

Commitment to a Prosocial Mission: The Facilitating Role of the Manager

Thesis for the Master in Economics & Business Economics

of

Erasmus University Rotterdam

Erasmus School of Economics

Bobby de Meulder

Student number: 429516

27 August 2019

Thesis Supervisor: J. Delfgaauw

Second Assessor: J.J.A. Kamphorst

Abstract

This theoretical analysis provides a mechanism to make a profit maximizing owner able to commit to a prosocial policy. In this model the commitment to a prosocial policy is crucial to motivate the prosocially motivated employee in the organization. From the analysis follows that adopting a prosocial policy can be of high value for the owner from an ex-ante perspective. However, the owner has ex-post incentives to deviate from the prosocial policy which is harmful for the motivation of the employee. This is the case because the employee anticipates the deviation, and therefore will be demotivated or even refuses to participate in the organization. To tackle this problem, a manager with social motivations is introduced to the organization and made residual claimant. The owner delegates the decision rights about the implementation of projects to the manager. By providing the manager with financial incentives, the owner is able to make that the manager balance the financial and social interests optimally from the owner's ex-ante perspective. Consequently, the owner is able to earn more profits and conduct business in settings where this was previously impossible.

Table of Contents

I. INTRODUCTION	- 3 -
II. RELATED LITERATURE.....	- 6 -
1. Prosocial Motivation	- 6 -
2. Delegation	- 8 -
3. Social Enterprises	- 9 -
4. Organizational Design, Sorting and Incentives	- 10 -
III. ANALYSIS	- 12 -
1. Two Tier Setting.....	- 12 -
2. Three-tier Setting	- 28 -
IV. CONCLUSION AND DISCUSSION.....	- 39 -
V. BIBLIOGRAPHY	- 44 -
VI. APPENDIX.....	- 49 -

“There is one and only one social responsibility of business to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game”

Milton Friedman in *Capitalism and Freedom* (1962)

“That responsibility [of the manager] is to conduct business in accordance with their [the shareholders] desires, which generally will be to make as much money as possible while conforming to their basic rules of the society”

Milton Friedman in *The social responsibility of business is to increase its profits* (1970)

I. Introduction

Following the reasoning of Milton Friedman one would expect that businesses are reluctant to undertake costly actions that serve a greater goal than maximizing profits alone. However, there exist numerous examples where businesses position themselves as being “social responsible” or “sustainable entrepreneurs” creating the impression that Friedman’s way of thinking might be too narrow. Take the financial services company Wells Fargo for example, it donates up to 1.5% of its revenue to non-profit organizations and its staff volunteered 2 million hours in 2017 alone (Business Wire, 2018).¹ In 2008 Coca Cola committed to reduce emissions with 25% in 2020 (The Coca Cola Company, 2018). Many more similar initiatives quickly pop up in mind. Are these companies that irresponsible and forgetting about their primary goal: making profits?

The activities of Wells Fargo and Coca Cola are most often labelled as Corporate Social Responsibility. Companies give up on some profits in order to serve society (Bénabou & Tirole, Individual and corporate social responsibility, 2010), for example by introducing an environmental friendly mission. However, Bénabou & Tirole make an important notion here; the social focus may well increase profits because it is likely to shift the manager’s horizon from short to long-term. Furthermore Baron (2001) notes that corporate social responsibility is appealing for some organizations because it can be of high strategic value. The competitiveness of an organization might increase because there exists a demand in the market for products

¹ Ironically Wells Fargo is recently fined \$185 million for a fraudulent account openings (Levine, 2016). Former Wells Fargo employees stated that they were drove to behave fraudulent because of the high-pressure sales culture (Arnold, 2016).

produced by social responsible firms. However, the introduction of corporate social responsibility comes with an important challenge for the organization; it should convince the consumers that the corporate social responsible initiatives arise from intrinsic motivations, rather than from an extrinsic motivation to increase profits (Du, Bhattacharya, & Sen, 2007). The high strategic value of the prosocial initiatives alone may well disprove Friedman's reasoning that these businesses are "preaching pure and unadulterated socialism" (Friedman, 1970, p. 1).

Aside from the strategic value, the organizations may well truthfully act prosocially in the market because of the altruistic desires from within the organization. There could be prosocially motivated entities within the organization who feel the desire to undertake actions that benefit others (Batson, 1987). The nature or quality of the good produced can be of high importance for the overall effect on social welfare (Francois & Vlassopoulos, 2008). Therefore, it is not surprising that organizations that produce a good or service that comes with considerable positive externalities attract employees that are prosocially motivated (Leete, 2001). Tonin & Vlassopoulos (2010) disentangle action-oriented altruism from output-oriented altruism, which they both consider as the two main sources of prosocial motivation. The employees that are characterized by output-oriented altruism exert significantly more effort in case they work for an organization that is mission-oriented (Fehrler & Kosfeld, 2014).

Whether an organization prioritizes the impact on its environment or not is long considered to be one of the key differences between for-profit and non-profit organizations. However, Besley & Ghatak (2017) underline that organizations can benefit from having hybrid missions in competitive markets. In their theoretical analysis they focus on the organizations that balance profits and the social impact by having flexible missions. Besley and Ghatak label these kind of organizations as social enterprises. Prosocial managers play a key role in facilitating the demand to adopt a hybrid mission. Kajackaite & Sliwka (2018) analyse the facilitating role of the manager with decision rights in the process of arranging a mutual concession between prosocially motivated employees and a profit maximizing owner. From their lab experiment followed that a commitment to the prosocial mission will increase effort. Murdock (2002) analyses the role of commitment to optimally incentivize intrinsically motivated employees by introducing implicit contracts.

Most analyses about the conflict between the prosocially motivated employees and the interests of a profit-maximizing owner are characterized by a two-tier principal-agent approach. This work will attempt to combine the implications of the models of Murdock (2002) and Besley & Ghatak (2017). This will result in a three-tier principal-agent analysis where the importance of commitment will be analysed for flexible missions. Flexible missions, or prosocial undertakings per se, can be beneficial for an owner with only financial motivations. This is also obtained in this analysis. However, the prosocially motivated employees require a commitment from the owner since they anticipate ex-post deviation on the owner's side. Even though an owner would acknowledge the benefits of acting prosocially, he could be trapped in a situation where he is unable to convince the employee that he truthfully will act prosocially. Therefore, a manager with social motivations is introduced and provided with financial incentives who is delegated to determine which projects with the associated financial and social payoffs should be implemented. With this particular design, the owner can tweak the decision making of the manager with the financial incentives to end up with the most profitable outcome. Important to note here is that the owner does not provide financial incentives for the social outcomes itself. Rather it provides the manager with financial incentives to make him more concerned about the financial payoff compared to the social payoff. More generally, this analysis contributes to the greater objective whether, and how, profit-maximizing owners should credibly change their perspective from ex-post to ex-ante.

Furthermore, this analysis has some resemblance with the research of Kajackaite & Sliwka (2018). They also introduce a manager that functions as a commitment device to incentivize prosocial motivated employees. However, the manager in their model is merely allowed to divide generated resources, whereas in this model the manager is entitled to select the right projects in order to pursue flexible missions. Moreover, with this analysis the prosocial motivation of the employee relates to the externalities generated by the projects instead of simple donations to a charity. Therefore, the employee can also suffer from the economic activity of the organization since a project can yield negative externalities. This was not the case in the model of Kajackaite & Sliwka (2018).

The remainder of this work is structured as follows. In section two, I provide an overview of the related literature with a specific focus on prosocial motivation, delegation and social enterprises. Next, in section three, I introduce the two-tier principal-agent model as a

benchmark. Thereafter, I extend this model to a three-tier principal-agent analysis. In section four, I will conclude and provide recommendations for future research.

II. Related Literature

This work mostly relates to the economic literature that deals with prosocial motivations, social enterprises with hybrid missions and the delegation of authority in organizations. First, I present an overview of the existing literature on prosocial motivation. Thereafter, I will discuss the literature related to the delegation of decision rights in organizations. This eventually leads to a discussion about the existence of social enterprises. To finish the theoretical framework, I will provide a short overview about organizational design, sorting and incentives.

1. Prosocial Motivation

Employees, or human beings in general, have various reasons to perform different kinds of tasks. Generally, in economics the drive that individuals have to execute tasks is referred to as motivation. Motivation can be best described as the inner process that directs, energizes and sustains action originating from an interaction with the individual's environment (Latham & Pinder, 2005). The willingness to exert effort can originate from different motivational sources. Three types of motivation will be discussed, being extrinsic, intrinsic and prosocial motivation.

Extrinsic motivation is the drive of employees to engage in a certain task in order to obtain a certain goal that is separated from the task itself (Amabile, 1993), which could be both pecuniary and nonpecuniary. Studies show that the introduction of extrinsic incentives in organizations could result in considerable productivity increases (e.g. Lazear (2000), Pendergast (1999)). Formerly, rewards and punishments were assumed to be the most important elements to motivate the workforce, however, this extrinsic incentives bias can make principals blind for other, powerful sources of motivation (Heath, 1999).

In the literature, intrinsic motivation is often contrasted with extrinsic motivation. Intrinsic motivation can be best described as "the doing of an activity for its inherent satisfactions rather than for some separable consequence" (Ryan & Deci, 2000, p. 56). The intrinsic motivation originates from a natural tendency and not from the rewards or punishments associated with a certain action, as was the case with extrinsic motivation. The traditional assumption that

employees dislike work appears to be invalid because individuals can be interested in and derive joy from their work aside from the extrinsic incentives (Amabile, Hill, Hennessey, & Tighe, 1994).

In the psychological, organizational and economic literature, the potential drawbacks of incentive schemes gained attention in the last couple of decades. Managers should be careful with offering extrinsic rewards because it may well have negative effects in certain settings or it can be ineffective for specific groups of workers (Kohn, 1993). For example, extrinsic incentives are known to potentially crowd out the intrinsic motivations of agents to fulfil a certain task (Frey, 1994), leaving the manager worse off in the long run (Gneezy, Meier, & Rey-Biel, 2011).

Another important driver of human actions is prosocial motivation. Prosocial motivation is the inner desire to undertake costly actions in order to benefit other people (Batson, 1987), originating from various personality traits. Agreeableness, one of the five major dimensions of personality structure (Rothmann & Coetzer, 2003), is one of the traits that make an employee prosocial motivated (Graziano, Mabashi, Sheese, & Tobin, 2007). Furthermore, an empathic concern for others is another important trait that drives the prosocial motivation to undertake action (Penner, Dovidio, Piliavin, & Schroeder (2005), Twenge, Baumeister, DeWall, Ciarocco, & Bartels (2007). When motivated to make a prosocial difference, employees are taking into account the impact on beneficiaries and feel the need to maintain or increase the welfare of others (Grant, 2007).

In order to form a solid foundation for this research, it is important to highlight the differences between intrinsic and prosocial motivations. Grant (2008) underlines the three major differences between intrinsic and prosocial motivation. First of all, with intrinsic motivation, employees feel themselves naturally drawn to exert effort and is therefore based on self-determination and autonomous choice (Kehr, 2004). On the other hand, with prosocial motivation, employees are inclined to exert effort based on conscious self-regulation and self-control to accomplish a goal (Gagné & Deci, 2005). Second, in contrast to intrinsic motivation, where employees care about the current joy of the task itself (Amabile, et al., 1994), prosocial motivation is all about the outcomes of an action in the future period. Lastly, employees are outcome focussed when motivated by prosocial motives (Grant, 2007). With intrinsic motivation, employees are motivated by the process of completing the task (Amabile, 1993).

Furthermore, where extrinsic incentives might crowd out intrinsic motivation, the effects of extrinsic rewards could be higher in case these are offered to prosocial motivated employees (Ashraf, Bandiera, & Jack, 2014).

In the paper by Tonin & Vlassopoulos (2010) action-oriented altruism and output-oriented altruism are contrasted and the separate effects on the motivation of individuals are assessed. Action-oriented altruism is what Grant (2008) considers as intrinsic motivation: “the worker derives directly nonpecuniary benefits from the act of contributing to a cause she cares about” (p. 1). Grant’s (2008) prosocial motivation is mostly related to Tonin & Vlassopoulos’ (2010) definition of output-oriented altruism: “the worker is concerned about the actual impact of her actions on the well-being of others” (p. 1).

2. Delegation

Organizations are characterized by a certain form of hierarchy where authority is, to a various extent, divided across individuals and business units. The entities with the legal, enforceable authority face the difficult task to decide to what extent it is beneficial and efficient to transfer decision rights in the organization. The entities in the organization that own the assets of the organization, are considered to have the formal authority (Grossman & Hart, 1986). Even though the owners of an organization have the formal authority, it is very common that other entities in the organization receive decision rights to make important decisions on behalf of the owner.

The transfer of decision rights, regularly termed as delegation, can come with considerable advantages and, in some specific situations, can be essential for the existence of the organization. Holmström (1984) underlined in his work on delegation that there exist two important advantages of transferring the decision rights within the organization. First, administrative costs are saved and conditional on the fact that information coordination does not yield relative large benefits, delegation is cost efficient. Second, by delegating the decision rights, the principal can pre-commit itself to a certain mechanism. Aghion & Tirole (1997) elaborate on this and conclude that the credible transfer of formal authority to an agent can increase the agent’s incentive to acquire information, or exerting effort in general, because the principal pre-commits itself from overruling the preferred decisions of the agent. Delegation comes with a loss of control, which is costly. Essentially, in some cases unprofitable decisions

will be made by the agent which hurts the principal. Therefore, the owner has to trade off the loss of control with the gains in motivation of the agents.

Rotemberg & Saloner (2000) analyse the delegation of decision rights to visionary CEOs. These CEOs are biased towards certain kinds of projects and against others. In the process of implementing a new direction of the organization, the visionary CEO functions as an important commitment device. As a result, employees are more motivated to work hard on the projects, especially in case the employees are rewarded based on the implementation of a project. Bester (2009) adopts a model that exhibits the opportunity to delegate decision rights in order to deal with the heterogeneity of preferences of different stakeholders in organizations. Authorized entities often fail to take the externalities generated by the production of a service or product into consideration. In case the interests of various stakeholders in the organization diverge, the manager with the preferences that are closest aligned to the maximization of the total surplus should have the decision rights. Essentially, the manager has the perfect 'bias'.

