered by both type-1 firms that overinvest in HP and type-0 firms that bear the penalty. When $P$ is high, the overinvestment required to deter mimicry is too high for type-1 firms, so the equilibrium is pooling in which type-1 firms invest less than $\alpha_1^*$ in HP. Pooling destroys efficient firm-employee matching that separation achieves, so type-1 firms face a mixed employee pool including those who care about HP and those who don't, reducing the marginal benefit of HP investment.

This highlights an interesting distortion. When the penalty is sufficiently high, the immense pressure for mimicry on type-0 firms translates into a hefty signaling cost for type-1 firms. Thus, social pressure ultimately transmits to firms that are *not* targeted by the pressure, namely type-1 firms. Ironically, these firms respond to the pressure by investing *less* in the socially-preferred HP.

Two comparative statics results are worth noting. First, $\frac{\partial \alpha_{\text{pool}}}{\partial \theta_0} < 0$: with more type-0 employees, the marginal benefit of HP is lower for type-1 firms in the pooling BPNE, so they optimally reduce HP investment. Second, $\frac{\partial P_{\text{pool}}}{\partial \theta_0} > 0$: with more type-0 employees, pooling becomes more costly for type-1 firms, so they overinvest in a wider range of penalties to signal their type.

**Proposition 3** (Welfare)**.** *Relative to the no-pressure case:*

1. *When $P \leq P_{sep}$, type-0 firms suffer the penalty, but no other agents are affected.*
2. *When $P \in (P_{sep}, P_{pool}]$, type-0 employees are unaffected, type-0 firms suffer the penalty, and type-1 firms and employees are strictly worse off.*
3. *When $P > P_{pool}$, both types of firms and employees are strictly worse off.*

**Proof.** Results for $P \leq P_{\text{sep}}$ are clear. For $P \in (P_{\text{sep}}, P_{\text{pool}}]$, results for agents other than type-1 employees are clear. For a type-1 employee, absent social pressure, his utility from joining a type-1 firm is $\frac{[w_1^* + v(\alpha_1^* Z)]^2}{2\psi}$ (see proof of Proposition 1). With social pressure, the corresponding utility is $\frac{[w_1^{**} + v(\alpha_1^{**} Z)]^2}{2\psi}$. We prove $w_1^{**} + v(\alpha_1^{**} Z) = \frac{2(1-\kappa)}{2-\kappa}[(1-\alpha_1^{**})Z + u(\alpha_1^{**} Z) + v(\alpha_1^{**} Z)]$ is smaller than $w_1^* + v(\alpha_1^* Z) = \frac{2(1-\kappa)}{2-\kappa}[(1-\alpha_1^*)Z + u(\alpha_1^* Z) + v(\alpha_1^* Z)]$. Differentiating $(1-\alpha)Z + u(\alpha Z) + v(\alpha Z)$ with respect to $\alpha$ yields $[-1 + u'(\alpha Z) + v'(\alpha Z)]Z$, which equals 0 when $\alpha = \alpha_1^*$ (note $u'(\alpha_1^* Z) + v'(\alpha_1^* Z) = 1$; see (5)), but turns negative for $\alpha > \alpha_1^*$. Since $\alpha_1^{**} > \alpha_1^*$, we have $(1-\alpha_1^{**})Z + u(\alpha_1^{**} Z) + v(\alpha_1^{**} Z) < (1-\alpha_1^*)Z + u(\alpha_1^* Z) + v(\alpha_1^* Z)$, so $w_1^{**} + v(\alpha_1^{**} Z) < w_1^* + v(\alpha_1^* Z)$.

Consider $P > P_{\text{pool}}$. The result for type-1 firms is clear. For a type-1 employee joining a type-1 firm, his utility is $\frac{[w_{\text{pool}} + v(\alpha_{\text{pool}} Z)]^2}{2\psi}$, where $w_{\text{pool}} + v(\alpha_{\text{pool}} Z) = \frac{2(1-\kappa)}{2-\kappa}[(1-\alpha_{\text{pool}})Z + u(\alpha_{\text{pool}} Z) + v(\alpha_{\text{pool}} Z)]$. Following the proof above, we know $(1-\alpha)Z + u(\alpha Z) + v(\alpha Z)$ is maximized at $\alpha = \alpha_1^*$, so the type-1 employee is worse off given $\alpha_{\text{pool}} < \alpha_1^*$. For a type-1 employee joining a type-0 firm, his utility is even lower at $\frac{w_{\text{pool}}^2}{2\psi}$. A type-0 firm's utility is $\frac{w_{\text{pool}}}{\psi}[(1-\alpha_{\text{pool}})Z - w_{\text{pool}}]$. To show this is lower than that absent social pressure, $\frac{w_0^*}{\psi}(Z - w_0^*)$, it suffices to show $w_0^* > w_{\text{pool}}$, which is obvious. Finally, type-0 employees are also worse off: $\frac{w_{\text{pool}}^2}{2\psi} < \frac{(w_0^*)^2}{2\psi}$. ■

When $P \leq P_{\text{sep}}$, there is separation between type-0 and type-1 firms and both types choose their first-best HP investments. This separation also enables type-0 and type-1 employees to seek jobs with like-minded firms. The only welfare loss comes from the penalty borne by type-0 firms.

When $P \in (P_{\text{sep}}, P_{\text{pool}}]$, type-1 firms overinvest in HP to signal, so they are worse off. This overinvestment has two conflicting effects on a type-1 employee in a type-1 firm – it directly increases the employee's utility from the HP, but also lowers his wage. The proof shows that the negative effect dominates. Type-0 firms still suffer the penalty, but their (type-0) employees are unaffected.

When $P > P_{\text{pool}}$, type-1 firms are worse off because they face a mixed employee pool including those who are purpose driven and those who are not. The consequently lower effort elicitation for any HP investment causes them to underinvest in HP. The lower HP investment reduces a type-1 employee's utility if he is hired by the type-1 firm. A type-1 employee is also worse off if he ends up joining a type-0 firm because of the absence of an HP-related utility from working for that firm. The type-0 firm is worse off due to investing in the HP that yields the firm no utility. Interestingly,

type-0 employees are also worse off. This is because the pooling wage, determined by incorporating the possibility of a reduced wage demand from a purpose-driven type-1 employee hired by a type-1 firm in the pooled labor market, is lower than the wage $w_0^*$ that the type-0 employee receives in the no-pressure case with separation (Proposition 1). Therefore, social pressure to invest in HP makes *everyone strictly worse off* when this pressure is high enough.

## 5 Conclusion

Defining organizational HP as a contribution goal that transcends the usual business goals and yet is an integral part of the firm's business, we have shown that an authentic HP will enhance welfare by lowering the firm's wage bill and yet eliciting higher employee effort. This notwithstanding, sufficiently high social pressure to adopt a preferred HP leads to distortions that can make all agents worse off. An attempt to promote more investments by firms in socially preferred purpose can unambiguously reduce welfare. Our analysis highlights a point that possibly transcends the specifics of our model, namely that even when the unregulated, free-choice equilibrium involves welfare-enhancing actions by firms, any social pressure on firms to do more of it can backfire. This also has regulatory implications. While certain actions by *some* firms may increase social welfare, mandating these actions for all firms may not be the best regulatory response.

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