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VALUE ORIENTED ORGANIZATIONS WITH VALUE NEUTRAL HIERARCHIES*

Manuel Echeverría

This paper gives a game-theoretical treatment of the institutional homogenization of value-oriented firms. It explains why intrinsically motivated, value-oriented firms like non-profits may become similar to for-profit firms in terms of organization and norms. It highlights and explains the pairs: value-oriented and flat organizations in contrast to value-neutral managers and hierarchical organizations. We consider a major donor like the government who delegates a project to an organization without endowments under asymmetric information. The non-profit is able to adapt its organization by establishing a hierarchy with an intrinsically motivated manager. The donor can in turn react by employing institutions in order to cope with information asymmetries regarding the mission of the organization and the unverifiable values of the manager. Two main cases are examined, one without competition and a competitive case. The equilibrium in the first case is a flat organization or alternatively highly altruistic hierarchy. The second competitive case is characterized by a value neutral hierarchy.

1 INTRODUCTION

The main concern of this paper is to give a theoretical explanation to why non-profit organizations are similar to for-profits in important aspects even though they have very different foundations. This paper contributes to the contemporary discussion on the role of values and norms in economic organizations detailed under *Related Literature* and relates to the sociological strand of research concerned with institutional homogenization, represented among others by DiMaggio and Powel and Powell (1983) and Anheier (2000) who treats the specific case of non-profits. Because ethics and values are commonly thought to be a salient feature of non-profits, our undertaking requires a description of the role of these values as a part of the economic system. The ambition is to provide a formal model with assumptions rooted in economic theory and experiments, without overlooking tractability and clear implications.

Several papers have treated the problem of how the non-distribution constraint can address issues regarding quality and cost savings detrimental to the aims of the donor[1], this constraint prohibits the distribution of profits among different stakeholders; the surplus generated by the organization must be reinvested in production. Our view is that the non-distribution constraint can mitigate these problems but that the delivery of more complex services combined with intrinsically motivated workers will create inefficiencies of another character. A common way of conceptualizing the role of softer, non-monetary incentives and their connection to labour productivity is the summarizing term *intrinsic motivation*. Workers with the opportunity to choose meaningful goals are commonly more motivated (Locke 1991). The vision, purpose and core values of a nonprofit firm are for example expressed in the mission of the organization which is thought to reflect what motivates the staff. The link between mission, motivation and productivity is a recurrent theme in the literature regarding non-profits (see for example Anheier, 2000, 2005; Glaeser, 2001 or Besley and Ghatak, 2005).[2]

Intrinsic motivation can also give rise to practices that deviate from the mission of the donor due to conflicting views regarding the preferred work process and the orientation of the organization and these are matters which are not easily ensured by the accounting identities of the non-profit firm. It is therefore reasonable to believe that other safeguards are needed to ensure that the outcome of the bargain is respected in these cases. We emphasize the workings of both conscious acts and market forces in the shaping of economic institutions i.e. we pronounce a certain combination in the broader concept of governance, for reference see for example Williamson (1985, 2002). Our take is to contemplate the specific role of hierarchy in relation to motivation and the agenda of the firm.

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[1] The work of Glaeser and Shleifer (2001) is an example in economics which follows the tradition of Hansmann (1980) who accentuated the important role of the non-distribution constraint as a signal of commitment to quality towards donors and customers.

[2] This organizational form is therefore a natural subject of study in this paper even though the implications can arguably be extended to other organizations protected by a limited liability constraint, i.e. in situations where direct financial punishment from the donor is ruled out by law.

In order to exemplify the model, consider a major provider of funds, like a state or a major foundation that we from now on call the *donor*. The donor has a specific agenda and is interested in embarking a research project. In order to carry out the project, the donor is faced with one or several organizations with intrinsically motivated employees involved in a non-standardized work process. These workers constitute the *organization* and are in our example researchers who depend on financial support from the donor. The administration and orientation of the organization can be delegated to a *manager* in charge of how the donation is used. With some reservations, think of a university professor. The relationship between the organization and the manager constitutes a key unit which we refer to as *the firm* in accordance with Laffont (2001) and is in our current example a university.

It is reasonable to assume that each individual worker has a more central role in the context of a non-standardized and human capital intensive work process. The donor is faced with a situation characterized by incomplete information about the intrinsically motivated organization's exact inclination regarding the project. The intrinsic motivation of the organization can be valuable for the donor in terms of productivity, but the non-material character of intrinsic motives presents at the same time new challenges and frictions for the management. The organization has superior information about how the project is run and the service itself is complex, which creates additional uncertainties about its success even if the organization exerts an honest effort in line with the aims of the donor. In the university, the success of a research project is subject to many uncertainties and one of the main frictions can be how the organization reacts to the research orientation or agenda. The research questions, methods used and ethical aspects of the research can affect the motivation of the researchers and give rise to conflicts of interest.

The donor's first problem is then to structure a contract in a way that makes the organization want to advance the mission of the donor in the best possible manner. The information asymmetries forces the donor to give up information rents to the organization, something he seeks to minimize by demanding reports from the firm's management which confirm that the agenda of the donor is pursued efficiently. The donor delegates the operation of the firm to the manager, but we simultaneously assume that the donor can check the accounting and compute the optimization at low cost to check that expenditures are reasonable. The rationale for the manager considered here stems instead from the simple idea that it is easier to bargain with one person at a key position rather than with value oriented workers in order to ensure the proper orientation of the firm, in conjunction with the manager's ability to understand and provide verifiable information of the organization's orientation.

The preferences of the manager over the organization's own agenda are therefore important because a value oriented manager would be inclined to let the intrinsically motivated organization keep its information rents in order to enable it to pursue its agenda. These preferences could be made observable but are not possible to contract on. Value oriented organizations will only have internal considerations in mind in absence of competition, if they are endowed or are sufficiently small. In these cases the organizations can afford to be idealistic and non-hierarchical or have value oriented managers. In either case, the donor will in effect be faced with a situation of full asymmetric information regarding its orientation. If

organizations are forced to compete for the contracts, then they will comply with the demands of establishing a hierarchy.

If the economic value of the information rents is sufficiently high, i.e. the firms are important enough, the donor will have incentives to adopt a screening institution in order to make the managers' type observable. Once the institution is in place, competition will make the culture of the firm subject to external considerations and phenomena generated by strategic interaction within and between similar firms and the equilibrium outcome is a value oriented organization with value neutral managers in conjunction with a screening institution which we may associate with the board.

1.1 RELATED LITERATURE AND CONTRIBUTION

The argument in this paper begins with the relationship between the donor and the organization. This relationship is characterized by an adverse selection problem regarding the mission type of the organization and by a moral hazard problem regarding effort exertion; we describe it in *section 2* using a mixed model by Laffont and Martimort (2002). We introduce a manager in *section 3* by combining the model presented in *section 2* with a political economy model of the politician's intermediary role by Laffont (1999, 2001), this modification ads more realism and the implications are used in the last part of the argument regarding institutional change in *section 4*.

The main difference between our work and that of previous contributions is the rather comprehensive approach to preference formation. We link the governance structure to the preferences of management and workforce, i.e. we study the interaction between the manager's values and the institutional configuration of the non-profit firm.

Our argument therefore mainly draws upon the economic literature regarding the influence of intrinsic motivation on the productivity of the firm, and literature which compares firms of different types e.g. profit and nonprofits, public and private firms.