3. Social Enterprises

Roughly a decade ago Martin and Osberg (2007) noticed that social entrepreneurship was gaining interests of many researchers, but that there was still little understood about the exact positioning and role of it in the market. The goal of social entrepreneurship, or alternatively described as the hybrid mission of social enterprises (e.g. Katz and Page (2010), Light (2011)), boils down to balancing profits with a positive social impact. In fact, this makes that prosocial motivation is of high importance in this type of organizations. The social enterprises have the characteristics of both for-profit and non-profit organizations in that vein. However, Besley and Ghatak (2017) recognize that these two types of organizations are characterized by rigid missions. Social enterprises distinguishes from for-profit and non-profit organizations because these can adopt flexible missions, instead of rigid ones.

Porter and Kramer (2011) take it even one step further and argue that the purpose of the existing organizations, the for-profit and non-profits, should be redefined. Generating profit should not be the main, driving objective, rather it should be to create shared value, focussing on connecting social and economic progress. Capitalism will be reshaped and innovation will be driven by the pursuit to create shared value in the future, they argue in their paper. According to them CSV organizations fill a gap that the conventional organizations may be unable to fill.

Important here is to take into consideration the difference between Corporate Social Responsibility (CSR) and Creating Shared Value (CSV). Bénabou and Tirole (2010) argue that CSR is about “sacrificing profits in the social interest”. Baron (2001) makes an important distinction between genuine and strategic CSR, where the latter is introduced to increase competitiveness and consequently, profitability. This is to some extent related to what Porter and Kramer (2010) perceive as CSV; “CSV is integral to a company’s profitability and competitive position” (p. 16). In other words, they argue that economic and social benefits are connected and that it is not about doing good per se.

Social enterprises have to overcome an important problem that may arise in the market that is characterized by a competitive environment. The reputational value of the prosocial handling can become diluted by incentivizing the prosocial act, causing the stakeholders to doubt whether the initiators in the organization are genuinely concerned with increasing the overall welfare (Ariely, Bracha, & Meier (2009), Bénabou & Tirole (2006)). This may leave the customers, investors and employees with distrust and could possibly make them reluctant to enter the economic transaction. However, as was discussed by Bester (2009), delegating the decision rights to a manager that naturally makes the appropriate trade-off would take away the need to incentivize prosocial handling.

4. Organizational Design, Sorting and Incentives

In the economic literature it is often assumed that individuals respond to incentives. Bénabou & Tirole (2003) show in their work on intrinsic and extrinsic motivation that the effect of incentives on the behaviour of individuals depends on many factors. Extrinsic incentives may have an impact in the short run, however this may not outweigh the loss in motivation in the long run. The exact effect of incentives depends on the motivations of the employees. Francois (2007) obtains that the introduction of performance related compensation can result in lower output and damage profits if the employees are motivated by the mission or the specific output the organization produces. In their model, Besley & Ghatak (2005) analyse the heterogeneous mission preferences of employees. A good match between a mission oriented principal and an intrinsically motivated agent can take away the need of having incentives to achieve the second best effort level. Furthermore, employees self-select themselves into organizations with a mission that suits best with their personal preferences. Sorting and self-selection based on the heterogeneous motivations of employees is also studied by Delfgaauw & Dur (2007). In their

work they show that the different characteristics of organizations and employees in the public sector make the contract design and recruitment process distinctive from the private sector. Whether an employee is motivated by action oriented altruism or output oriented altruism is of great importance for the contract and organizational design (Francois & Vlassopoulos, 2008). An excess supply of motivated agents makes a non-profit form more appealing than a for-profit form for the principal because it can extract more rents from the employees (Ghatak & Mueller, 2011). Therefore, organizational choice may not always depend on the prosocial motivations of the principal alone. It may well be the most efficient option (Glaeser & Shleifer, 2001).

III. Analysis

This section develops a stylized model of motivations, incentives and delegation of decision making in a three-tier principal-agent structure. The three-tier structure in the hypothetical organization consists of an owner, a manager and an employee. The model discussed has three elements. First, the product or service produced by the organization is characterized by a monetary payoff and a nonpecuniary social payoff. By including the social payoffs for the environment of the organization in the model, the positive or negative externalities for third parties are captured. Second, the employee derives either a positive or negative utility from the produced good, depending on whether it causes positive or negative externalities. The same holds for the manager selected by the owner. Third, the introduction of a manager will make the owner able to commit to a prosocial mission.

1. Two Tier Setting

This section is devoted to a two tier principal-agent structure where the principal, from now on labelled as *owner*, is concerned with maximizing the profits of the organization. The agent, which will be labelled as *employee*, is meant to undertake costly actions to generate profits for the organization. The most important feature of this analysis is that the employee is only motivated by the social impact of the organization. Therefore, the owner and the employee have contrasting objectives. Since the owner is concerned with maximizing profits, spending resources on social initiatives or implementing unprofitable projects would initially seem counterintuitive. However, with this analysis I will show that the owner actually can have valid reasons to implement a prosocial policy in certain circumstances. To be able to benefit from the prosocial interests of the employee, the owner should be willing to undertake prosocial actions that are costly from an ex-post perspective. Nonetheless, these actions can be of high value from an ex-ante perspective because the employee will be more inclined to exert effort.

In this two tier principal-agent analysis it is assumed that the owner can credibly commit to a certain policy. Would this not be the case, the employee would anticipate deviation because the owner is known to purely care about the financial aspects of a certain economic activity. This two-tier analysis will function as a benchmark. Later, in the three-tier principal-agent analysis, this assumption will be relaxed and a manager will be introduced which will function as a commitment device in the organization.

1.1. Projects

Consider an organization that is dedicated to generate a good or service with a monetary and a nonpecuniary social payoff. The organization is directed by the owner. The owner hires an employee who is supposed to exert effort in order to generate projects. The process of generating a project is uncertain, the outcome of the project is not specified ex-ante. However, the more effort the employee exerts, the higher the probability that it will actually create a project idea. In essence, the employee can choose the probability of generating a project. Therefore the effort level meets the following requirement:

$$e \in [0, 1]$$

In order to implement a project that is created by the employee, the assets of the organization are needed. The decision rights of these assets are allocated at the owner. Therefore, the owner's preferences about the outcome of the project are of great importance in this setting. It is assumed that the owner does merely value the monetary payoff associated with the implementation of the project. The externalities related to the project do not benefit or harm the owner directly and the employee is aware of this.

Provided that the employee succeeded in creating an implementable project, it can have a positive monetary payoff $\bar{\pi}$ with probability q . In a similar vein, $\underline{\pi}$ represents the potential negative monetary payoff that comes with the implementation of the project. This occurs with probability $1 - q$. Furthermore, in case a project is implemented, a nonpecuniary social payoff is realized. The social payoff can either be classified as a positive externality \bar{s} or as a negative externality \underline{s} . The probability that the externality is positive is denoted by p and a negative externality occurs with probability $1 - p$. The pecuniary and nonpecuniary payoffs satisfy the following conditions:

$$-\underline{\pi} < 0 < \bar{\pi}$$

$$-\underline{s} < 0 < \bar{s}$$

Both the monetary and the social payoff can be negative and positive². As a result, there exist four potential outcomes of the implementation of the project. The four cases are summarized in *Table 1*.

² Note that parameters $\underline{\pi}$ and \underline{s} are defined as positive numbers.

Case	Payoffs	Probability
1.	$\bar{\pi} ; \bar{s}$	qp
2.	$\bar{\pi} ; \underline{s}$	$q(1 - p)$
3.	$\underline{\pi} ; \bar{s}$	$(1 - q)p$
4.	$\underline{\pi} ; \underline{s}$	$(1 - q)(1 - p)$

Table 1: The potential outcomes of a project.

Immediately it can be derived that in the fourth case, where both the monetary payoff and the social payoff are negative, that neither the owner nor the employee will be able to obtain a positive utility. Therefore, projects yielding a negative monetary and social payoff will never be implemented since it is not appealing for either of the parties involved in the transaction.

1.2. Utilities

Employee. In line with the literature on contract design in principal-agent relationships, the employee faces an utility function which depends on the amount of effort exerted, the compensation received from the principal and the nonpecuniary benefits from working at the organization. The utility of the employee is positively related to the wage received and the positive externalities \bar{s} associated with the successful implementation of a project. However, it could also be the case that the owner implements a project that causes negative externalities resulting in a negative utility for the employee. Furthermore, the utility of the employee decreases with the level of effort exerted to come up with a project idea. The utility derived from the implementation of project i is given by:

$$U_e^i = s_i - c(e) + w_e$$

where s_i reflects the externality, which can be positive or negative. The fixed wage the employee receives is denoted by w_e . It is assumed that the fixed wage paid is equal to w_e , irrespective of the outcome of the project. The employee has a limited liability constraint because its financial resources are assumed to be zero. As a result, the owner is not able to extract rents from the employee. Generally speaking, the wage paid to the employee is assumed to be nonnegative ($w_e \geq 0$). The costs of exerting effort are denoted by $c(e)$ and equal $\frac{1}{2}e^2$. Furthermore, it is assumed that the employee is risk neutral.

Owner. It is assumed that the owner does purely care about the financial payoff that is generated by the implementation of a project. Since the employee does merely value the social impact, the preferences of the employee and the owner might mismatch in some cases. Formally, the utility of the owner is positively related to a positive monetary payoff and negative associated with a negative monetary payoff. Additionally, the owner's utility is negatively affected by the fixed wage paid to the employee. The utility of the owner in case project i is implemented can be represented by the following:

$$U_o^i = \pi_i - w_e$$

Hence, the owner is concerned with maximizing expected profits, and therefore does not directly take into account the externalities that come with the implementation of the project. The owner is, as is the case with the employee, assumed to be a risk neutral entity.

1.3. Policies

The owner of the firm is legally entitled to decide whether to implement a project proposed by the employee because it owns the assets needed for the completion of a project. Therefore, the owner is concerned with the choice for an implementation policy that maximizes the expected profit of the organization. The policy states for every unique case whether the project will be implemented or not. Since the employee does care about the externalities related to a given project, the owner could take this into consideration when deciding which implementation policy to follow. From an ex-ante perspective, it may be beneficial to propose an implementation policy with more attention for the externalities related to a given project. The employee may well be more willing to exert effort in case it can rely on the implementation of projects that generate considerable positive externalities, increasing the probability that the employee actually comes up with a project idea. This hinges on the logic that an employee could become more motivated when the owner commits to a policy where the positive and negative externalities are balanced more evenly with the financial payoffs. The owner could choose to turn a blind eye to situations where the project yields a positive monetary payoff and considerable negative externalities. Or alternatively, choose to implement a project that comes with a negative financial payoff and substantial positive externalities. Therefore, the motivational effects of a given policy may convince the owner to act more prosocial by balancing the pecuniary and nonpecuniary payoffs more evenly.

As mentioned earlier, there are four potential cases that could occur. For each of these cases it is assumed that ex-ante the owner could commit to an implementation policy that states in which cases the project will be implemented. Since in the fourth case both the financial and the nonpecuniary social payoff are negative, the analysis will mainly focus on the remaining three cases where the total expected utility can be positive. In the first case both payoffs are positive. In the second case the monetary payoff is positive and the externalities are negative. Lastly, in the third case the financial payoff is negative and externalities are positive.

Given the three relevant cases, four policies the owner can commit to will be formed. *Table 2* provides an overview under which conditions a project will be implemented for all four policies. The policies differ in how the financial and social interests are balanced. To compare the four unique policies, the optimal effort levels from the perspective of the employee will be determined. By analysing the expected utility functions of the employee, the optimal effort level and the corresponding payoff for the owner can be computed for all policies. To start the analysis, the probability that a project yields a positive monetary outcome will be normalized to $q = (1 - q) = \frac{1}{2}$. The same holds for the social payoff, $p = (1 - p) = \frac{1}{2}$. Basically this implies that the corresponding payoffs are assigned randomly to each generated project. The expected utility for each policy will be denoted by $E[U_e^{Policy\ j}]$ where $j \in \{A, B, C, D\}$.

Policy	Conditions
A	$\bar{\pi}$
B	\bar{s}
C	$\bar{\pi}$ and/or \bar{s}
D	$\bar{\pi}$ and \bar{s}

Table 2: Overview of the conditions of the four policies.

Policy A: Implement if $\bar{\pi}$. With this policy the owner chooses to exclusively implement projects that yield a positive monetary payoff. Whether the project generates negative or positive externalities is not taken into consideration by the owner of the organization. To begin with, the expected utility of the employee will be computed for this policy. The expected utility can be denoted by the following:

$$E[U_e^{Policy\ A}] = w_e + e_A[qp\bar{s} - q(1 - p)\underline{s}] - \frac{e_A^2}{2}$$

As can be obtained from the utility function, the employee will receive a positive payoff when the project generates positive externalities, but the opposite holds when the project is associated with negative externalities. Given this prospect, the employee will choose a corresponding effort level that maximizes its expected total payoff. The optimal effort level e_A^* is given by:

$$e_A^* = qp\bar{s} - q(1-p)\underline{s}$$

$$e_A^* = \frac{\bar{s} - \underline{s}}{4}$$

Immediately it is obtained that the effort level of the employee increases with the probability that the externality is positive and the corresponding magnitude of that externality. Furthermore, a negative externality lowers the effort level of the employee. Additionally, the higher the probability that the project yields a positive monetary return, the higher the effort level. This is intuitive because the owner of the organization actually needs to be willing to implement the project in order to generate a payoff for the employee. Moreover, note that the willingness to exert effort crucially depends on the magnitude of the positive and negative externalities. Given that the negative externalities are relatively large compared to the positive externalities, the employee might choose to exert no effort at all. Actually, this is the case if the absolute value of the negative externalities is weakly larger than the positive externalities:

$$e_A^* = \begin{cases} \frac{\bar{s} - \underline{s}}{4} & \text{for } \bar{s} > \underline{s} \\ 0 & \text{for } \bar{s} \leq \underline{s} \end{cases}$$

Policy B: Implement if \bar{s} . With this particular policy, the projects that generate positive externalities will be selected by the owner, regardless of the financial payoffs attached to the project. Put differently, the owner puts large weight on the prosocial motivations of the employee. The expected utility of the employee for this specific policy is given by the following:

$$E[U_e^{Policy B}] = w_e + e_B[qp\bar{s} + (1-q)p\bar{s}] - \frac{e_B^2}{2}$$

What follows from the employee's utility function is that policy B is optimal from his viewpoint. This is the case because negative externalities will never occur in this setting. With this prospect, the employee will decide how much effort to exert to come up with fruitful project ideas. The optimal level of effort (e_B^*) is as follows:

$$e_B^* = qp\bar{s} + (1-q)p\bar{s} = p\bar{s}$$

$$e_B^* = \frac{\bar{s}}{2} \quad \text{for } \bar{s} > 0$$

The effort level of the employee does merely increase with the probability to find a project with a positive externality and is not hurt by potential negative externalities. Whether the project is financially profitable is unimportant, therefore the probability to find a project with a certain monetary outcome (q) does cancel out. Furthermore, the magnitude of the positive externality is of high importance for the determination of the effort level of the employee. Higher upwards potential will make that the employee is more motivated to exert effort in order to find projects which can be implemented by the organization. Additionally, the demotivating impact of negative externalities are absent with this policy making this the optimal policy considering the motivation of the employee alone.

