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Compensation, perks, and welfare

Philipp Weinschenk *

Bonn Graduate School of Economics, Germany
Max Planck Institute for Research on Collective Goods, Kurt-Schumacher-Str. 10, 53113 Bonn, Germany

HIGHLIGHTS

- We study the provision of perks in an agency model with moral hazard.
- We show that even though perks are contractible, their provision may be inefficient.
- There can be over- as well as underinvestment in perks.
- Perks may actually harm the agent, although perks per se are enjoyable for the agent.

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ABSTRACT

In an agency model with moral hazard and limited liability, we show that the provision of perks can be inefficient, even if perks are contractible. Interestingly, there can be over- as well as underinvestment in perks. We also demonstrate that perks may actually harm the agent, although perks per se are enjoyable for the agent.

1. Introduction

Compensation of employees cannot only be purely monetary, but may also contain nonmonetary ingredients. These so called perks are indeed a common form of compensation, especially for executives.[1] There is a long-lasting debate whether perks are overprovided or not. One group of researchers (e.g., Jensen and Meckling, 1976, Grossman and Hart, 1980, Hart, 2001, Bebchuk and Fried, 2003, Bebchuk and Fried, 2004, and Yermack, 2006) argues that agents exploit the discretion they have to get perks. This is beneficial for them, but harmful for the principal and detrimental for welfare. A second group (e.g., Fama, 1980, Henderson and Spindler, 2005, Rajan and Wulf, 2006, Marino and Zábojník, 2008a, and Oyer, 2008) reasons that perks are useful instruments to align the objectives of principals and agents. This view suggests that the investments in perks are efficient. We contribute to this debate by showing that the provision of perks can be inefficient, even if perks are contractible. Moreover, we show that perks may not only be overprovided, but that there are also scenarios where they are underprovided. We also demonstrate that perks may actually harm the agent, although perks per se are enjoyable for the agent.

Also Marino and Zábojník (2008a) study a model of moral hazard and perks. Because the agent's liability is assumed to be unlimited, the principal effectively maximizes the total expected surplus and investments in perks are thus always socially optimal. Moreover, in such a framework, perks are neutral for the agent's well-being. Limited liability is therefore a key factor for our results. We think that limited liability is highly reasonable if legal constraints restrict transfers from the agent to the principal or if the agent's wealth and her possibility to take credits are bounded. Marino and Zábojník (2008b) consider an environment where employees have private information about their preferences and

* Correspondence to: Max Planck Institute for Research on Collective Goods, Kurt-Schumacher-Str. 10, 53113 Bonn, Germany. Tel.: +49 0 228 91416 33; fax: +49 0 228 91416 62.
E-mail addresses: weinschenk@coll.mpg.de, p.weinschenk@gmx.de.

[1] In Grinstein et al. (2009) random sample of 361 firms belonging to the S&P 1500 Index, for the years 2006–2007, 90% of firms provide perks to their top five executives and the mean annual value is $296,300.

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outside opportunities. To screen the employees, the firm optimally provides different bundles of perks and salary. Canidio and Gall (2012) show that perks can be useful in a model of career concerns and multiple tasks to increase the opportunity costs of tasks which are more visible than others.

2. Model

There are two risk-neutral parties, a principal (she) and an agent (he). One can think of the agent as an employee and the principal as a firm owner. The agent exerts noncontractible effort $e \in \{0, 1\}$, where 0 indicates shirking and 1 working. Working causes private costs for the agent of $c > 0$, whereas shirking is costless.

Monetary compensation depends on performance. Performance is good, G, or bad, B. The probability of good performance is $p(e)$. Working increases the probability of good performance: $0 < p(0) < p(1) < 1$. The agent earns wage w_S, with $S \in \{B, G\}$. His liability is limited to his wealth, which we normalize to zero. Therefore, wages have to be nonnegative: $w_S \geq 0$ for all $S \in \{B, G\}$. To guarantee that the agent participates if the contract obeys limited liability, we suppose that the agent's reservation payoff is zero.[2]

Nonmonetary compensation takes the form of perks. We suppose that the principal can invest in perks or not and this is contractible. Perks cause costs of $k > 0$ for the principal and increase the agent's utility by $v(1)$ if he works and by $v(0) > 0$ if he shirks. Effort and perks are complements in the agent's utility function: $\Delta v := v(1) - v(0) > 0$.[3] The idea is that perks make exerting effort more enjoyable. For example, if effort measures the hours the agent spends working in his office, the agent's benefit from having a nice office is higher, the longer he works. Another example is a corporate jet: the difference in utility between flying in a corporate jet versus flying commercially increases with the flight length, which is a proxy for the agent's effort.[4] We suppose that $c > \Delta v$, which ensures that perks alone are not sufficient to motivate the agent to work; at least some monetary incentives are necessary.