The contribution of Besley and Ghatak (2005) is a prominent representation of the literature which treats the link between motivation and productivity; they analyze the effect of mission alignment between the principal and motivated agents. The main point advanced by these authors is that common values between the principal and the agent regarding the mission may be achieved and in turn enhance productivity. In contrast to their matching argument, we assume that there is a fundamental conflict between the donor and the firm which triggers responses from the organizations, manager and the donor to gain advantage under asymmetric information and where donor or firm might have weak outside options. Van den Steen (2010) provides a contribution which is parallel to the work of Besley and Ghatak but the author also argues that success can give rise to shared values, which in a sense reverses the causation between productivity and mission alignment. The idea that intrinsic motives can be detrimental and hence disadvantageous for the principal is made explicit by Dixit (2005) who models the misalignment of mission between the principal and the agent as an unwanted byproduct. Prendergast (2007) examines the preferences of "street level bureaucrats". His contribution is to highlight the existence and role of bureaucrats with preferences in favor or

against the client trough a self selection argument. We argue on the other hand that the preferences and organizational structures become more similar to each other under certain conditions.

Other contributions related to motivation and productivity are given by Alesiana and Tabellini (2007, 2008) who explore career concerns and contrast the archetypes of the politician and the bureaucrat by examining the suitability of their objective functions regarding different tasks. Akerlof and Kranton (2005) link intrinsic motivation to group identities and analyze how it affects payment schemes. The main difference with our approach and the literature reviewed so far is that we endogenize the objective function of the decision maker. In the spirit of Canton (2005) we consider organizations with agents whose disposition to act in accordance to intrinsic motives is affected by the incentive structure, intrinsic motives are made endogenous in this way. In contrast to Canton (2005) who studies motivational crowding out in the workforce, we study how the preferences of the management in part are determined within the firm by different market environments.

We relate to the literature which compares different types of firms because the view adopted in this paper is that there are limitations to the non-distribution constraint from the perspective of the donor and that the value-neutral hierarchy will act as a safeguard of the mission once the necessary governance structure is in place. Glaeser and Shleifer (2001) undertake a comparative analysis of the non-profit and for-profit firm in line with Hansmann (1980) and pin down conditions when the organizational features of the non-profit are advantageous to a rational entrepreneur. Corneo and Rob (2003) compare public and private firms in terms of the power of incentives and the allocation of effort between a private and socially valuable task in a way similar to Canton (2005).

A contribution somewhere in between the literature above, is the one of Delfgaauw and Dur (2010) who studies the impact of public service motivation on the distribution of talent in the public and private sector. Besley and Ghatak (2010) study how mission alignment can be achieved when motivated entrepreneurs are in charge of the decisions of the firm. Our study is in the same vein but our focus is not the interaction of motivation and strength of incentives, but rather the interaction between altruism and the organizational form. Our outcome is not only a relation between altruism and payments, it is a particular institutional, and in a sense made explicit below, cultural configuration which is a Nash-equilibrium response to different market environments. One of the distinguishing features of this paper is that the culture of a value oriented firm is shaped by strategic interaction within and between similar firms.

This paper also contributes by establishing a solid correspondence to a subset of concepts and conjectures presented by DiMaggio and Powel (1984) regarding institutional and cultural adaptation discussed in *section 4*.

2 A MIXED MODEL

The starting point of our argument is the mixed model from *Laffont and Martimort (2002) Ch. 7.11.*

A research project is from a production side perspective a risky undertaking, in the university example from the introduction, the product could in terms of quantity be the number of papers produced; these papers could in turn be of varying quality depending on how much work is put in accordance with the donor's agenda.

Effort exertion can increase the probability of producing a satisfactory amount of papers but other exogenously given factors could affect the outcome as well. Assume that the organization can exert costly effort $e \in \{0,1\}$ to improve the quantity; the quantity can be of two levels, either it meets the standards and is regarded as satisfactory (denoted S) or it fails to meet the standards (denoted F). These states are realized with probabilities $\pi(e)$ and $1 - \pi(e)$, which we denote as π_e and $1 - \pi_e$ where $\pi_1 > \pi_0$ because effort exertion improves the probability of success. A dissertation must for example contain a certain number of papers and this number is more or less determined by convention, effort increases the probability of a satisfactory quantity. The *cost of effort exertion* is $K(e)$ with $K(0) = 0$ and $K(1) = K$.

The donor values quantity and quality and is more content if the number of papers meets the standards, but will still value fewer papers, especially if it is in line with his aims and therefore regarded as high quality work. Quality is a subjective attribute of the project which is valued by the donor and therefore is expressed in his utility function, research quality is denoted as $q \geq 0$ and we denote the value of quality when standards are met as $V_S(q)$ and the unsuccessful outcome as $V_F(q)$. Furthermore $V'(\cdot) > 0, V''(\cdot) < 0$ i.e. utility of the donor is increasing in quality but with a decreasing marginal utility. The organization can be more or less efficient in the production of quality (q) depending on whether it is motivated by the project or not.

The researchers are assumed to have intrinsic motives derived from genuine interest in the pursuit of knowledge, the desire of self improvement, purpose, a stimulating work process, and meaningful goals and in some cases even the desire to serve the common good. These aspects of intrinsic motivation are thought to increase the ability of a high quality performance and are related to the cognitive evaluation theory in psychology which states that intrinsic motivation is linked to psychological needs for a sense of autonomy and competence. (Deci et al. 1999, p.628; see also Perry, 2010 on public service motivation) The researchers' propensity to achieve high quality papers is determined by these intrinsic motives *if we abstract from other properties of their ability*.[3]

The organization belongs to the mission set $M = \{\mu_I, \mu_N\}$ where μ_I represents the marginal cost of improving quality for the intrinsically motivated type and the probability of this type

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[3] Francois and Vlassopoulos (2008) cite Fehr and Schmidt (2006) who argue that there is a strong support for motivation stemming from preferences other than monetary rewards.

is p. The organization which is not intrinsically motivated by the mission is labeled as neutral and is denoted μ_N and we assume that the intrinsically motivated experiences a lower marginal cost: $\mu_N - \mu_I = \Delta\mu > 0$.

The donor's aim is to ensure an efficient use of the resources and will therefore structure a contract which induces a high level of effort exertion and also takes into account the productivity of the researchers. The donor is to begin with ignorant about the motivation type he is facing (he only knows the distribution) and will try to make the best possible use of the workforce by structuring contracts which specify quality levels the organization must commit to. The quality part of the contract is denoted $q(\tilde{\mu})$ because it is based on the reported type of the organization which he is uncertain of and is therefore denoted $\tilde{\mu}$. The donor is also unable to observe effort and is therefore forced to run the project by making payments $g_S(\tilde{\mu})$ and $g_F(\tilde{\mu})$ based on the observed outcomes of the quantity (Standard or Fail) and the reported motivation type of the organization in order to ensure a high level of effort exertion. The donor will structure a menu $\{g_S(\tilde{\mu}), g_F(\tilde{\mu}), q(\tilde{\mu})\}_{\mu \in M}$ based on the report of the organization's type and the realized quantity of the good in such a way that it makes the best use of the resources given the available information. The organization is risk neutral and subject to a limited liability constraint.