Policy C: Implement if $\bar{\pi}$ and/or \bar{s} . Provided that the owner introduces this policy, the projects that generate positive externalities, monetary benefits or both, will be implemented. Essentially, only the projects where both the nonpecuniary and the monetary payoffs are negative will not be implemented by the owner. This policy is a combination of the previously discussed policies A and B. For both parties involved in the economic activity, in two out of the three cases the payoff is positive. The expected utility of this specific policy can be formally denoted by:

$$E[U_e^{Policy C}] = w_e + e_c [qp\bar{s} - q(1-p)\underline{s} + (1-q)p\bar{s}] - \frac{e_c^2}{2}$$

The optimal level of effort from the perspective of the employee is as follows:

$$e_c^* = qp\bar{s} + (1-q)p\bar{s} - q(1-p)\underline{s} = p\bar{s} - q(1-p)\underline{s}$$

$$e_c^* = \begin{cases} \frac{2\bar{s} - \underline{s}}{4} & \text{for } \bar{s} > \frac{\underline{s}}{2} \\ 0 & \text{for } \bar{s} \leq \frac{\underline{s}}{2} \end{cases}$$

As was the case with the previously discussed policies, the employee is more motivated if the probability to end up with positive externalities increases and provided that the magnitude of the positive externalities raises. However, in contradiction to the outcome of policy B, as long as there exists a probability to generate a project with positive financial benefits, the employee will lower his level of effort the larger the potential downside is, i.e. the negative externalities.

Policy D: Implement if $\bar{\pi}$ and \bar{s} . With this policy the owner chooses to only implement in one case. To be precise, when both the monetary and social payoff of the project are positive, the owner will implement the project. This implies that in the remaining cases the projects will be declined. Thus, with policy D the employee and the owner will never face a negative payoff ex-post. The expected utility for the employee is given by the following:

$$E[U_e^{policy D}] = w_e + e_D[qp\bar{s}] - \frac{e_D^2}{2}$$

The employee will maximize its expected utility with respect to e_D which will result in the following optimal effort level:

$$e_D^* = qp\bar{s}$$

$$e_D^* = \frac{\bar{s}}{4}$$

With this policy the employee is somewhat motivated to exert effort. This is in contrast with policies A and C where the negative social payoff could make the employee reluctant from exerting effort. Nevertheless, with policy D the employee is less motivated to exert effort compared to policy B because the probability to end up with a project that yields a positive social payoff is lower.

To summarize, all available policies have unique effects on the motivation level of the employee to exert effort in order to generate new projects. The choice for the optimal policy depends on the parameters included in this model. In case the owner is concerned with maximizing the probability to find a project, policy B is superior compared to the other three policies. Additionally, the motivation level of the employee is strictly higher for policy C compared to policy A. However, policy C is not always preferred over policy D. Provided that the negative externalities are relatively large ($\bar{s} < \underline{s}$), the employee is more motivated with policy D. Lastly, The employee is always more motivated with policy D compared to policy A. The findings can be summarized as follows:

$$e_B^* > e_D^* > e_C^* > e_A^* \quad \text{for } 0 < \bar{s} < \underline{s}$$

$$e_B^* > e_C^* > e_D^* > e_A^* \quad \text{for } 0 < \underline{s} < \bar{s}$$

So, the policies with room for a more prosocial handling make that the employee is willing to exert more effort. Therefore, it could be beneficial for the owner to introduce either of the prosocial policies in order to end up with a higher probability of actually being able to implement a project.

1.4. Optimal Policy

To what extent it is preferable to neglect profitable projects or to implement unprofitable ones to increase the effort of the employee depends on the exact social and monetary payoffs. In deciding which policy to follow, the owner considers the expected utilities for the four policies with the different motivation levels in consideration. Since the owner is purely interested in the

monetary payoff, the best policy yields the highest expected profit. The owner faces an important trade-off here. First, the owner could choose to motivate the employee more intensively by pursuing a more prosocial policy and giving up on some profitable projects and/or implementing some unprofitable projects proposed by the employee. The alternative approach would be that the owner only implements the projects that yield positive monetary payoffs and accept that the employee is less motivated to exert effort in order to come up with fruitful projects. Essentially, the owner should decide to what degree it is desirable to act prosocial in the market.

To gain more insightful intuitions about the optimal policy from the viewpoint of the profit maximizing owner, the obtained optimal effort levels of the employees will be used to contrast the utilities obtained with each of the three considered policies. To do so, the probability that a project yields a positive monetary payoff will maintain to be normalized to equal $\frac{1}{2}$. The same holds for the probability that a project yields a positive externality. Furthermore, the fixed wage paid to the employee will be normalized to zero ($w_e = 0$). The effort level of the employee, nor his participation choice are affected by the fixed wage, therefore the lower the fixed wage is, the better it is for the owner. This holds for all four policies.

Policy A: Implement if $\bar{\pi}$. With this policy the employee is always least motivated to exert effort to find an implementable project. However, the projects that will get implemented are the projects that generate positive benefits for the owner at all times. The expected utility function of the owner that comes with this policy can presented as follows:

$$E[U_o^{Policy A}] = e_A[qp\bar{\pi} + q(1-p)\bar{\pi} - w_e] = e_A[q\bar{\pi}] - w_e$$

To find the exact expected utility of the owner in the hypothesized situation, the optimal effort level of the employee in case policy A is chosen (e_A^*) will be substituted into the function which results in the following:

$$E[U_o^{Policy A}] = \begin{cases} \frac{\bar{\pi}(\bar{s} - \underline{s})}{8} & \text{for } \bar{s} > \underline{s} \\ 0 & \text{for } \bar{s} \leq \underline{s} \end{cases}$$

Given that the positive externalities are relatively large compared to the negative externalities, the expected utility of policy A will increase with the magnitude of the positive social payoff and the profit generated for the organization. Furthermore, as anticipated, the expected utility of the owner decreases with the negative externalities attached to a potential project. In extreme

situations, the expected negative externalities might make it impossible to have a positive expected utility for the owner because the employee is unwilling to exert effort.

Policy B: Implement if \bar{s} . By pursuing this policy the owner endeavours to maximize the motivation of the employee to exert effort. As a consequence, more projects will be proposed. However, the owner selects the projects that generate positive externalities which might imply that the owner has to relinquish some projects that are profitable from an ex-post perspective. The expected utility function that can be assigned to this policy is as follows:

$$E[U_o^{Policy B}] = e_B [qp\bar{\pi} - (1 - q)p\underline{\pi}] - w_e$$

By substituting the optimal effort level (e_B^*) of the employee, the expected utility of the owner can be formally written as:

$$E[U_o^{Policy B}] = \begin{cases} \frac{\bar{s}(\bar{\pi} - \underline{\pi})}{8} & \text{for } \bar{\pi} > \underline{\pi} \\ 0 & \text{for } \bar{\pi} \leq \underline{\pi} \end{cases}$$

In contradiction with the results of the analysis of policy A, the expected utility function is constrained by the monetary payoffs instead of the nonpecuniary payoffs. The owner of the organization will require that the monetary gain is larger than the loss. Therefore, it is assumed that the owner will not participate in the transaction provided that the expected monetary gain is equal to, or smaller than the monetary loss. Nonetheless, given that the restriction is met, the expected utility of the owner will increase with the magnitude of both the positive externalities and the positive monetary payoff. The expected utility and the potential monetary loss have a negative relationship, as anticipated. Furthermore, this policy is interesting from the perspective of the owner in case the negative externalities are relatively large compared to the positive externalities. The optimal effort choice of the employee is not affected by the negative externalities. Therefore, the expected utility of the owner is not affected by an increase in the absolute value of the negative externalities.

Policy C: Implement if $\bar{\pi}$ and/or \bar{s} . The previously policies can both be labelled as extreme policies. Either there is a pure focus on implementing projects that yield positive monetary payoffs or the owner attempts to authorize only the projects that yield positive externalities. However, with policy C the owner settles with a mutual concession. Both subjects are hurt in one of the three cases, however, both will be ensured that in two out of the three cases the payoff is beneficial for that subject. In contrast, with the other two policies, either the owner or the employee will have to internalize a negative payoff in one out of two cases. Obviously, this

makes the expected utility function of the profit maximizing owner distinctive from the other two cases. The expected utility function will be as follows:

$$E[U_o^{Policy C}] = e_c [qp\bar{\pi} + q(1-p)\bar{\pi} - (1-q)p\underline{\pi}] - w_e$$

Again, by substituting the optimal effort level of the employee (e_c^*) into the expected utility function, one will end up with the following:

$$E[U_o^{Policy C}] = \begin{cases} \frac{(2\bar{s} - \underline{s})(2\bar{\pi} - \underline{\pi})}{16} & \text{for } \bar{\pi} > \frac{\pi}{2} \text{ and } \bar{s} > \frac{s}{2} \\ 0 & \text{for } \bar{\pi} \leq \frac{\pi}{2} \text{ or } \bar{s} \leq \frac{s}{2} \end{cases}$$

The ability to pursue this policy in the organization depends on the proportion between the positive and negative externalities on the one hand, and the proportion between the positive and negative monetary payoffs of each project on the other hand. One of both parties can be tempted to cancel the economic interaction, contrary to what is the case with the other two policies where only one subject, either the employee or the owner, may be inclined to withdraw from the interaction. Furthermore, when comparing the constraints, the individual constraints are less stringent than was the case with the extreme policies A and B. As before, the magnitude of the positive payoff, either the monetary or nonpecuniary, will increase the expected payoff of the owner. Likewise, the downside potential is negatively related to the expected utility.

Policy D: Implement if $\bar{\pi}$ and \bar{s} . All alternative policies come with restrictions for either the monetary payoff, the social payoff, or for both. It is not unthinkable that neither of these restrictions are satisfied. This is the case if the negative payoff is relatively large compared to the positive payoff. With this policy the owner commits to merely implement the projects that yields a positive monetary and positive social payoff. This would imply that only one out of four proposed projects will be implemented. Still, as was obtained from his expected utility function, the employee is willing to exert effort. So, at least there will be projects proposed. The owner's expected utility function of this policy is as follows:

$$E[U_o^{Policy D}] = e_D [qp\bar{\pi}] - w_e$$

By substituting the optimal effort level of the employee (e_D^*) into this expected utility function, the following function can be obtained:

$$E[U_o^{Policy D}] = \frac{\bar{s}\bar{\pi}}{16}$$

So, when the implementation of a project could harm either the owner or the employee disproportionately, policy D would be a valuable alternative. Irrespective of the negative payoffs,

policy D is always feasible since the employee is willing to exert effort and the owner is never harmed by the implementation of an unprofitable project.

1.5. Results

Now the exact composition of the expected utility of the owner is clear for every single policy, the optimal policy for each setting can be obtained. By comparing the expected utilities, it is possible to come up with conditions that make the owner able to make the optimal decisions. To start the search for the profit maximizing policy, a complete overview of the options at hand in each situation is needed. *Figure 1* provides this overview graphically.