The principal earns a gross profit of $\pi(S)$, with $S \in \{B, G\}$. We assume that $\pi(G)$ is sufficiently high so that the principal optimally hires the agent and implements that he works.

The timing is as follows:

1. The principal suggests a contract $\mathcal{C} = (w_B, w_G, P)$, with w_B, $w_G \geq 0$ and $P \in \{\text{perks, no perks}\}$.
2. If the agent accepts, the game continues; if he rejects, the game ends and parties receive their reservation payoffs.
3. The principal invests according to $\mathcal{C}$ and the agent chooses effort e.
4. Performance S realizes and the wage is payed according to $\mathcal{C}$.

It is useful to interpret the ratio $p(1)/p(0)$ as the precision of the performance measure. The more precise the measure is, the less important are random factors, and the higher $p(1)/p(0)$ is. The ratio $v(1)/v(0)$ is interpreted as the work-relatedness of perks. It measures the complementarity between effort and perks.

3. Analysis

3.1. Principal's problem

The agent will only choose to work if his expected utility from working is at least as high as the one from shirking.[5] Without perks the incentive constraint is thus

$$p(1)w_G + (1 - p(1))w_B - c \geq p(0)w_G + (1 - p(0))w_B. \tag{1}$$

This can be rewritten as

$$\Delta p \Delta w \geq c, \tag{2}$$

where $\Delta p := p(1) - p(0)$ and $\Delta w := w_G - w_B$.

It is readily verified that the cost minimizing wage scheme, which respects the limited liability and the incentive constraints, is

$$w_B = 0 \quad \text{and} \quad w_G = \frac{c}{\Delta p}. \tag{3}$$

The principal's expected wage payment is then

$$E[w|\text{no perks}] = \frac{p(1)c}{\Delta p}. \tag{4}$$

With perks, the incentive constraint changes to

$$\Delta p \Delta w \geq c - \Delta v. \tag{5}$$

The principal optimally sets

$$w_B = 0 \quad \text{and} \quad w_G = \frac{c - \Delta v}{\Delta p}. \tag{6}$$

Her expected wage payment is then

$$E[w|\text{perks}] = \frac{p(1)(c - \Delta v)}{\Delta p}. \tag{7}$$

The complementarity between effort and perks allows the principal to cut back monetary compensation, cf. (3) and (6), which saves the principal in expectation

$$\frac{p(1)\Delta v}{\Delta p} > 0. \tag{8}$$

The principal buys perks if and only if they cost up to the amount which the principal saves in expectation on wages:

$$k \leq \frac{p(1)\Delta v}{\Delta p}. \tag{9}$$

3.2. Planner's problem

To have a benchmark for the principal's investment decision, suppose now that a utilitarian planner decides about perks. The planner does not care about wage payments, because these are just transfers between the risk-neutral parties. Hence, the planner buys perks if and only if they do not cost more than their consumption utility:

$$k \leq v(1). \tag{10}$$

3.3. Comparing the solutions

Examining (9) and (10) yields that the principal's willingness-to-pay for perks, $p(1)\Delta v/\Delta p$, exceeds the one of the planner, $v(1)$, if and only if

$$\frac{v(1)}{v(0)} > \frac{p(1)}{p(0)}. \tag{11}$$

Then, from the planner's perspective, the principal's investment is either efficient or too high. Overinvestment occurs for $k \in (v(1), p(1)\Delta v/\Delta p]$.

The principal's willingness-to-pay falls short of the one of the planner if and only if

$$\frac{v(1)}{v(0)} < \frac{p(1)}{p(0)}. \tag{12}$$

Then, the principal's investment is either efficient or too low. Underinvestment occurs for $k \in (p(1)\Delta v/\Delta p, v(1))$, in which case the principal does not invest in perks, although this would enhance welfare.

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2 This assumption is standard; see Laffont and Martimort (2001, Chapters 4 and 5).

3 This assumption is also made in the models of Marino and Zábojník (2008a) and Oyer (2008). It is empirically supported by the findings of Oyer (2008) and Rajan and Wulf (2006).

4 We thank an anonymous referee for suggesting this example.

5 To avoid open set problems, we impose the standard assumption that the agent chooses to work in case of indifference.