The donor must take into account several restrictions for the two organization types $i = I, N$:

(1) The adverse selection constraints

$$U_i = \pi_1 g_{iS} + (1 - \pi_1)g_{iF} - \mu_i q_i - K$$
$$\geq \arg\max e \in \{0,1\}\{\pi(e)g_{jS} + (1 - \pi(e))g_{jF} - \mu_i q_j - K(e)\}$$

$i \neq j, i, j \in \{I, N\}$.

must be respected in order to ensure that the intrinsically motivated organization commits to the work which is considered as more valuable by the donor. Some researchers will tend to feel that the contract with pre-specified qualitative requirements coupled with the research grants constrain their personal aims while others will be incentivized by the research program, the highly motivated staff will have strong incentives to avoid a precise extraction of their hard work by claiming that the project is more demanding and less pleasant than they actually think. If the donor didn't take this restriction into account, then these highly motivated workers could then commit to less demanding research and gain transfers that more than compensate their low production costs due to intrinsic motivation and consequently achieve a greater utility level.

The moral hazard constraints are expressed as

(2)

$$\pi_1 g_{iS} + (1 - \pi_1)g_{iF} - K \geq \pi_0 g_{iS} + (1 - \pi_0)g_{iF}$$

With the participation constraints, the utility U_i of the two types must be greater than zero.

(3)

$$U_i \geq 0$$

Moreover, the following limited liability constraints must hold

$$(4)\ u_{iS} = g_{iS} - \mu_i q_i \geq 0$$
$$(5)\ u_{iF} = g_{iF} - \mu_i q_i \geq 0$$

The organization is mainly thought to lack endowments and therefore dependent on donations and is moreover protected by a limited liability constraint and may hence not be punished if it is unable to fully satisfy the donor. For example, even if a PhD student graduates with a thesis that fails to meet the standards, he will not be fined or forced to pay back the grants and these must moreover compensate the production costs of quality.

If we start with the case where the organization's moral hazard constraint binds, then we directly see from (2) that the same transfer differential is given to the organizations. We can then reformulate (1) to

$$(6)\ U_I = u_{IF} + \frac{\pi_0 K}{\Delta\pi} \geq u_{NF} + \Delta\mu q_N + \frac{\pi_0 K}{\Delta\pi} = U_N + \Delta\mu q_N$$
$$(7)\ U_N = u_{NF} + \frac{\pi_0 K}{\Delta\pi} \geq u_{IF} - \Delta\mu q_I + \frac{\pi_0 K}{\Delta\pi} = U_I - \Delta\mu q_I$$

Where $\pi_1 - \pi_0 = \Delta\pi > 0$.

As in the pure cases of asymmetric information, the relevant restrictions are the incentive compatibility constraint of the motivated organization, and the limited liability restriction of the neutral organization. We can rewrite the expected transfers to the organizations in terms of utility and cost of production and effort and we arrive at the expressions (See Laffont and Martimort (2002)):

$$(8)\ \pi_1 g_{IS} + (1 - \pi_1)g_{IF} = U_I + \mu_I q_I + K \text{ and } \pi_1 g_{NS} + (1 - \pi_1)g_{NF} = U_N + \mu_N q_N + K$$

The donor's problem now becomes

(9)

$$\max_{\{(q_I, u_{IF}),\ (q_N, u_{NF})\}} p\left(\pi_1 V_S(q_I) + (1 - \pi_1)V_F(q_I) - \mu_I q_I - u_{IF} - \frac{\pi_0 K}{\Delta\pi} - K\right)$$

$$+ (1 - p)\left(\pi_1 V_S(q_N) + (1 - \pi_1)V_F(q_N) - \mu_N q_N - u_{NF} - \frac{\pi_0 K}{\Delta\pi} - K\right)$$

s. t. $u_{IF} - u_{NF} \geq \Delta\mu q_N$ (The motivated organization's incentive constraint)

$u_{NF} \geq 0$ (The neutral organization's limited liability)

The optimization yields: $u_{IF} = \Delta\mu q_N + u_{NF}$ and $u_{NF} = 0$ with the results:

$$(10)\qquad U_N = \frac{\pi_0 K}{\Delta\pi}$$

$$(11) \qquad U_I = \frac{\pi_0 K}{\Delta \pi} + \Delta \mu q_N$$

The motivated organization gets an information rent to ensure the desirable research quality and a rent to induce a high effort level in order to increase the probability of a satisfactory level of production (eq. 11). In the context of a nonprofit with a non-distribution constraint, these rents could be used to projects in line with the aims of the organization. The neutral organization gets only a rent to ensure effort exertion (eq. 10). This shows that an adverse selection problem followed by a moral hazard problem adds the information rents from the pure cases.

The nature of the incentives given to the organization are in need of discussion in the light of the empirical and theoretical literature concerned with adverse effects of monetary rewards on intrinsic motivation, i.e. motivational crowding out. Rewards can for example be perceived as controlling or as negative feedback and hence undermine the sources of intrinsic motivation which are autonomy and a sense of competence according to the cognitive evaluation theory. (Deci et al. 1999, p.628) Evidence suggests that motivational crowding out is not a general result and that tangible rewards can have a positive effect when directly related to the achievement of standards and success.[4] (Cameron et al., 2001, p.23)

The moral hazard rent $\frac{\pi_0 K}{\Delta \pi}$ can be associated with monetary compensation (extrinsic reward) for successfully meeting basic standards, whereas the adverse selection rent $\Delta \mu q_N$ are grants connected to the intrinsic motivation of the researchers and given for exceeding the standards with work in line with the aims of the donor. This latter rent is moreover assumed to be reinvested in projects in line with the researchers' aims due to the non-distribution constraint and can therefore be associated with academic freedom.

The optimal quantity for the motivated type is given by the expression:

$$(12) \qquad \pi_1 V_S(q_I^*) + (1 - \pi_1) V_F(q_I^*) = \mu_I$$

We notice that this is indeed the first best but modified to take into account that the surplus is random. The expression for the neutral type is also analogous to the pure adverse selection case, modified for the random surplus case at hand:

$$(13) \qquad \pi_1 V_S(q_N^{SB}) + (1 - \pi_1) V_F(q_N^{SB}) = \mu_N + \frac{p}{1-p} \Delta \mu$$

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[4] The results from two meta-studies reveal that the adverse effects of rewards on intrinsic motivation are quite intricate but with distinct features relevant to our approach. One study found that tangible task-contingent rewards (e.g. completion and performance contingent) do mitigate intrinsic motivation whereas verbal rewards have a positive effect. (Deci et al., 1999 p.646-649) Cameron et al. (2001) found no evidence for an overall negative effect of reward. By dividing experiments along the dimensions uninteresting and interesting task, they show that rewards have a positive effect on intrinsic motivation for uninteresting tasks. The negative effect on intrinsic motivation over interesting tasks is only found in certain cases, tangible rewards have negligible or positive effect on intrinsic motivation when given for meeting or surpassing a target or performing better than others. Verbal rewards are associated with positive effects. (Cameron et al., 2001, p.21-23) The cognitive evaluation theory can still be consistent with these results because rewards can promote the sense of competence, autonomy and encourage interest in the task if carefully managed. (Ibid., p. 26)

Which means that the second best production is distorted downwards below the first best level q_N^* given by:

(14) $\pi_1 V_S(q_N^*) + (1 - \pi_1) V_F(q_N^*) = \mu_N$

In the university context, it seems that all the researchers must be given a moral hazard rent to ensure a high effort exertion in order to increase the probability of a completed dissertation. The highly motivated researchers must moreover be given an incentive to commit to the more demanding research projects and the projects of the less motivated researchers are at the same time made less demanding in order to decrease the transfers to the inspired researchers.