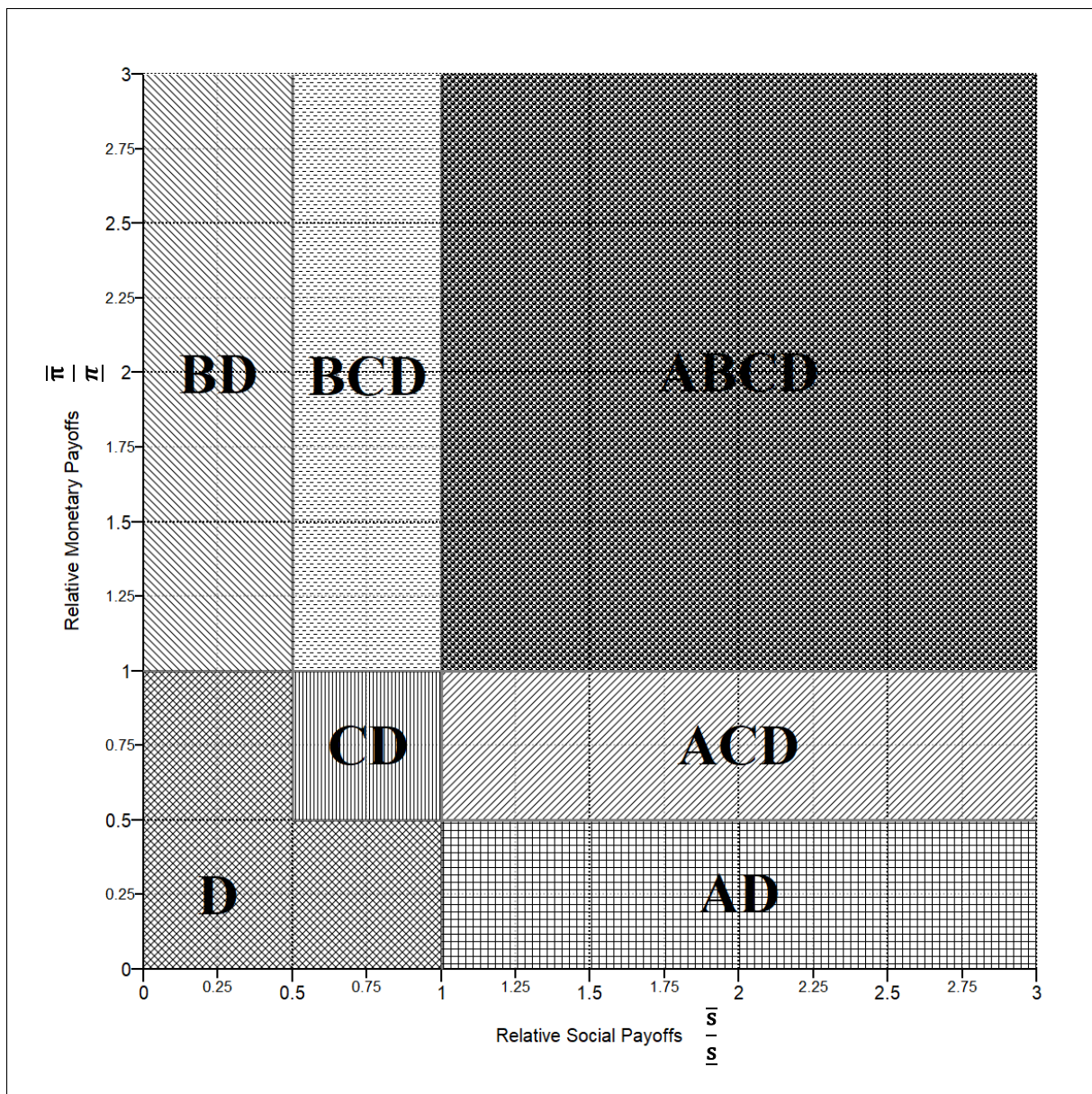


Figure 1: Graphical overview of available policies

Policy D is always feasible since neither the owner nor the employee bear the risk to end up with a negative utility. This makes the employee always somewhat motivated to exert effort and the owner is ensured of a positive financial payoff ex-post. Furthermore, provided that the relative monetary $\left(\frac{\bar{\pi}}{\pi}\right)$ and social $\left(\frac{\bar{s}}{s}\right)$ payoffs are relatively small, policy D is the only policy that will generate a positive profit for the owner. Policy C is attainable when both the relative monetary and social payoffs are not too small. For policy A and B holds that either the relative monetary or social payoffs need to be strictly larger than one. However, as can be obtained from the graph, the analysis of the restrictions alone does not provide the owner with a satisfying overview of the optimal policy for all economic circumstances. Therefore, all intervals that

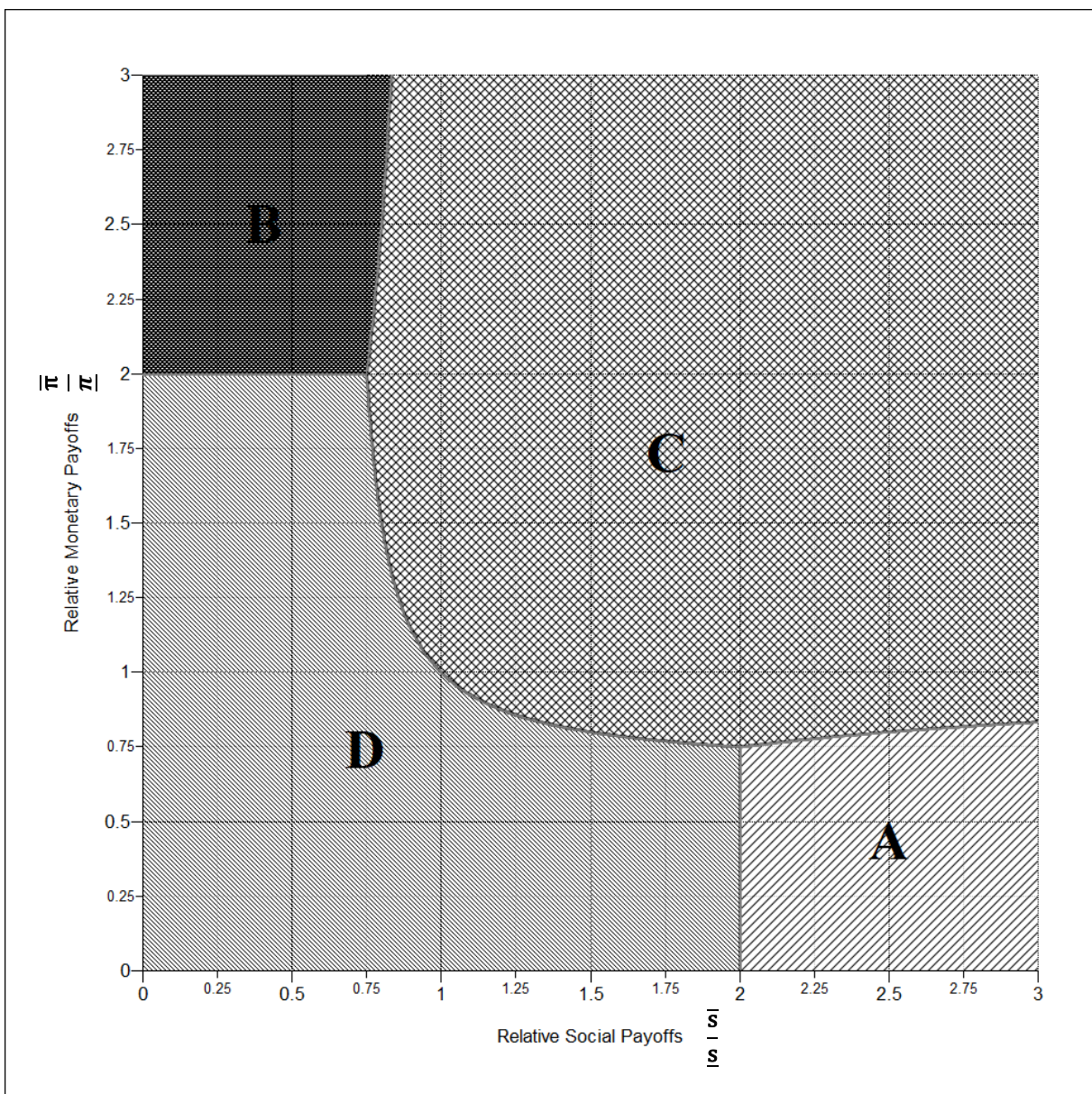


Figure 2: Graphical representation of the optimal policy

have at least two feasible policies have to be evaluated to find the optimal policies. *Figure 2* provides an overview of the optimal policies from the viewpoint of the profit-maximizing owner of the organization.

To begin with, the interval where policy A is optimal will be discussed. Recall from the effort level analysis that the employee is only willing to exert effort in case the positive social payoff outweighs the negative social payoff in expected terms. Therefore, policy A is feasible in case $\frac{\bar{s}}{\underline{s}} > 1$. However, policy D is preferred over policy A in case the $\frac{\bar{s}}{\underline{s}} < 2$. The employee is strictly higher motivated with policy D compared to policy A. This will result in the fact that more projects will be proposed and even though the negative externalities are relatively large the employee is still willing to search for new project ideas. However, the choice for policy D over A comes with a cost for the owner. With policy D the owner has to decide to not implement the projects that yield a positive monetary payoff but a negative social payoff. Therefore, only when the negative externalities are sufficiently low, the owner will be better off by accepting a lower level of effort in order to be able to implement all projects that yield a positive monetary payoff. Where the boundary between policy D and A is characterized by a linear restriction, the comparison between policy C and A results in a nonlinear dividing line. This condition can be formally written as follows:

$$\frac{\bar{\pi}}{\underline{\pi}} \geq 1 - \frac{1}{2} \left(\frac{\bar{s}}{\underline{s}} \right)^{-1}$$

The higher the relative social payoff is, the more likely it will be that policy A is preferred over policy C. This effect is driven by a combination of the increase in the motivation level of the employee and the strictly higher expected monetary payoff of a project with policy A. However, provided that the relative monetary payoff is larger than one, policy C is always preferred over policy A. The strictly higher motivation level of the employee with policy C outweighs the fact that the owner has to implement an unprofitable project in one out of three cases.

As was obtained previously, policy B is always the most appealing policy for the employee. However, as *Figure 2* shows, policy B is only favoured under two conditions. First, policy D is preferred over policy B in case $\frac{\bar{\pi}}{\underline{\pi}} < 2$. On the interval $1 < \frac{\bar{\pi}}{\underline{\pi}} < 2$ the high motivation level of the employee does not outweigh the risk the owner faces of having to implement an unprofitable project. Nonetheless, when the positive monetary payoff is sufficiently large compared to the negative monetary payoff, the owner is better off with policy B compared to D. Furthermore,

as was the case with policy A, the dividing line between policy C and B is nonlinear. The following condition states when policy C is preferred over policy B.

$$\frac{\bar{s}}{\underline{s}} \geq 1 - \frac{1}{2} \left(\frac{\bar{\pi}}{\underline{\pi}} \right)^{-1}$$

For the interval $\frac{\bar{s}}{\underline{s}} < 1$ holds that for a given relative social payoff, the larger the relative monetary payoff is, the more likely it will be that the owner will prefer policy B over C. The higher motivation level of the employee outweighs the fact that the owner cannot implement the project that yields a positive monetary, but negative social payoff. Thus, policy B is appealing when the negative social payoff is relatively large and the positive monetary payoff is reasonably large. In case $\frac{\bar{s}}{\underline{s}} \geq 1$ the owner will always be better off by implementing policy C rather than policy B.

Lastly, policy C and D have to be contrasted in order to obtain a complete overview of the optimal policies. The dividing line between policy C and D is characterized by the following nonlinear function:

$$\frac{\bar{\pi}}{\underline{\pi}} \geq \frac{1}{2 - \frac{1}{2 - \left(\frac{\bar{s}}{\underline{s}} \right)^{-1}}}$$

From *Figure 2* it can be obtained that for a given relative social payoff, policy C will be more likely to be favoured as the relative monetary payoff increases. This does also hold the other way around; for a given relative monetary payoff, the higher the relative social payoff is, the more likely it will be that policy C will be favoured. It should be noted that whenever $\frac{\bar{s}}{\underline{s}} \leq \frac{1}{2}$ or $\frac{\bar{\pi}}{\underline{\pi}} \leq \frac{1}{2}$ policy D will always yield a higher payoff because either the employee is unwilling to exert effort or the owner will refrain from participating because the expected monetary payoff is negative. This has also been illustrated in *Figure 1*.

To summarize, the analysis of the interaction between the employee and the owner shows that there are valid reasons to introduce a prosocial mission in the organization, conditional on the fact that the owner can commit to the prosocial policies. Generally speaking, the introduction of the prosocial policies makes the organization more efficient in two ways. To begin with, the owner is able to conduct business whenever the expected positive social payoff of the

implementation of a given project is relatively small compared to the expected negative social payoff. By being able to commit to either of the prosocial policies, the employee will be motivated to exert effort where beforehand he would not. Secondly, the policy A is proven to be suboptimal in many economic settings. Therefore, the owner can increase the organization's profits by credible deviating from the suboptimal policy A to either one of the three other policies and benefit from an increase in the employee's motivation.

2. Three-tier Setting

In the two tier setting the owner was entitled to choose the policy that would maximize the profits for the organization. Essentially this implies that the owner is maximizing his own expected utility. Even though it was assumed that the owner is purely driven by his ambition to maximize profits, it was obtained that in various economic circumstances the owner preferred to introduce a prosocial policy. However, to be able to introduce prosocial policies, the owner has to overcome a commitment problem. From an ex-ante perspective it can be beneficial for the owner to mention the intention to follow one of the prosocial policies. When the employee would trust the claim of the owner it would increase the probability that a project will be proposed. However, since the owner is publicly known to be driven by his ambition to maximize profits, it is assumed that the employee will anticipate that he will deviate ex-post in order to overcome a financial loss or to obtain a positive monetary payoff. As a result, in specific economic circumstances the employee refrains from exerting effort because it expect the owner to deviate ex-post. This would be inefficient since the interaction between the owner of the organization and the employee could generate projects that yield a positive surplus in expected terms. As long as the owner is unable to credible commit to the prosocial policies, the options are limited to policy A as is graphically shown in *Figure 3*.

For both the owner and the employee it would be beneficial in most settings to be able to successfully implement a prosocial policy. Murdock (2002), for example, introduces implicit contracts in a two-tier setting with an intrinsically motivated employee to overcome the commitment problem of the owner. By relying on long term interactions, the owner can commit ex-ante to the preferred policy. Furthermore, the projects that yield a positive total surplus are more often implemented. This is especially interesting for projects that yield a relatively small negative financial payoff and substantial positive externalities. However, the discount factors in this model are of high importance for the final outcome. In some settings the owner and the employee will not be able to come up with an enforceable implicit contract that ensures that some projects with a positive total surplus will be implemented. The introduction of an intrinsically motivated manager can be a solution to overcome the commitment problem in the organization. Besley & Ghatak (2017), for example, analyses a two-tier principal-agent setting where the manager was delegated to decide whether to implement a project or not based on the monetary and the nonpecuniary characteristics of the project. From their analysis follows that

there actually is room for, what they label as, social enterprises, besides for-profit and non-profit organizations.

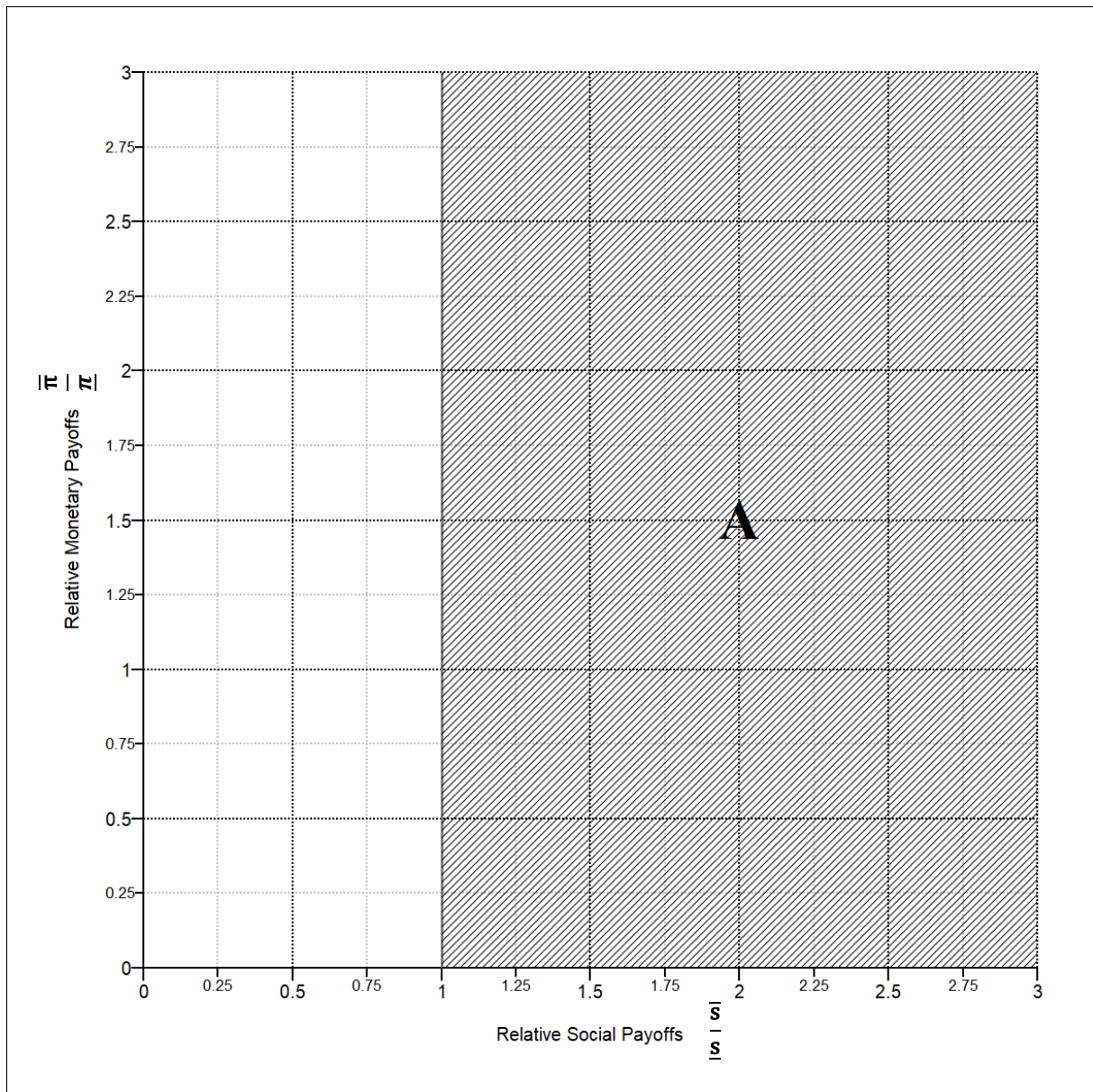


Figure 3: Limited options without credible commitment

2.1. The Manager

To make the owner able to credibly commit to a predetermined prosocial policy, a manager with prosocial interests will enter the organization. The introduction of the manager is similar to the approach of Besley & Ghatak's (2017) model. The manager will purchase a part of the organization and becomes a residual claimant. With this particular approach, the owner tackles the agency problem and, in addition to that, the owner will be able to recover part of the

expected monetary payoff of the manager. Furthermore, the fact that the manager is able to purchase part of the organization, makes him distinct from the employee. The employee has no financial resources, as mentioned before.

To begin with, it is assumed that the owner is able to attract a suitable type of manager by making the manager able to purchase a part of the organization in any given situation. Put, differently, the owner is able to pick a manager from a pool of candidates with the right characteristics concerning the valuation of the social payoffs. As will become clear, the part that the owner is able to purchase and the corresponding share the manager receives will make the owner able to direct the manager's choice for certain projects in a predetermined direction. As a result, the owner can delegate the decision rights to the manager and rely on the fact that the manager will select the right projects ex-post. Aside from the introduction of the manager, the model will remain unchanged compared to the two-tier analysis. The characteristics of the projects are the same, the owner is still concerned with maximizing the profits and the employee benefits from positive externalities, and vice versa.

The manager of the organization values the nonpecuniary payoff generated by the implementation of the proposed project. In that perspective, the manager closely resembles the employee. Furthermore, the manager is a residual claimant and derives utility from the monetary payoff, as is the case with the owner. So, once a profitable project is implemented, the manager receives a predetermined share of the monetary payoff. The share the manager receives is denoted by $b_j \in [0; 1]$. Since the manager owns a share of the organization, he is harmed by the implementation of unprofitable projects. The key departure here is that by making the manager a residual claimant, the manager will naturally balance the pecuniary and nonpecuniary interests in the organization ex-post, simply by maximizing its own utility. The manager is not able to credibly commit to a random policy ex-ante. In that sense, the manager does not differ from the owner. Furthermore, as was the case with the employee and the owner, the manager is assumed to be risk neutral.

In addition to the fact that the manager does differ from the employee in the rewarding system, it is assumed that the manager may value negative and positive externalities differently. The negative externalities (\underline{s}) are corrected by the parameter $\beta \in [0, 1]$. The positive externalities (\bar{s}) are corrected by the parameter $\alpha \in [0, 1]$. The exact composition of α and β will define the

type of the manager in this model which is observed by all entities in the organization. Given the preferences of the manager and the residual claimant design, the utility derived from the implementation of project i is given by:

$$U_m^i = b_j \pi_i + \alpha \bar{s}_i - \beta s_i - T_j$$

T_j denotes the amount the manager pays to the owner to acquire a share in the organization. Since the social impact takes the form of externalities, the manager does also feel the impact of the implementation of a project outside the firm. In case the owner would attempt to internalize part of the expected utility derived from the social impact in addition to the monetary payoff, the manager will not be willing to become part of the organization. The outside option, not working for the organization, would leave him with a higher utility in that case. Therefore, it is assumed that the manager is at most willing to transfer the total expected utility derived from the monetary payoff; $E[b_j \pi_j]$.

Owner. As discussed before, the owner of the organization makes the manager the residual claimant and delegates the implementation decision to him. This is what makes the two-tier approach different from this three-tier design. The manager purchases a share from the owner the owner of the organization. This implies that the owner has to transfer part of the profits according to the share the owner sells. In case a profitable project is implemented, this would imply that the monetary gain for the owner is lower in the three-tier setting compared to the two-tier setting. This reasoning does also hold the other way around; the owner shares the costs of implementing an unprofitable project with the manager. This will make him less worse off in case an unprofitable project is implemented. The utility of the owner in case project i is implemented can be formally represented by:

$$U_o^i = (1 - b_j) \pi_i - w_e + T_j$$

As can be obtained from the utility function of the owner, the attempt to overcome the commitment problem comes with a cost in case a profitable project is implemented. However, in case a project with a negative monetary payoff is implemented, the loss will be smaller for the owner because the loss is shared with the manager. The amount paid for the share in the organization increases the utility of the owner. Therefore, the higher the upfront transfer from the manager to the owner is, the higher the utility of the owner will be. Since it was assumed that the manager was maximally willing to transfer $E[b_j \pi_j]$, the owner will be best off by demanding that exact amount for the share in the organization.

The analysis of the optimal policy for the owner in the three-tier structure is similar to the analysis in the two-tier structure. To be precise, the expected utility for the owner returns to be exactly equal to the expected utility in the two-tier structure. Therefore, the analysis is provided in the appendix.

2.2. Results

So far it was assumed that the owner was able to attract a suitable manager that would stick to the optimal policy. However, the exact type of the manager does matter for the feasibility of a given policy. Essentially, the manager should have no incentives to deviate from the desired, optimal policy. When the valuation of the social payoff and his monetary interests in the outcome of the project are wrongly balanced, the owner may well be worse off by introducing a manager or it will end up with a suboptimal policy. Therefore, for each of the policies, the optimal share in the organization will be computed. Furthermore, this analysis will shed light on the requirements of α and β , the valuation of the positive and negative externalities respectively. To begin with, the three alternative policies will be assessed individually to obtain the optimal sharing rule for each policy. Later, the optimal sharing rules will be compared in order to obtain a complete overview and to assess whether the manager will select the right projects ex-post.

Policy B: Implement if \bar{s} . In the first place, the manager should be willing to implement a project that yields a relatively small monetary loss and a positive social payoff. Second, the manager should also be willing to reject some specific projects that yield a positive monetary payoff and negative externalities. The rejection of a project that yields a positive monetary payoff directly harms the manager since he has to bear a share of the loss. *Table 3* gives an overview of the conditions that have to be satisfied to take away the incentives of the manager to deviate ex-post:

Case	Equation
1.	$b_B \bar{\pi} + \alpha \bar{s} \geq 0$
2.	$b_B \bar{\pi} - \beta \underline{s} < 0$
3.	$\alpha \bar{s} - b_B \underline{\pi} \geq 0$

Table 3: Conditions for policy B

The condition of the first case does always hold since the financial and the social payoff are both positive. In the second case, the loss the manager bears from implementing should outweigh the monetary payoff ($b_B \bar{\pi} < \beta \underline{s}$) in order to make policy B a credible policy from the perspective of the employee. So, the monetary incentive for the manager should be relatively small compared to the potential negative externalities. Additionally, the third condition must hold in order to take away the incentive to refrain from implementing the project. The manager's valuation of the positive externalities should have a larger impact, in absolute terms, on the utility compared to the monetary loss ($b_B \underline{\pi} \leq \alpha \bar{s}$). From both conditions follows that the optimal bonus should be relatively low. This originates from the fact that if the manager is heavily, monetary incentivized, the manager will be inclined to deviate to policy A ex-post. To summarize, the following two restrictions for the share in the organization are crucial for policy B:

$$b_B < \frac{\beta \underline{s}}{\bar{\pi}}$$

$$b_B \leq \frac{\alpha \bar{s}}{\underline{\pi}}$$

Both restrictions show that the smaller the share in the organization is, the more likely it is that the manager will stick to policy B ex-post.

Policy C: Implement if $\bar{\pi}$ and/or \bar{s} . With policy C the manager is supposed to implement all projects that either yield a positive monetary or social payoff. Hence, the only project that the manager should decline is the one that yields a negative financial payoff and negative externalities. The conditions in *Table 4* need to hold in order to make policy C a feasible option:

Case	Restriction
1.	$b_c \bar{\pi} + \alpha \bar{s} \geq 0$
2.	$b_c \bar{\pi} - \beta \underline{s} \geq 0$
3.	$\alpha \bar{s} - b_c \underline{\pi} \geq 0$

Table 4: Conditions for policy C

As before, the first equation does always hold. In the second case, where a positive financial payoff comes with a negative social payoff, the monetary payoff for the manager should outweigh the negative impact of the externalities on the manager ($b_c \bar{\pi} \geq \beta \underline{s}$). Here an increase in the monetary incentive for the manager would make it more likely that the manager will

actually implement the project. However, the situation becomes more complicated when the manager has at the same time have to implement the projects that generates positive externalities and a negative financial payoff for the organization. Ideally, the monetary component in the manager's utility should be smaller compared to the manager's utility derived from the positive externalities ($b_c \underline{\pi} \leq \alpha \bar{s}$). In contrast to the second condition, an absolute decrease in the financial incentive makes it more likely that the manager will implement a project with positive externalities and a negative monetary payoff. To summarize, the following has to hold to make that the manager will select the right projects according to policy C ex-post:

$$\frac{\beta \underline{s}}{\underline{\pi}} \leq b_c \leq \frac{\alpha \bar{s}}{\underline{\pi}}$$

In contrary to policy B, the share the owner has to transfer to the manager cannot be zero. In fact, the share should neither be too small nor too large.

Policy D: Implement if $\bar{\pi}$ and \bar{s} . With policy D the manager should merely implement one out of the four potential types of projects. To be precise, the manager should only implement the project that yields a positive monetary and positive social payoff. The conditions that are summarized in *Table 5* need to be satisfied to make policy D feasible.

Case	Restriction
1.	$b_D \bar{\pi} + \alpha \bar{s} \geq 0$
2.	$b_D \bar{\pi} - \beta \underline{s} < 0$
3.	$\alpha \bar{s} - b_D \underline{\pi} < 0$

Table 5: Conditions for policy D

The first condition is always satisfied. However, this does not necessarily hold for the other two conditions. For the other two conditions holds that the positive payoff of a given project should not outweigh the negative payoff. Would this be the case, the manager will deviate to one of the other three policies. The following has to hold to make the policy D attainable:

$$\frac{\alpha \bar{s}}{\underline{\pi}} < b_D < \frac{\beta \underline{s}}{\underline{\pi}}$$

So, as was the case with policy C, the share the manager acquires in the organization should neither be too small nor too large.

The relevant shares are summarized in *Figure 4* and *Figure 5*.

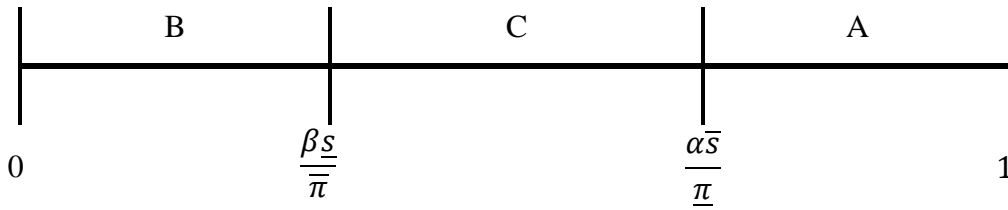


Figure 4: Required share (b_j) in the organization to make policies B and C feasible

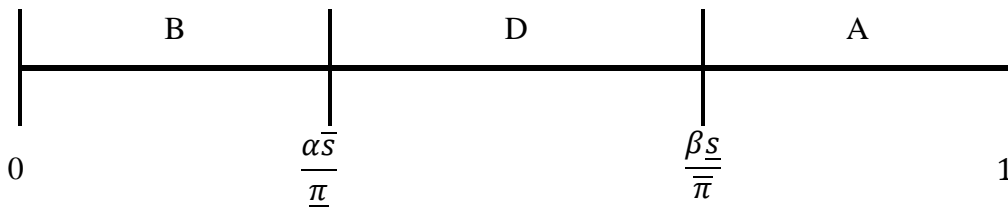


Figure 5: Required share (b_j) in the organization to make policies B and D feasible

Two interesting insights can be obtained from the figures above. First, the incentive pay provided to the manager can increase with its prosocial preferences. For policy C holds that the higher the valuation of the negative externalities (β) is, the higher the share in the organization should be to prevent him from deviating from policy C to B. For policy D the owner should increase the share of the manager with the valuation of the positive externalities (α) to take away the incentives to move from policy D to B. Nevertheless, generally speaking the more prosocial the policy itself is, the lower the incentive pay should be for a given manager. Second, whenever the conditions for either policy C or D are satisfied, the other policy is not attainable. So, if $\frac{\alpha\bar{s}}{\pi} \geq \frac{\beta\bar{s}}{\pi}$, there exists a set of shares for which the manager will commit to policy C. On the other hand, in case $\frac{\alpha\bar{s}}{\pi} < \frac{\beta\bar{s}}{\pi}$, there exists a set of shares for which the manager will commit to policy D. This can be summarized by the following:

$$\frac{\beta}{\alpha} \begin{cases} \leq \frac{\pi\bar{s}}{\pi\bar{s}} & \text{Policy C} \\ > \frac{\pi\bar{s}}{\pi\bar{s}} & \text{Policy D} \end{cases}$$

Essentially, the larger either the relative monetary or relative social payoff is, the more weight the manager should put on the negative externalities to make policy D the most appealing instead of policy C.