3   THE MANAGER

This section combines the model of section 2 (Laffont and Martimort 2002) with Laffont (1999 or 2001) and additional extensions are made in section 3.2. regarding the manager's preferences.

Without a manager who is able to observe the type of the organization, the donor would always be forced to give up the full asymmetric information rent due to the elusive nature of the mission and intrinsic motivation of the organization. The monitoring role of the manager is connected to the human resource aspect of the management which is accompanied by his duty to give correct monetary incentives in order to maximize profits.

When structuring payments to the staff of the organization, he is like the donor, unable to observe effort. He is employed by the donor to solve this problem but any other conceivable manager would do as well in this regard. What makes this manager valuable is his ability to observe and provide hard information on the motivation type of the organization when the organization is indeed highly motivated. He is able to make this observation with positive probability. We assume that the manager's probability of detection is common knowledge and the ground for this assumption is that it can be seen as a measure of managerial ability. In a competitive manager labour market, it is reasonable to assume that the spread is sufficiently close to this competitive value. There is evidence that managers do differ in important regards and moreover make different choices in similar situations as Bertrand and Schoar (2003) argue, two things that seem to go against our assumptions and conclusions. Clearly, if managers are allowed differ in the ability to compute the optimization problem, manage the accounts or differed in any other way, then we would in effect be assuming additional noise in these dimensions, something which for example could be modeled by multidimensional asymmetric information regarding skill and ethics. Such modification could then be made consistent with the observation that managers in similar situations act differently regarding for example investments. We abstract from these issues in order to be able to discuss the preferences of the managers over the mission of the organization in isolation.

The manager maximizes the objective function of the donor when solving the problem of asymmetric information. He has no informational advantage vis-à-vis the donor in the moral hazard problem with unobservable effort and is not able to deviate from the second best in an

opportunistic manner. In short, manager and donor have the same incomplete information regarding effort exertion.

Asymmetric information between the donor and the manager only emerges when the manager discovers the organization's type; he is then at a valuable informational advantage. The informed manager will in this case make a take-it-or-leave-it-offer to the organization and he is willing to conceal the signal on the motivational type of the organization in exchange for a share of the information rent. It is in the interest of the organization to keep its agenda private to attain an information rent from the donor. The manager is put into a clear cut test where his intrinsic motivation and preferences for the mission of the organization will be balanced against his desire for monetary gains or extrinsic motivation. If he is altruistic enough, he will let the organization keep the information rent which is assumed to be used to advance the agenda of the organization's staff due to the non-distribution constraint. The bargaining between the manager and the organization resembles an ultimatum game where the manager has the advantage and could acquire most of the information rent. The only thing that could stop him from doing this is his own preferences and the level of worker resistance that generates transaction costs[5]. It is the donor who is endowed with resources and will in the end make a transfer to the organization after the manager's recommendation. The compensation must cover the manager's outside option and encourage an objective evaluation and report of the organization's mission type.

We could for example perceive the manager in the university as a professor in charge of the research and the workers as the PhD students. Time is money; the stake of the bargain is ultimately how the research fund is going to be used. The information rent is the time the productive student will have left to spend as he wants after fulfilling his contract. The bargain is then about if the research will be in line with the preferences of the student or the professor. This bargain is thought to be subject to transaction costs which mainly depend on the relative *toughness* of the two parties.

The manager receives a signal σ which is informative with a positive probability when the type of the organization is in accordance to the one of the donor, i.e. when $\mu = \mu_I$ and the organization is as a consequence also highly motivated. This probability is denoted $\Pr(\sigma = \mu_I | \mu = \mu_I) = \varepsilon$. The manager might in this case fail to see that the organization is highly motivated and provide verifiable proof of its type. This happens with probability $\Pr(\sigma = \varphi | \mu = \mu_I) = 1 - \varepsilon$, where $\sigma = \varphi$ is the uninformative signal.

Note that

$\Pr(\sigma = \mu_I) = \Pr(\sigma = \mu_I | \theta = \mu_I)\Pr(\mu = \mu_I) + \Pr(\sigma = \mu_I | \mu = \mu_N)\Pr(\mu = \mu_N) = \varepsilon p$ because $\sigma \neq \mu_I$ when $\mu = \mu_N$, i.e. the manager is unable to observe and provide hard, verifiable evidence when the organization does not have a mission in accordance with the donor's. In

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[5] The donor can be thought to face long run players who conform to a certain level of rent-sharing that is captured by an exogenous transaction cost parameter (see Laffont 2001). Forsythe et al. (1994) found that considerable part of the subjects offered at least the equal split in ultimatum games.

the same manner, we see that $\Pr(\sigma = \varphi) = 1 - p\varepsilon$ by computing the complement or using the law of total probability.

The reader might ask himself why a manager from the organization would not be able know the type of the organization automatically. The answer is that the manager still has to receive a signal with hard information to be able to report. The power of the manager in terms of his screening ability, i.e. his capacity to discover the type of the organization, becomes moreover less of a "deus ex machina" if we think of him coming from the organization itself.

After the manager receives his signal, he has the choice to report what he observes or conceal his informative signal in the event he has succeeded to acquire verifiable proof of the mission type of the organization, i.e. his action space in terms of reports is $r \in \{\mu_I, \varphi\}$. The manager is in charge of production but he will still be forced to report to the donor to motivate his payment scheme to the organization, this information is verifiable.

3.1 THE PREFERENCES OF THE MANAGER AND HIS COMPENSATION

If we abstract from the costs of managing in terms of effort i.e. it is costless to conduct the optimization problem, then the rationale for the monetary compensation to the manager i.e. his wage, can't be effort exertion and must therefore have another root. The manager is compensated for his outside option. But as we will see, the basis for the manager's wage is the information rent of the organization, in conjunction with the manager's informational advantage vis-à-vis the donor, his upper hand in the bargaining with the organization and his preferences for the mission of the organization.

We proceed by taking a step back and consider a benchmark case where the manager is reduced to a pure screening device at the disposal of the donor without own preferences. In this case, the donor is able to use the manager to detect the type of the organization with certain probability and will consequently be able to improve his expected utility because of his improved informational capacity. The delegation to this truth telling manager is costless; he will unconditionally give a truthful report even in the occasion when he is in an informational advantage, i.e. he will always report $r = \sigma$. In other words, the collusion game is never played. A bargain between the organization and the manager is never realized. The only compensation necessary is a fixed wage (w) that covers the manager's outside option which is the same for the manager without the ability to detect the organization's type.