The share the manager acquires in the organization will partly determine to what extent the manager with prosocial preferences will act prosocially. The most important is the fine-tuning between the share and the manager's valuation of the social impact. For each type of manager, there exist a different set of optimal shares. Furthermore, the type of the manager will determine whether it will stick to the preferred policy ex-post. Policy C and D require the most attention because there exist situations where the manager does not always stick to right policy ex-post.

To begin with, it will be assumed that the manager's valuation of the negative and positive externalities is equal ($\alpha = \beta$). This will imply that $\frac{\beta}{\alpha} = 1$. Consequently, whenever $1 \leq \frac{\overline{\pi S}}{\underline{\pi S}}$ holds, policy C can be obtained. However, policy D will not be feasible. In case $1 > \frac{\overline{\pi S}}{\underline{\pi S}}$ the opposite will be true. The dashed line in represents the function $\frac{\overline{\pi S}}{\underline{\pi S}} = 1$. Below the dashed line the condition for policy D is satisfied and the owner will be able to commit to policy D by selling share $\frac{\alpha \bar{s}}{\underline{\pi}} < b_D < \frac{\beta \underline{s}}{\underline{\pi}}$ of the organization. Above the dashed line, the owner is able to commit to policy C by transferring share $\frac{\beta \underline{s}}{\underline{\pi}} \leq b_C \leq \frac{\alpha \bar{s}}{\underline{\pi}}$ to the manager.

However, as can be obtained from the graph, with $\alpha = \beta$ there exist circumstances where the owner would be best off with policy D, however, there is no manager that can credibly commit to that policy. This area is labelled with $\beta > \alpha$. The manager should put higher weight on the negative externalities compared to the positive externalities to make policy D to make him stick to this policy ex-post. But, since $\alpha = \beta$ is assumed, the owner has to settle with the second best policy.

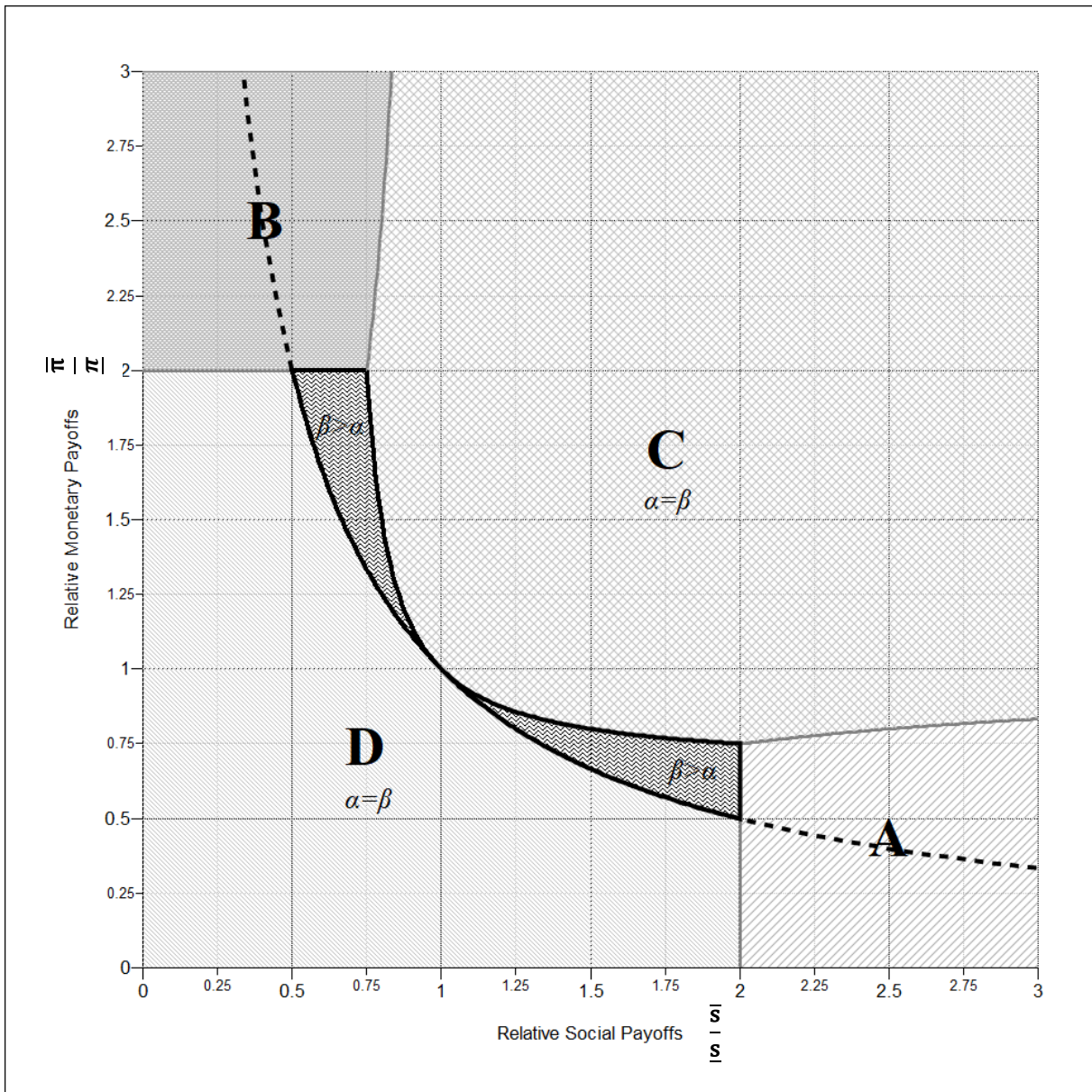


Figure 6: Graphical representation of the required valuation of the social payoffs (α and β)

Provided with the assumption that there is no manager that values positive social payoffs differently than the negative payoffs, policy A, B and C will be the best option in more occasions. Figure 7 provides an overview of the best attainable policies for the owner. Nevertheless, the fact that policy D is not always feasible does not imply that the owner will stop handling prosocially. Policy B is in some cases the second best achievable policy for the owner, and hence the owner will act more prosocially. Nevertheless, policy A is in some circumstances the second best achievable policy which implies that the owner will refrain from acting prosocially.

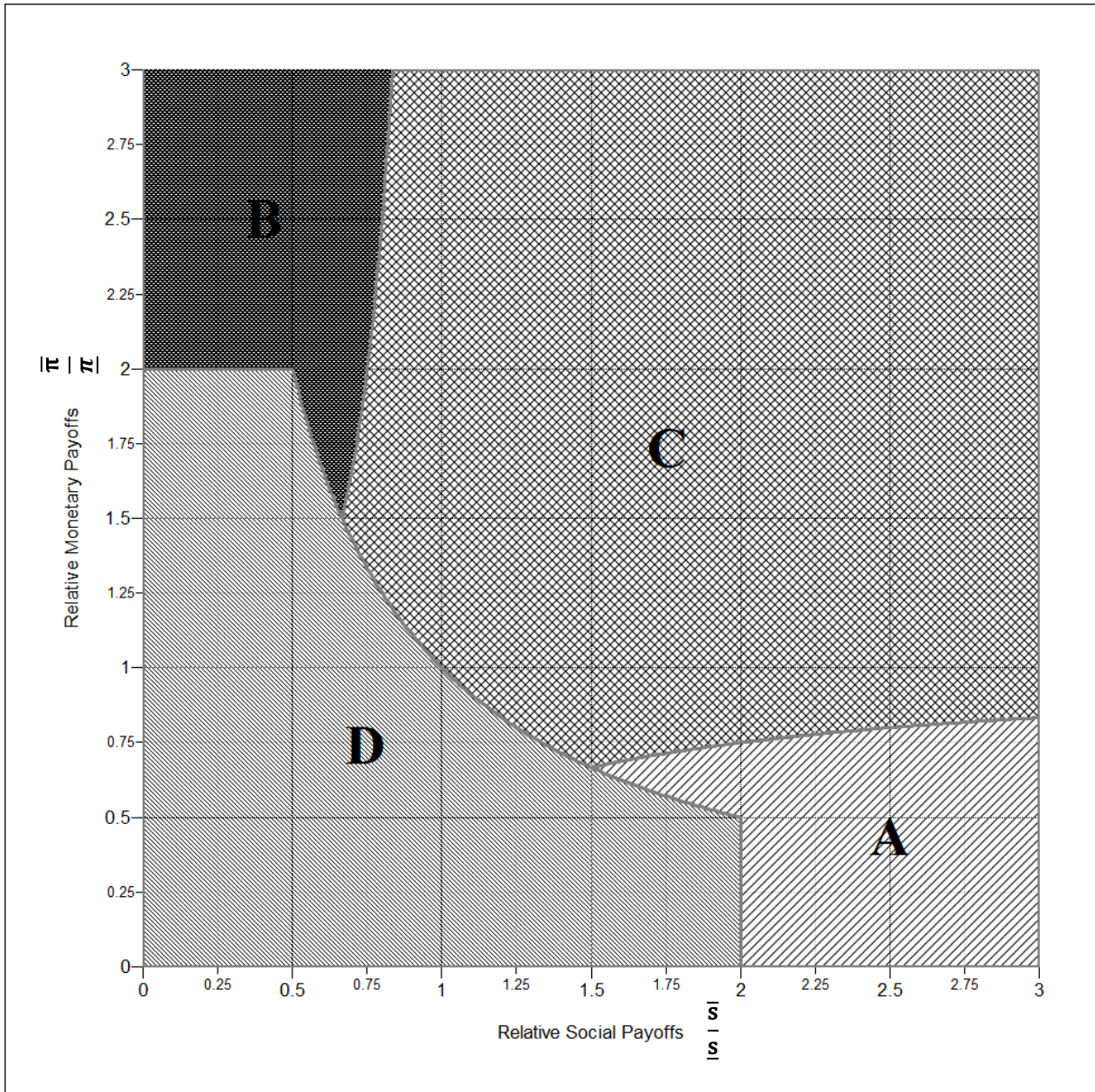


Figure 7: Graphical representation of the optimal policies with $\alpha = \beta$

Aside from the fact whether the owner will be inclined to act more or less prosocially, the supply of types of prosocial managers is of high importance for the profitability of the organization. Since the right types of managers do not exist, or are at least hard to attract, the owner will have to settle with the second best policy. Essentially, the owner misses out on some profits because there are no managers that are able to commit to the prosocial policy.

IV. Conclusion and Discussion

The owner in the organization faces the difficult task to balance his own financial interests with the social preferences of the employee. On the one hand the owner benefits from acting more prosocially since the employee will be more motivated. However, this implies that the owner should undertake actions that are costly from his point of view. Nevertheless, I obtained that the owner can be better off in numerous situations by ex-ante committing to a prosocial mission. The increase in the profitability of the organization is purely driven by the increase in the employee's motivation to exert effort to find valuable projects.

The reasoning that the more prosocial the organization acts, the more profits it will make does not always hold; policy B is not always the best option. A mutual concession between the owner and the employee could be the most profitable option. Policy D is one of the policies where the employee and the owner settle with a compromise. Only whenever both the financial and social aspect of the project is positive, the project will be implemented. Furthermore, with policy D the organization can conduct business in settings where this is not possible with either of the other policies. The second policy that can be labelled as a mutual concession between the owner and the employee is policy C. Where with policy D both subjects never have to deal with a negative payoff, with policy C there does exist a risk for both that the project will leave them with a negative utility. However, all projects that yield a positive payoff for either the owner or employee will be implemented. Nevertheless, there are situations where the owner actually should always implement the projects that yields positive externalities, irrespective of the financial aspect, to obtain the highest possible profit. In addition to that, there are also circumstances where the owner is best off by implementing all projects that yield a positive monetary payoff, irrespective of whether the externalities are positive or negative. Hence, a compromise between the owner and the employee is not necessarily the best path to follow.

The fact that a profit maximizing owner can, in some situations, be best off by acting prosocially is a delightful result. Nonetheless, showing that this is actually the case was not the main objective of this research. The owner faces a difficult challenge to credibly commit to a given prosocial policy. I showed that from an ex-ante perspective it can indeed be fruitful to propose a prosocial policy since this would motivate the employees. However, this proposal can only be beneficial if the employee believes that the owner will actually stick to the prosocial policy. Since it is common knowledge that the owner is only concerned with maximizing the profits of

the organization, the employee will anticipate ex-post deviation on the owner's side³. Whenever the employee succeeded to come up with a project, the owner has an incentive to neglect the prosocial policy and implement the project whenever it yields a positive monetary payoff. In essence, the owner has always an incentive to deviate to policy A, the conservative policy. As a result, the employee will adopt its effort choice to this expectancy. Consequently, the owner ends up with a suboptimal profit or is not able to conduct business at all.