If the signal is uninformative, then the manager must form beliefs about which type the organization is according to Bayes rule.

$$\Pr(\mu = \mu_I | \sigma = \varphi) = \frac{\Pr(\mu = \mu_I \cap \sigma = \varphi)}{\Pr(\sigma = \varphi)} = \frac{\Pr(\sigma = \varphi | \mu = \mu_I)\Pr(\mu = \mu_I)}{\Pr(\sigma = \varphi)} = \frac{(1 - \varepsilon)p}{1 - p\varepsilon} = \hat{p}$$

Where $\hat{p} < p$ and the denominator is

$$\Pr(\sigma = \varphi) = \Pr(\sigma = \varphi | \mu = \mu_I)\Pr(\mu = \mu_I) + \Pr(\sigma = \varphi | \mu = \mu_N)\Pr(\mu = \mu_N) =$$

$$= (1 - \varepsilon)p + 1(1 - p) = 1 - p\varepsilon.$$

When the manager detects the type of the organization, then his problem is reduced to a pure moral hazard problem with limited liability. He may in this case achieve the first best (FB) quantity q_I^* because he knows the type of the organization and will in addition not give up any adverse selection rents in this event. In doing so he is able to fully extract the productive capacity from the motivated organization without giving up information rents and will not make other payment than the one necessary to induce a positive effort level under limited liability. The manager will then with probability $v\varepsilon$ know that $\mu = \mu_I$ and because of the truthful report, the donor receives the expected payoff

$$(15) \qquad p\varepsilon\left(\pi_1 V_S(q_I^*) + (1 - \pi_1)V_F(q_I^*) - \mu_I q_I^* - \frac{\pi_1 K}{\Delta\pi} - w\right) = p\varepsilon(W^{FB} - w)$$

Because the payments are $\mu_I q_I^*$ to cover the cost of production and because the solution to the problem with moral hazard under limited liability with zero assets to the organization is a transfer of the magnitude $\frac{\pi_0 K}{\Delta\pi}$ and the cost of effort is K.

With probability $1 - p\varepsilon$ the signal is useless and the donor must form expectations of the probabilities of $\mu \in \{\mu_I, \mu_N\}$. The donor is in this informational state forced to solve the mixed problem with adverse selection followed by moral hazard. The quantities are given by the first order conditions similar to the mixed case above but now computed with the probability $\hat{p}$.

$$(16) \qquad \pi_1 V_S'(q_I^*) + (1 - \pi_1)V_F'(q_I^*) = \mu_I$$

The second best quality level with a manager (SBM) for the neutral organization is on the other hand higher than the case without a manager. The nature of the tasks carried out by the two types can be allowed to be more similar compared to the case without a manager

$$(17) \qquad \pi_1 V_S'(q_N^{SBM}) + (1 - \pi_1)V_F'(q_N^{SBM}) = \mu_N + \frac{p}{1-p}(1 - \varepsilon)\Delta\mu$$

The expected payoff is expressed as:

(18)

$$(1 - p\varepsilon)\left[\hat{p}\left(\pi_1 V_S(q_I^*) + (1 - \pi_1)V_F(q_I^*) - \mu_I q_I^* - \left(\Delta\mu q_N^{SBM} + \frac{\pi_1 K}{\Delta\pi}\right)\right)\right.$$

$$+ (1 - \hat{p})\left(\pi_1 V_S(q_N^{SBM}) + (1 - \pi_1)V_F(q_N^{SBM}) - \mu_N q_N^{SBM} - \frac{\pi_1 K}{\Delta\pi}\right) - w\right]$$

$$= (1 - p\varepsilon)(W^{SBM} - w)$$

The expected payoff can therefore be written as

$$(19) \qquad v\varepsilon W^{FB} + (1 - v\varepsilon)W^{SBM} - w\,.$$

3.2 THE SELF INTERESTED AND INTRINSICALLY MOTIVATED MANAGER

The interaction between the donor, manager and organizations can be described by a game with eight time periods and is solved recursively by starting from the last period. The game as a whole is dependent on the assumption that organization and managers know their type. The management of the firm sympathizes with the agenda of the motivated organization to a certain degree; a manager's type corresponds to his altruism $\Psi \in [\alpha, \omega]$ towards the organization, which measures the extent of his internalization of the organization's mission. The actors will adapt their institutions and values at the beginning of the game (t=1) in order to improve their positions, this stage is described in *section 4*. The game ends when the contract is fulfilled, at this stage (t=7) the firm receives its transfers from the donor in exchange for its services.

The timing of the game is:

t = 0: Organization learns μ and manager learns Ψ (players learn their own type)

t = 1: Institutional adaptation (Institutional reaction and competition between organizations resolved)

t = 2: Donor offers contract to manager and manager offers the official contract to the organization

t = 3: Organization and manager learn σ (signal received)

t = 4: Organization and manager accept or reject official contracts

t = 5: Organization exerts effort and chooses output

t = 6: Manager offers the organization a side contract

(Manager offers a manipulation of reports if self interested)

t = 7: Quantity is realized and transfers take place

If we go beyond the benchmark case and consider an intrinsically motivated manager concerned with how the organization's information rent is allocated (measured by Ψ) in addition to monetary rewards, then the delegation to the manager is no longer costless. After the manager observes an informative signal (t=3), which was described in the previous section, he will offer the organization a side contract that involves the concealment of the signal from the donor in exchange for a transfer from the organization. This sub-game (t=6) is realized with probability $\Pr(\sigma = \mu_I) = p\varepsilon$ and constitutes the value oriented firm and will be described in detail in this section.

The transfer from this sub-game, which can only occur with an intrinsically motivated organization, is realized when the contracts are executed. The information that the manager has on the organization's mission type is valuable to the manager because he realizes that the organization is willing to give up a share of the information rent in order to hinder him from reporting to the donor. The side contract is the result of a bargain associated with transaction costs; these costs imply that the payoff will be lower than the total rent at stake.

The side contract offered by the manager involves communication in a bargain over the information rent and is binding. We assume that the bargain is subject to transactions costs which are common knowledge and treated as fixed. We derived the information rents in *section 2* and know that the motivated type gets $\Delta\mu q_N + \frac{\pi_0 K}{\Delta\pi}$ without a manager, but it is with our assumptions only the rent $\Delta\mu q_N$ associated with adverse selection that can be claimed by the manager because he has no informational advantage vis-à-vis the donor in the moral hazard problem with unobservable effort. As a consequence, he is forced to give up an information rent of the magnitude $\frac{\pi_0 K}{\Delta\pi}$ to incentivize the organization optimally and this rent cannot be subject of the bargain.

There will be interplay between the transaction costs and the managerial altruism that interfere with the result of the bargain in the firm. We assume that the manager cares for monetary rewards and can in addition have preferences for the mission of the organization. We make the plausible statement that the preferences for the mission are expressed in how he values the amount of the information rent kept by the firm which as previously commented, allows a clean test of the managerial altruism. We denote the rent the manager chooses to claim in the bargain as x_1 and x_2 the amount he leaves to the organization. We denote the level of managerial altruism as $\Psi_i \in [\alpha, \omega], \alpha \in (0,1), \omega > 1$ and let $T \in (0,1)$ be a measure of the severity of transaction costs which are assumed to be common knowledge and derived from the conflict of interest in the bargain. A lower value of T is interpreted as a more severe level of transaction costs; each unit of the information rent the manager takes for himself depreciates in proportion to the severity of the transaction costs.

Furthermore, remembering that the bargaining power of the manager is total, the side contract can be described as

$$(20) \qquad \text{Max } Tx_1 + \Psi x_2$$
$$\text{s. t. } x_1 + x_2 \leq \Delta\mu q_N$$

The constraint states that the sum of the allocations must be less than the stake of the game, namely the asymmetric information rent, it obviously binds in optimum. This formulation of the problem emphasizes the tradeoffs, or internal conflict of the manager.

We proceed by recalling that the relationship between the manager and the organization, characterized by the bargain, is the *firm* and that the donor will react to the firm's collusive nature by making a transfer to the manager to mitigate opportunistic behavior. When we abstract from the effort exertion of the manager, we perceive his role in the firm as the one of an outside observer. The two structures presented in the figure are with our assumptions equivalent in the sense that they have the same solution. To the left, the donor carries out the maximization problem with the help of a supervisor and solves the maximization problem; to the right the manager recommends payments to the motivated staff. (see Laffont 1999 and Laffont 2001)

Figure 1

Equivalent Structures
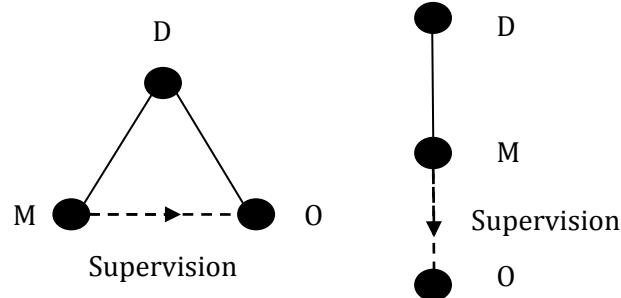
If we denote the payment made to the manager as *b* (representing one of the cases below), we will end up in the following expression for the expected welfare of the donor:

(21)
$$p\epsilon\left(\pi_1 V_S(q_I^*) + (1 - \pi_1)V_F(q_I^*) - \mu_I q_I^* - \frac{\pi_1 K}{\Delta\pi} - b\right) + (1 - p\epsilon)W^{SBM'} - w$$
$$= p\epsilon W^{FB} + (1 - p\epsilon)W^{SBM'} - (w + p\epsilon b)$$

Where the last term is the fixed wage and incentive payment to the manager, the latter derived from his advantageous informational position in the case he is able to present verifiable proof of the motivation type of the organization, these incentive payments will therefore be paid out with probability $p\epsilon$. To simplify the analysis we proceed by normalizing w to zero.

If extrinsic and intrinsic rewards are perfect substitutes, then we have as usual, three main cases characterized by two corner solutions or a range of solutions satisfying the budget restriction. If $\Psi > T$ then the manager is strongly motivated and altruistic to the extent it is optimal for him to let the firm have the information rent without personal gain even though he is assumed to have full bargaining power ($x_1 = 0$ and $x_2 = \Delta\mu q_N$).The manager realizes that the rent he can acquire is subject to transaction costs and becomes due to his altruism, less valuable than the satisfaction he derives from letting the firm keep it.

There are two interesting sub cases. If $\Psi > 1 > T$, then it becomes too expensive for the donor to counteract the manager's altruistic choice because he would then be forced to offer the manager extrinsic rewards greater than the total value of the information rent he is giving up to begin with. In this sub case, avoiding collusive behavior is too expensive and the firm will consequently benefit. If on the other hand $1 > \Psi > T$ is true, then compensation with the power to hinder collusion is incentive feasible ($b = \Psi\Delta\mu q_N$) but more expensive than when the manager is indifferent to the intrinsic rewards of the mission.

The second main case arises when $\Psi = T$ and the manager values an allocation to himself and the firm equally, this balanced manager will agree to any split of the total rent. The donor reacts by making the payment $b = \Psi\Delta\mu q_N = T\Delta\mu q_N$ in order to induce a truthful report.

The other main case resulting in a corner solution arises when $T > \Psi$ and the manager is weakly motivated by the mission. Intrinsic motivation is now relatively low and the rent attained by the manager when he undertakes a costly bargain is worth more to him than an altruistic allocation to the firm. The donor is in this case at a more favorable position because the incentive payment enough to induce a truthful revelation of the firm's type is lower than in the previous case ($b = T\Delta\mu q_N$).

The table below summarizes the firm's bargain and the donor's reactions. The donor will react optimally to the collusion and the contract will be structured as an optimal response to the collusion game. The donor optimizes the expected value by taking into account the incentive payment necessary to ensure collusion proof contract. There are three distinct cases from the donor's cost minimizing perspective: If the manager is highly altruistic ($\Psi \geq 1$), then the donor will be unable to use the manager in a profitable manner. When the intrinsic motivation of the manager is low enough ($\Psi \leq T$), then the donor can avoid collusion with low powered incentives $b = T\Delta\mu q_N$, which are fully determined by the transaction costs. When the altruism of the manager is at a intermediary level $\left(\Psi \in (T, 1)\right)$, then the donor is able to adapt the level of the incentive payment to the level of intrinsic motivation ($b = \Psi\Delta\mu q_N$).

Table 1

Altruism and Transaction Costs	Rent Allocation in the Collusion Game	Optimal Response by Donor
$\Psi \geq 1 > T$	Organization. $x_1 = 0, x_2 = \Delta\mu q_N$	Incentive Payment to manager (b): $b = 0$ -Collusion can't be avoided, too expensive
$1 > \Psi > T$	Organization. $x_1 = 0, x_2 = \Delta\mu q_N$	Incentive Payment to manager (b): $b = A\Delta\mu q_N > T\Delta\mu q_N$
$1 > \Psi = T$	$\forall x_1, x_2$ s.t. $x_1 + x_2 = \Delta\mu q_N$	Incentive Payment to manager (b): $b = T\Delta\mu q_N$
$T > \Psi$	Manager. $x_1 = \Delta\mu q_N, x_2 = 0$	Incentive Payment to manager (b): $b = T\Delta\mu q_N$

Proposition 1

If the manager is properly compensated, then he will be truth telling, i.e. will give a truthful report whenever he discovers the type of the organization. The necessary conditions to achieve this are:

(22) $\pi_1 V_S'(q_I^*) + (1 - \pi_1)V_F'(q_I^*) = \mu_I$

(23) $\pi_1 V_S'(q_N^{SBM'}) + (1 - \pi_1)V_F'(q_N^{SBM'}) = \mu_N + \frac{p}{1-p}(1 - (1 - \Psi)\varepsilon)\Delta\mu$

Which are the first order conditions to problem (21) (see appendix).

Equation (22) states that the quantity of the intrinsically motivated organization is set to the efficient level. Equation (23) shows that the quantity of the unmotivated organization is dependent on the level of the intrinsic motivation of the manager. When the manager's ability is very poor ($\varepsilon = 0$) or his altruism is high ($\Psi = 1$), the solution collapses to the full asymmetric information case. When the altruism is low, the solution is closer to the one with the benevolent manager. To take into account the true nature of the collusion game one must pay attention to how the manager's payoff depends on the choice of Ψ. Note that the donor is forced to structure a higher powered incentive scheme when the manager is highly motivated or altruistic. The expected value of hiring a manager is positive as long as his compensation is lower than the information rents $\Delta\mu q_N$.

4 COMPETITION, HIERARCHY AND THE ETHICS OF NEUTRALITY

Suppose the donor is forced to delegate the project to a certain non-profit because he lacks alternatives and assume that the non-profit is asked to adapt its organization to a hierarchical form with a manager in charge of production. Assume that the non-profit can adapt the managerial altruism in the interval $\Psi \in [\alpha, \omega]$ after its private information is revealed (t = 1), then it will choose a very value oriented manager i.e. $\Psi \geq 1$ because this manager will let the intrinsically motivated organization keep its information rent. Because it is not incentive feasible for the donor to structure a payment to the manager in order to induce truthful reports, the donor will not make that request unless he makes a mistake and will be forced to deal with a value-oriented and flat organization and give up the full asymmetric information rents derived from effort exertion and motivation type of the firm.