To make the owner able to actually credibly commit to a given prosocial strategy, I introduced a manager with social motivations in the organization. The decision rights about whether to use the organization's resources to implement a project is delegated to the manager. The capability to increase the employee's effort by having flexible mission, however, does come with a loss of control for the owner. To tweak the decision-making process of the manager, the owner does provide the manager with financial incentives. In fact the manager becomes a residual claimant since the manager purchases a share in the organization. This does also imply that the manager is hurt when unprofitable projects are implemented. With this approach the owner is able to select a manager and provide him with financial incentives to make him act in accordance with the desired policy ex-post. The exact social preferences are observable for all entities in the organization. This is especially important to make the employee believe that the manager will actually stick to the policy ex-post. In case the employee would be unable to perfectly access the preferences of the manager, he would need to form expectations about the average preferences of the pool of managers in the market.

From the three-tier analysis follows that the introduction of a manager in the organization can be rewarding in most circumstances and can be costless. The introduction can be costless because the owner is able to internalize the expected financial payoff of the manager with the upfront transfer from the manager to the owner. It was assumed that the owner is not able to withdraw the expected utility of the social payoff from the manager since the externalities are also felt outside the organization by him. Nevertheless, introducing a prosocial policy could be beneficial without the fact that the owner requires the maximum expected financial payoff from

³ Note that the owner should not be a profit maximizer by definition to make the prosocial policies infeasible. Whenever the employee thinks that the owner does merely value the financial payoff generated, the employee will be demotivated. This could be the case in a market where the all other owners are known to be profit maximizers. In that case the owner will suffer from this status quo.

the manager. Essentially, in case the supply of the manager's is scarce, the manager may well be able to require a lower upfront transfer and internalize a part of the owner's surplus.

In the three-tier setting it was assumed that the values the positive and negative externalities equally. As a result, the owner might have to settle with an inferior policy in some circumstances because the manager will not be able to act in accordance with the preferred policy *ex-post*. Irrespective of the financial incentive provided to the manager, the personal interests will make that manager would act accordingly other policies *ex-post* in certain settings. However, this does not entail that the manager will necessarily deviate to the most conservative policy A. In some settings the owner will even start to act more prosocial in the market because that is the second best option regarding profits. Nevertheless, in case the organization is not able to attract the right type of managers, the owner has to settle with second best policies. In general, the profitability of the organization depends on the supply of prosocially motivated managers. When the assumption that the manager values the externalities equally is dropped, the right manager can be able to stick to the preferred policy *ex-post*.

Another interesting implication of the model is that the more prosocially motivated a manager is, the higher the financial incentives should be to prevent the manager from deviating from the medium prosocial policies (C and D) to the most prosocial policy (B). Therefore, the prosocial motivation and the extrinsic motivation of the manager are not necessarily substitutes.

In this model only one employee was included. However, in organizations are often more employees employed and they are likely to differ their prosocial motivations. The production process is important for the implications of this model. Would all employees work on their own projects, the manager should make a perfect balance between all the preferences of the employees. This could imply that the most prosocially motivated employees will not be motivated to exert effort because their expected utility is negative with a medium prosocial policy. Nevertheless, this could be optimal from the viewpoint of the profit-maximizing owner. This would also imply that when the number of prosocial motivated employees increase in the market, the optimal policy will likely to be more prosocial. Furthermore, when the employees are entitled to work together on a certain project, the owner will only be able to complete projects in case the most prosocially motivated employee is willing to exert effort. Therefore, with a group of prosocially motivated workers the organization may start to act more prosocial compared to the situation where there was only one employee.

Whether this approach, where a manager uses the resources of the organization to act prosocially in order to maximize its own utility, conflicts with the vision of Friedman (1962, 1970) is questionable. On the one hand the manager uses the resources of the owner to fulfil its own social preferences. However, on the other hand this natural behaviour of the manager, which is subtly tweaked by the owner, does eventually make the organization more profitable. Therefore I argue that the introduction of a prosocial manager in an organization can be of high value in case the employee and the owner have conflicting preferences about the social impact of the organization.

The delegation of the decision rights to the manager with contrasting preferences does increase the efficiency in the organization in several settings. Overall, this finding is in line with the findings of Aghion & Tirole (1997) where the delegation to an agent will motivate the agent more since the principal takes away the opportunity to overrule his decision, i.e. the owner is able to credibly commit to a given policy. In this model the motivational effect runs through the introduction of the manager which receives the decision rights. The owner is inclined to overrule the manager ex-post, however the owner is assumed to be unable to do that now the manager has the decision rights. Murdock (2000) also assessed the importance of commitment for the motivation of employees with intrinsic motivations. However, he used an implicit contract design instead of a manager to obtain a self-enforcing mechanism. Besley & Ghatak (2017) show that a manager can play a pivotal role in implementing hybrid missions. These two models are characterized by two-tier settings. Either there is an interaction between an owner and an employee, or between an owner and a manager. This model combines the implications of the two models. The introduction of a manager facilitates the feasibility of a flexible, prosocial policy and the employee is as a result more motivated to exert effort.

In line with the model of Bester (2009), the three-tier approach does not require incentivizing the prosocial handling. The manager naturally makes the most efficient decision. Instead, the manager with social interests is financially incentivized to put his personal preferences aside and act in accordance with the desires of the profit-maximizing owner, i.e. in some occasions the manager has to prefer a project that yields a negative social impact because it comes with considerable financial gains. Bénabou & Tirole (2006) pointed out that financial incentives for prosocial handling could backfire since it changes the value attached to the prosocial handling. Therefore, in case there would be a need to financially incentivize prosocial handling, this may

imply that the owner will not be able to attract a manager because the manager has reputational concerns.

Furthermore, the results predict that social enterprises with flexible missions can be owned by profit maximizing owners. The prosocial handling, however, is in that case likely to be initiated from the inside of the organization or, alternatively, introduced to increase competitiveness as Baron (2001) argues. To answer the question whether the market is dominated by social enterprises that are owned by profit maximizing owners or by owners with truthfully social motives empirical research is needed. Moreover, it would be interesting to gain more insights about which yields the highest total surplus.

Kajackaite & Sliwka (2018) assess the implications the introduction of a manager with social motives on the motivation of prosocially motivated employees. However, their analysis focusses on the donations to charities. This research focussed on the implications of the externalities that an organization produces. Therefore, it would be interesting to perform a similar lab experiment as Kajackaite & Sliwka did with an employee, manager and owner, however, now with externalities instead of donations to a predetermined charity. The fact that employees also can be harmed by a decision of the owner may make that the owner has to undertake more prosocial actions to achieve the most efficient outcome.

In future theoretical research it would be interesting to see what would happen if the owner decides to appoint a manager and provide him with a contract instead of making him the residual claimant. Whether managers are also financially harmed in case unprofitable projects are implemented is debatable. This may be the case with stock options or when one would take the effects on the manager's future career into consideration. Nevertheless, a regular contract with only financial rewards could make the commitment to certain prosocial policies more difficult or even impossible. Furthermore, in this analysis it is assumed that all subjects are risk neutral. However, this is not representative for the real world. The employee and manager bear considerable risks and this will likely affect their participation decision and their decision-making. Hence, a possible extension would be to introduce risk aversion into the model to make the outcomes more representative for real-world situations.

V. Bibliography

- Aghion, P., & Tirole, J. (1997). Formal and real authority in organizations. *Journal of political economy*, 105(1), 1-29.
- Amabile, T. M. (1993). Motivational synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Human resource management review*, 3(3), 185-201.
- Amabile, T. M., Hill, K. G., Hennessey, B. A., & Tighe, E. M. (1994). The Work Preference Inventory: assessing intrinsic and extrinsic motivational orientations. *Journal of personality and social psychology*, 66(5), 950-967.
- Ariely, D., Bracha, A., & Meier, S. (2009). Doing good or doing well? Image motivation and monetary incentives in behaving prosocially. *American Economic Review*, 99(1), 544-555.
- Arnold, C. (2016, October 4). *Former Wells Fargo Employees Describe Toxic Sales Culture, Even At HQ*. Retrieved July 26, 2019, from NPR: <https://www.npr.org/2016/10/04/496508361/former-wells-fargo-employees-describe-toxic-sales-culture-even-at-hq?t=1564346901621>
- Ashraf, N., Bandiera, O., & Jack, B. K. (2014). No margin, no mission? A field experiment on incentives for public service delivery. *Journal of Public Economics*, 120, 1-17.
- Baker, G., Gibbons, R., & Murphy, K. J. (1999). Informal authority in organizations. *Journal of Law, Economics, and organization*, 15(1), 56-73.
- Baron, D. P. (2001). Private politics, corporate social responsibility, and integrated strategy. *Journal of Economics & Management Strategy*, 10(1), 7-45.
- Batson, C. D. (1987). Prosocial motivation: Is it ever truly altruistic? *Advances in experimental social psychology*, 20, 65-122.
- Bénabou, R., & Tirole, J. (2003). Intrinsic and extrinsic motivation. *The review of economic studies*, 70(3), 489-520.
- Bénabou, R., & Tirole, J. (2006). Incentives and prosocial behavior. *American economic review*, 96(5), 1652-1678.
- Bénabou, R., & Tirole, J. (2010). Individual and corporate social responsibility. *Economica*, 77(305), 1-19.
- Besley, T., & Ghatak, M. (2005). Competition and incentives with motivated agents. *American economic review*, 95(3), 616-636.

- Besley, T., & Ghatak, M. (2013). Profit with purpose? a theory of social enterprise with experimental evidence.
- Besley, T., & Ghatak, M. (2017). Profit with a purpose? A theory of social enterprise. *American Economic Journal: Economic Policy*, 9(3), 19-58.
- Besley, T., & Ghatak, M. (2018). Prosocial motivation and incentives. *Annual Review of Economics*, 10, 411-438.
- Bester, H. (2009). Externalities, communication and the allocation of decision rights. *Economic Theory*, 41(2), 269-296.
- Caldwell, K. (2018, February 21). *Wells Fargo's Corporate Philanthropy Totals \$286.5 Million for 2017*. Retrieved from Business Wire: <https://www.businesswire.com/news/home/20180221005972/en/Wells-Fargo%E2%80%99s-Corporate-Philanthropy-Totals-286.5-Million>
- Delfgaauw, J., & Dur, R. (2007). Incentives and workers' motivation in the public sector. *The Economic Journal*, 118(525), 171-191.
- Du, S., Bhattacharya, C. B., & Sen, S. (2007). Reaping relational rewards from corporate social responsibility: The role of competitive positioning. *International journal of research in marketing*, 24(3), 224-241.
- Estrada-Hollenbeck, M., & Heatherton, T. F. (1998). Avoiding and alleviating guilt through prosocial behavior. In *Guilt and Children* (pp. 215-231). Academic Press.
- Fehrler, S., & Kosfeld, M. (2014). Pro-social missions and worker motivation: An experimental study. *Journal of economic behavior & organization*, 100, 99-110.
- Francois, P. (2007). Making A Difference. *Rand Journal of Economics*, 38(3), 714-732.
- Francois, P., & Vlassopoulos, M. (2008). Pro-social motivation and the delivery of social services. *CESifo Economic Studies*, 51(1), 22-54.
- Frey, B. S. (1994). How intrinsic motivation is crowded out and in. *Rationality and society*, 6(3), 334-352.
- Friedman, M. (1962). *Capitalism and Freedom*. Chicago: University of Chicago Press.
- Friedman, M. (1970). The Social Responsibility of Business is to Increase its Profits. *The New York Times Magazine*.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational behavior*, 26(4), 331-362.

- Ghatak, M., & Mueller, H. (2011). Thanks for nothing? Not-for-profits and motivated agents. *Journal of Public Economics*, 95(1-2), 94-105.
- Glaeser, E. L., & Shleifer, A. (2001). Not-for-profit entrepreneurs. *Journal of public economics*, 81(1), 99-115.
- Gneezy, U., Meier, S., & Rey-Biel, P. (2011). When and why incentives (don't) work to modify behavior. *Journal of Economic Perspectives*, 25(4), 191-210.
- Grant, A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of management review*, 32(2), 393-417.
- Grant, A. M. (2008). Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity. *Journal of applied psychology*, 93(1), 48-58.
- Graziano, W. G., Mabashi, M. M., Sheese, B. E., & Tobin, R. M. (2007). Agreeableness, empathy, and helping: A person x situation perspective. *Journal of personality and social psychology*, 93(4), 583-599.
- Grossman, S. J., & Hart, O. D. (1986). The costs and benefits of ownership: A theory of vertical and lateral integration. *Journal of political economy*, 94(4), 691-719.
- Heath, C. (1999). On the social psychology of agency relationships: Lay theories of motivation overemphasize extrinsic incentives. *Organizational behavior and human decision processes*, 78(1), 25-62.
- Holmstrom, B. (1979). Moral hazard and observability. *Bell journal of Economics*, 10(1), 74-91.
- Holmström, B. (1984). On the theory of delegation. In M. Boyer, & R. Kihlstrom, *Bayesian Models in Economic Theory*. New York.
- Kajackaite, A., & Sliwka, D. (2018). Prosocial Managers, Employee Motivation, and the Creation of Shareholder Value.
- Katz, R. A., & Page, A. (2010). The role of social enterprise. *Vermont Law Review*, 35(1), 59-104.
- Kehr, H. M. (2004). Integrating implicit motives, explicit motives, and perceived abilities: The compensatory model of work motivation and volition. *Academy of management review*, 29(3), 479-499.
- Kohn, A. (1993). Why incentive plans cannot work. *Harvard Business Review*, 2-7.
- Latham, G. P., & Pinder, C. C. (2005). Work motivation theory and research at the dawn of the twenty-first century. *Annu. Rev. Psychol.*, 56, 485-516.