In the face of competition, the non-profits will seek to adapt their organizations in order to advance their positions and achieve a contract. In absence of competition an organization is able to adopt a managerial ethic only with internal considerations in mind and as shown above, if asked to, the choice will be an altruistic manager in order to avoid conflicts of interest and costly bargain within the firm. When similar organizations depend on funding from a single source, they will be forced to compete for the contract consisting of monetary donations in exchange for their product with pre-specified qualities. They must now take external considerations seriously by recognizing strategic interaction. The organizations will try to adapt to the economic environment in order to gain competitive advantage. To distill from other factors, we consider the case of identical organizations which are able to assign a manager in order to maximize utility. [6]

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[6] To understand the plausibility of this scenario it is necessary to give a proper interpretation of the game. A Nash-equilibrium is often thought to be achieved as a result of the strategic interaction of perfectly rational actors. The other way of interpreting the equilibrium is as a result of gradual adaptation by myopic agents to the economic environment represented by the incentive structure of the game. If we apply the latter *evolutive* interpretation to our setting we can perceive the choice of a certain manager type as a convention, tradition or culture adapted to the economic environment rather than as a result of

Consider competition in the form of a Bertrand-styled game where firms simultaneously choose a manager of type $\Psi_i \in [\alpha, \omega]$ played after the organizations receive private information about their types, where Ψ_i is a measure of how value oriented the manager of firm i is. We start by restricting our attention to the duopoly case and index two organizations with i and j. The payoff function of the manager in the event of a collusion game with competition is defined by the choices of the competing organizations and the donor's response in terms of an incentive payment and choice of organization. *The donor will choose the organization with the structure that benefits him the most*.

Definition

The particular organization ethics is defined by $A \equiv [\alpha, T]$, $B \equiv (T, \beta)$ *and* $\Gamma \equiv [\beta, \omega]$ *with* $1 \in \Gamma$ *and* $\beta \in (T, 1)$. *The manager cultures are the product of interaction between two or more organizations, i.e. the Cartesians* A^2, B^2 *and* Γ^2 *in the duopoly case*.
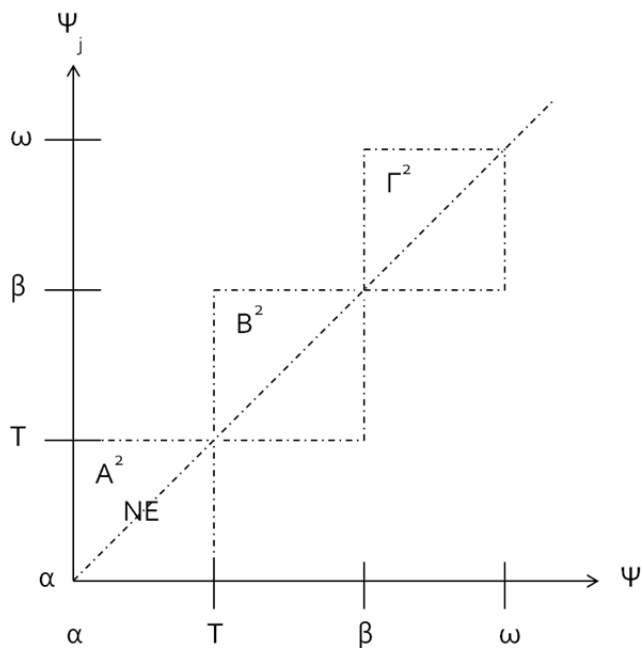
Figure 2

The Cultures

Figure 2 shows the cultures spanned by the ethics of two similar firms in competition. Each dashed square represents a specific culture which corresponds to particular economic conditions and outcomes in terms of information rent distribution between the actors.

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complex calculations (See Binmore, 1990, p.58-66). Binmore (1993) provides evidenced in an experimental setting that subjects tend to adapt their behavior and norms to the underlying equilibrium of the game.

Proposition 2

The neutral manager is most beneficial to the donor, if we are in the B^2-region, then the donor prefers the one closest to $\Psi = T$, i.e. the "golden mean" manager. Moreover, the upper bound for the region is necessarily less than one. (See appendix)

Using equations (22), (23) and proposition 2, we see that there are three critical intervals for the payoffs of the players; we define A, B and Γ. It is comfortable to denote the payoff of the donor as a function of $\Psi_i \in \Xi, \Xi = \{A \cup B \cup \Gamma\}$, as $D(\Psi_i)$. The intersection of the subsets is obviously empty.

Because the altruism parameter of the manager is an unknown necessary to a rational response from the donor, there will be very strong incentives to create an institution with the ability to screen managers and we are therefore in a position where we can hypothesize the use of such an institution ($t = 1$). Without such institution, the organizations would always report a neutral manager while employing a strongly value oriented one because the nature of this attribute is *unverifiable* and can't be enforced by a court. The economic incentives to use this institution are increasing in the information rents $\Delta\mu q_N$ attributable to the motivation type of the organization. It is rational to build such an institution if the cost, assumed to be proportional to the increased accuracy (probability of successful detection) is such that a high enough expected value can be realized using a cost-benefit principle. If we for sake of simplicity assume that the institution is perfectly accurate in its capacity to make the manager type *observable*, then it is feasible to utilize if the associated cost is *at most*[7]

$$(24) \qquad C = p\varepsilon\Delta\mu q_N^A(1 - T)$$

which is the difference between the mission-related information rent and the expected incentive payment to the neutral manager. This expression is derived by realizing that once the institution is in place, the competition will induce a downward pressure on the mission orientation of managers. The donor will therefore be able to achieve a collusion proof contract and a reliable report. The information revelation leaves the organization without mission related information rents. The mechanism will be described below.

The implication on the donor's payoff due to a change in Ψ_i is not equal over Ξ. The intervals A and Γ are coarse in the sense that $D(\Psi_i) = D(\Psi_j) \forall \Psi_i, \Psi_j \in A$ and $D(\Psi_i) = D(\Psi_j) \forall \Psi_i$ when $\Psi_j \in \Gamma$. The reason for this can be understood with equation (23) and table 1; when $\Psi = 1$ then the donor faces the equivalent of a full asymmetric information case and higher levels will make the situation worse and undermine the best interest of the donor. Therefore no manager will be employed whenever $\Psi \in \Gamma$. On the other hand when $\Psi_i, \Psi_j \in B$, then the payoff of the manager is sensitive to differences in the altruism parameter. Equation (23) reveals that a lower level of altruism will take the problem closer to the benevolent manager case i.e. $D(\Psi_i) = D(\Psi_j)$ iff $\Psi_i = \Psi_j$ but $D(\Psi_i) > D(\Psi_j)$ if $\Psi_i < \Psi_j$.

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[7] For a more detailed discussion of an *incentive compatible* monitoring institution under the pure moral hazard case, see Tirole (2001) for reference.

In other words, when the strategies are in the subset Γ, then the organizations can only undercut each other by moving to the adjacent subset A or B and when the choices are in the set A, the organizations can at best tie. The donor will use equation (23) when the manager is the B-type. When the manager is the Γ-type, the donor will face the full asymmetric information rent. In the case the manager is the A-type, the donor will recognize the restriction transaction costs put on his opportunistic behavior and utilize this by setting the payment to the lowest level corresponding to $\Psi_i = T$. In this manner we are able to recognize that the donor's preference is $D(A) > D(B) > D(\Gamma)$.