- Lazear, E. (2000). Performance pay and productivity. *American Economic Review* (90(5)), 1346-1361.
- Leete, L. (2001). Whither the nonprofit wage differential? Estimates from the 1990 census. *Journal of Labor Economics*, 19(1), 136-170.
- Levine, M. (2016, September 9). *Wells Fargo Opened a Couple Million Fake Accounts*. Retrieved July 26, 2019, from Bloomberg View: <https://www.bloomberg.com/opinion/articles/2016-09-09/wells-fargo-opened-a-couple-million-fake-accounts>
- Light, P. C. (2011). The Search for Social Entrepreneurship. *Strategic Direction*, 27(6).
- Martin, R. L., & Osberg, S. (2007). Social entrepreneurship: The case for definition.
- Murdock, K. (2002). Intrinsic motivation and optimal incentive contracts. *RAND Journal of Economics*, 33(4), 650-671.
- Pendergast, C. (1999). The provision of incentives in firms. *Journal of economic literature*, 37(1), 7-63.
- Penner, L. A., Dovidio, J. F., Piliavin, J. A., & Schroeder, D. A. (2005). Prosocial behavior: Multilevel perspectives. *Annual Review of Psychology*, 56, 365-392.
- Perry, J. L., & Wise, L. R. (1990). The Motivational Bases of Public Service. *Public Administration Review*, 50(3), 367-373.
- Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard business review*, 89(1/2), 62-77.
- Rotemberg, J. J., & Saloner, G. (2000). Visionaries, managers, and strategic direction. *RAND Journal of Economics*, 693-716.
- Rothmann, S., & Coetzer, E. P. (2003). The big five personality dimensions and job performance. *SA Journal of Industrial Psychology*, 29(1), 68-74.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, 25(1), 54-67.
- The Coca Cola Company. (2018). *2018 Business & Sustainability Report*. Retrieved from <https://www.coca-colacompany.com/content/dam/journey/us/en/private/fileassets/pdf/2019/Coca-Cola-Business-and-Sustainability-Report.pdf>
- Tonin, M., & Vlassopoulos, M. (2010). Disentangling the sources of pro-socially motivated effort: A field experiment. *Journal of Public Economics*, 94(11-12), 1086-1092.

- Tosi, H. L., Katz, J. P., & Gomez-Mejia, L. R. (1997). Disaggregating the agency contract: The effects of monitoring, incentive alignment, and term in office on agent decision making. *Academy of Management Journal*, 40(3), 584-602.
- Twenge, J. M., Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Bartels, J. M. (2007). Social exclusion decreases prosocial behavior. *Journal of personality and social psychology*, 92(1), 56-66.
- Wright, B. E. (2007). Wright, B. E. (2007). Public service and motivation: Does mission matter? *Public administration review*, 67(1), 54-64.

VI. Appendix

The two-tier and three-tier analysis differ in the fact that in the latter a manager is introduced to make the commitment to a certain policy credible. The steps to obtain the optimal policy for the owner does not differ substantially between the two-tier and three-tier setting. Therefore, the sections below are included in the appendix instead.

Policies

Previously the owner was entitled to determine the exact policy for the organization. Now the owner decides to delegate the decision rights about the implementation of two policies to the manager. To be precise, policy B, C and D are delegated since policy A does not come with a commitment problem. To understand the mechanism design, the preferences of the manager are pivotal since these determine the future direction of the organization. As before, there are four unique cases that could occur. Now, instead of that the owner communicates ex-ante which cases will be implemented and which will not be realized in the future, the employees will infer from the type of the manager which policy will be implemented.

Each policy comes with a set of restrictions that have to be satisfied in order to make the commitment through delegation to a certain policy feasible. The expected utility of a given policy should be positive to make the employee willing to exert effort to come up with projects. The optimal choice of effort remains unchanged from the two-tier setting, therefore, the willingness to exert effort should be the same as before. Consequently, the conditions regarding the prosocial payoffs that have to hold to make the employee willing to exert effort are the same as before. In addition to the two-tier setting, for each policy the manager should never have an incentive to deviate from it ex-post. The incentive to deviate ex-post depends on the share the manager owns of the organization. This will be assessed in the next section. For now it is assumed that the provided financial incentives are sufficient to make the manager stick to the desired policy.

Policy A: Implement if $\bar{\pi}$. The owner is not in need to delegate the decision rights to the manager to be able to commit to policy A. In fact, policy A is the policy the owner will always deviate to ex-post. Therefore, the mechanism to find the optimal level of effort and the corresponding expected utility for the owner does not differ from the two-tier analysis.

Policy B: Implement if \bar{s} . For policy B the owner is required to appoint a manager since the policy includes moves that are inefficient from the owner's ex-post perspective. The share the manager will obtain in the organization is denoted by b_B . The share the manager owns of the company and the effort level of the employee are used to compute his expected utility of policy B. The expected utility function of the manager can be presented as follows:

$$E[U_M^{Policy B}] = e_B [qp(b_B\bar{\pi} + \alpha\bar{s}) + (1 - q)p(\alpha\bar{s} - b_B\underline{\pi})] - T_B$$

As before, all potential cases have the same probability to occur ($p = q = \frac{1}{2}$). By substituting the optimal effort level (e_B^*), the expected utility of the manager will be as follows:

$$E[U_M^{Policy B}] = \frac{\bar{s}(b_B(\bar{\pi} - \underline{\pi}) + 2\alpha\bar{s})}{8} - T_B$$

With the expected utility function of the manager, the amount the risk neutral manager is willing to transfer at most can be computed. The amount the manager is willing to pay for the share b_B in the organization is:

$$T_B \leq \frac{\bar{s}b_B(\bar{\pi} - \underline{\pi})}{8}$$

The optimal transfer from the perspective of the owner is equal to the maximum amount the manager is willing to pay. The maximum transfer increases with the manager's monetary payoff and decreases with the negative payoff. Furthermore, the higher the prosocial payoff is, the higher the maximum transfer can be.

Policy C: Implement if $\bar{\pi}$ and/or \bar{s} . To make this policy that is formed by a mutual concession of the employee and owner achievable, the manager must be incentivized to accept all projects that yield either a nonpecuniary or monetary benefit. The monetary incentive that will be used in policy C to guide the manager towards the right direction will be denoted by b_C . The expected utility the manager obtains from the policy C can be written as follows:

$$E[U_M^{Policy C}] = e_C [qp(b_C\bar{\pi} + \alpha\bar{s}) + q(1 - p)(b_C\bar{\pi} - \beta\underline{s}) - (1 - q)p(\alpha\bar{s} - b_C\underline{\pi})] - T_C$$

By substituting the optimal effort level chosen by the employee (e_C^*) into the expected utility function of the manager, the following can be obtained:

$$E[U_M^{Policy C}] = \frac{(2\bar{s} - \underline{s})(b_C(2\bar{\pi} - \underline{\pi}) + 2\alpha\bar{s} - \beta\underline{s})}{16} - T_C$$

Provided with the expected utility function of the manager, the owner is able to compute the maximum amount the manager is willing to pay to receive share b_C of the organization:

$$T_C \leq \frac{(2\bar{s} - \underline{s})(b_C(2\bar{\pi} - \underline{\pi}))}{16}$$

As was the case with the transfer with policy B, the amount increases with the magnitude of the positive externalities. The maximum transfer increases because the employee is more motivated to exert effort, therefore there is a higher likelihood that positive externalities will be obtained. In contrast to the transfer with policy B, the maximum amount the manager is willing to pay decreases with the negative externalities attached to one of the three cases.

Policy D: Implement if $\bar{\pi}$ and \bar{s} . From the two-tier analysis it was obtained that in case either one of the negative payoffs is relatively large, policy D would be favoured. This would imply that the manager should be reluctant to implement in any of the cases where either the social or the monetary payoff is negative. To incentivize the manager to act accordingly this policy, the owner will transfer share b_D to the owner. The expected utility of the manager that comes with policy D is as follows:

$$E[U_M^{Policy D}] = e_D[qp(b_C\bar{\pi} + \alpha\bar{s})] - T_D$$

By substituting the optimal effort level of the employee (e_D^*) that was obtained in the two-tier setting in the expected utility function of the manager, the function can be written as follows:

$$E[U_M^{Policy D}] = \frac{\bar{s}(b_D\bar{\pi} + \alpha\bar{s})}{16} - T_D$$

From this expected utility function it can be derived that the amount the manager is willing to transfer is as follows:

$$T_D \leq \frac{\bar{s}b_D\bar{\pi}}{16}$$

What follows is that the manager maximum transfer increases with the prosocial payoff and the monetary payoff in case a project is implemented.

Optimal Policy

There exist opportunities to introduce a manager into the organization which will be entitled to access every unique project and decide about whether it should be implemented or not. Still, whether the owner will have an incentive to appoint a manager to take the implementation decision depends on how the expected utilities compare. A complete overview of the best options will be obtained for all economic circumstances by comparing the expected utilities for policy A without the manager and policy B, C and D with the manager. As before, the owner still faces a trade-off between increasing the incentives for the employees and minimizing the

probability to end up with an unprofitable project. The owner can increase the incentives for the employee by introducing a manager in the organization which will be able to credibly commit to either policy B, C or D. To begin with, the effects of the introduction of the manager will be analysed. This mainly boils down to assessing the effects of the upfront monetary transfer from the manager to the owner and the sharing rule. The expected utility for the owner with policy A remains unchanged because this policy does not require a manager to commit to credibly commit to it. Furthermore, as was assumed in the two-tier setting, the fixed wage of the employee (w_e) will again be normalized to zero since this is optimal from the perspective of the owner.

Policy B: Implement if \bar{s} . By introducing a manager with the right prosocial preferences, the owner can commit to policy B and motivate the employees optimally. In the expected utility function of the owner the share of the manager will be implemented, as well as the transfer paid by the manager:

$$E[U_O^{Policy B}] = e_B \left(\frac{(1 - b_B)\bar{\pi}}{4} - \frac{(1 - b_B)\underline{\pi}}{4} \right) - w_e + T_B$$

Provided with the optimal effort level of the employee (e_B^*) and the maximum amount the manager is willing to pay to the owner (T_B), the expected utility of the owner can be formally presented as follows:

$$E[U_O^{Policy B}] = \begin{cases} \frac{\bar{s}(\bar{\pi} - \underline{\pi})}{8} & \text{for } \bar{\pi} > \underline{\pi} \\ 0 & \text{for } \bar{\pi} \leq \underline{\pi} \end{cases}$$

Immediately it is obtained that the introduction of the manager is costless for the owner. The expected utility with a manager is equal to the expected utility without a manager. The upfront transfer is in expected terms sufficient to compensate for the fact that the owner has to hand over a part of the monetary payoff. In addition to that, the restriction obtained in the two-tier setting remains unchanged.

Policy C: Implement if $\bar{\pi}$ and/or \bar{s} . In the two-tier setting it was obtained that the owner can be better off by committing to policy C in some circumstances. This policy is a mutual concession between the owner and employee which are assumed to have contrasting preferences. The role of the manager is pivotal to be able to commit to this policy ex-post. The introduction of the manager requires that the owner sells a share of the company to the manager. The expected utility will be as follows:

$$E[U_O^{Policy C}] = e_c \left(\frac{(1 - b_C)\bar{\pi}}{4} + \frac{(1 - b_C)\bar{\pi}}{4} - \frac{(1 - b_B)\underline{\pi}}{4} \right) - w_e + T_C$$

Provided with the share the manager acquires, the amount paid transferred from the manager to the owner (T_C) and the optimal level of effort (e_c^*), the expected utility of the owner in this three-tier setting can be found:

$$E[U_O^{Policy C}] = \begin{cases} \frac{(2\bar{s} - \underline{s})(2\bar{\pi} - \underline{\pi})}{16} & \text{for } \bar{\pi} > \frac{\pi}{2} \text{ and } \bar{s} > \frac{s}{2} \\ 0 & \text{for } \bar{\pi} \leq \frac{\pi}{2} \text{ or } \bar{s} \leq \frac{s}{2} \end{cases}$$

As was the case with policy C, the expected utility for the owner in a three-tier setting does not differ from the two-tier setting where the owner was assumed to be able to commit to a given policy. Furthermore, the restriction that have to be satisfied remained unchanged.

Policy D: Implement if $\bar{\pi}$ and \bar{s} . Policy D was interesting for the owner and employee in settings where the negative monetary or social payoff is relatively large. This resulted in the fact that with the commitment to policy D, the owner would be able to conduct business in economic settings where this would not have been possible with either of the other policies. But, to make this policy feasible, the owner has to introduce a manager to commit to this policy. As before, the owner sells a share of the organization to the manager. The resulting expected utility is as follows:

$$E[U_O^{Policy D}] = e_D \left(\frac{(1 - b_D)\bar{\pi}}{4} \right) - w_e + T_D$$

The effort level of the employee (e_D^*) remains unchanged from the two-tier setting. This will be substituted in the expected utility function as well as the obtained maximum transfer from the manager to the owner (T_D). This will result in the following expected utility:

$$E[U_O^{Policy D}] = \frac{5\bar{\pi}}{16}$$

Again, the upfront transfer from the manager to the owner cancels out the share of the monetary payoff the owner has to give up on the manager. As a result, the expected utility of the two-tier setting where the owner is assumed to be able to credibly commit to policy D is equal to the expected utility of the three-tier setting. Furthermore, the introduction does not come with any restriction. Therefore, policy D is always feasible.

All expected utilities have been calculated for the owner. In three out of the four different policies the owner delegates the decision making rights to a manager. The manager functions

as a commitment device to ensure the employee that there will not be ex-post deviation to a policy that neglects the social impact. By comparing the expected utility levels of the owner of all three policies, the owner will be able to make the right trade-off in all economic circumstances. Thus, the same approach as in the two-tier setting will be used.

Results

In the two-tier analysis it was obtained that in some situations the owner would be better off by committing to a more prosocial mission. However, the employees would anticipate ex-post deviation of the owner, which resulted in the fact that the owner would always have to settle with policy A, as illustrated in *Figure 3*. In this three-tier analysis a manager is introduced to tackle this commitment problem. By tweaking the incentives of the manager, the owner is able to balance the objectives of the owner and the employee correctly.

From the three-tier analysis follows that the owner is able to introduce the manager in the organization at zero costs. The amount the manager pays for the share in the company will be perfectly balanced with the monetary value the owner has to give up in expected terms. This crucially depends on the fact that the manager is not financially restricted. The fact that the manager has financial resources makes him different from the employee in the organization. So, since the introduction of the manager is costless, the owner is better off compared to the two-tier setting where the owner is not able to credibly commit to one of the alternative policies.

Furthermore, from the analysis follows that the owner's expected utility for each policy remains unchanged compared to the two-tier setting where the owner was assumed to be able to credibly commit to a given strategy. As a result, the optimal policy analysis from the two-tier setting is still valid. Hence, the results that are presented in *Figure 2* are also applicable to the three-tier setting.