The donor's payoff w.r.t. the choices of manager is then divided in three cases. The first case is when $\Psi_i \in \Gamma$ and it becomes too expensive to hire a motivated manager and the donor is forced to rely on its own resources by conducting an unaided supervision and hence forced to give up the full asymmetric information (FAI) rent. When $\Psi_i \in B$, the manager will set a bonus payment that is proportional to the manager's altruism coefficient and adapt the output levels accordingly to maximize utility.

If Ψ_i is the equilibrium choice, the manager's compensation is

$$(25) \qquad M_i(\cdot) = \begin{cases} \Psi_i \Delta\mu q_N^{FAI} & \text{if } \Psi_i \in \Gamma \\ b_B = \Psi_i v\varepsilon\Delta\mu q_N^B & \text{if } \Psi_i \in B \\ b_A = Tv\varepsilon\Delta\mu q_N^A & \text{if } \Psi_i \in A \end{cases}$$

The first entry represents the case when the donor is unable to induce a truthful revelation due to the manager's substantial altruism. The manager will let the organization keep the information rent and his utility is derived from his intrinsic motivation or altruism alone. The second entry is the case when the donor is able to adapt the payments to the level of managerial altruism in accordance to equation (22). In the third entry, the payment is at its lowest level and determined by the transaction costs of the bargain.

As we have seen, the donor's payoff in Ξ is affected by the manager's ethic. We start by denoting the expected payoffs in the different subsets. The Γ^2-payoff is determined by equations (12) and (13):

$$p\big(\pi_1 V_S(q_I^*) + (1-\pi_1)V_F(q_I^*)\big) + (1-p)\left(\pi_1 V_S(q_N^{FAI}) + (1-\pi_1)V_F(q_N^{FAI})\right)$$
$$- \left[p\left(\Delta\mu q_N^{FAI} + \frac{\pi_0 K}{\Delta\pi} + \mu_I q_I^* + K\right) + (1-p)\left(\frac{\pi_0 K}{\Delta\pi} + \mu_N q_N^{FAI} + K\right)\right]$$

We denote this payoff as

$$p\widetilde{V}(q_I^*) + (1-p)\widetilde{V}(q_N^{FAI})$$
$$- \left[p\left(\Delta\mu q_N^{FAI} + \frac{\pi_0 K}{\Delta\pi} + \mu_I q_I^* + K\right) + (1-p)\left(\frac{\pi_0 K}{\Delta\pi} + \mu_N q_N^{FAI} + K\right)\right]$$
$$= V^\Gamma - G^\Gamma$$

The payoff in the B^2-region is determined by equations (21) and (22) and can be written as:

$$p\widetilde{V}(q_I^*) + (1-p)\widetilde{V}(q_N^B) - \left[p\left(\Delta\mu q_N^B + \frac{\pi_0 K}{\Delta\pi} + \mu_I q_I^* + K\right) + (1-p)\left(\frac{\pi_0 K}{\Delta\pi} + \mu_N q_N^B + K\right)\right]$$
$$+ p\varepsilon\Delta\mu q_N^B(1-\Psi) = V^B - G^B - b_B$$

In the same manner, the payoff in the A^2-region can be written as

$$V^A - G^A - b_A$$

We can therefore write the donor's payoff function as

$$(26) \qquad D(\cdot) = \begin{cases} V^A - G^A - b_A & \text{if } \Psi_i \in A \\ V^B - G^B - b_B & \text{if } \Psi_i \in B \\ V^\Gamma - G^\Gamma & \text{if } \Psi_i \in \Gamma \end{cases}$$

Assume first that two highly motivated organizations face each other and they have knowledge of each other's types. This information assumption can reflect a scenario when the organizations in the field are connected as for example different research groups within the university. To focus on the competitive aspects we rule out the possibility of collusion between the organizations. This competitive scenario is denoted as $S(\mu_I, \mu_I)$.

Proposition 3

The equilibrium manager culture is characterized by a low degree of benevolence towards the organization which means that the manager can be compensated in order to make him truth telling. The culture restricts the behavior to a range from the ethics of neutrality to the golden mean ethics ($\Psi = T$). (See appendix)

Once the manager competition is resolved and an equilibrium type is employed in the hierarchy, the manager will proceed by structuring the collusion proof contract consisting of the quality dependent transfers, type dependent quantities and the manager receives his bonus payment from the donor in the usual manner. The donor will pick the most lucrative organization. When $D(\Psi_i) = D(\Psi_j)$ the donor will pick a firm with equal probability because he is then indifferent between the two; we assume that $\frac{\pi_0 K}{\Delta\pi} + 2(1-\varepsilon)\Delta\mu q_N^B > \Delta\mu q_N^{FAI}$ and if not that the donor will be forced to be more "picky" and choose O_i if $\Psi_i < \Psi_j$ whenever $\Psi_i, \Psi_j \in \Gamma$ or that he will pick two other organizations whenever $\Psi_i = \Psi_j$ in Γ. The moral hazard rent encourages competition and is especially important in that regard when the probability of detection is high. The equilibrium play of the game is that both organizations choose a manager in A. The first entry in equation (27) states the payoff of the organization when both organizations choose the Γ-type. In this case the donor is forced to give up the full asymmetric information rent to the organization which gains the contract and adapt the quantities to the full asymmetric information state. Because the donor is indifferent between the two organizations, he will give the contract to one of them with equal probability and their expected values are therefore weighted with one half. Because the donor is always able to structure a collusion proof contract when the manager is moderate, the organizations will be left without the motivation based adverse selection rent if the manager acquires verifiable proof of their type. When the organizations are in the B^2-region, then they will have

incentives to deviate downwards in every point in order to undercut the other organization and gain the contract. When the A^2-region is reached, the organizations can at best tie and will conform to any point in the region.

(27)

$$O_i(\cdot) = \begin{cases} \frac{1}{2}\left(\frac{\pi_0 K}{\Delta\pi} + \Delta\mu q_N^{FAI}\right) & \text{if } \Psi_i, \Psi_j \in \Gamma \\ 0 \text{ if } \Psi_i \in \Gamma \text{ and } \Psi_j \notin \Gamma \\ \frac{\pi_0 K}{\Delta\pi} + (1-\varepsilon)\Delta\mu q_N^B & \text{if } \Psi_i \in B \text{ and } \Psi_i < \Psi_j \\ \frac{1}{2}\left(\frac{\pi_0 K}{\Delta\pi} + (1-\varepsilon)\Delta\mu q_N^B\right) & \text{if } \Psi_i \in B \text{ and } \Psi_i = \Psi_j \\ 0 \text{ if } \Psi_i \in B \text{ and } \Psi_i > \Psi_j \\ \frac{1}{2}\left(\frac{\pi_0 K}{\Delta\pi} + (1-\varepsilon)\Delta\mu q_N^A\right) & \text{if } \Psi_i, \Psi_j \in A \end{cases}$$

Note that the probability weights of one half are the expectations *prior to the official contract*; once the organization has been contracted, it updates its beliefs and will expect to gain the whole moral hazard incentive $\frac{\pi_0 K}{\Delta\pi}$ because the organization anticipates the collusion proof contract.

The other cases are solved analogous to the $S(\mu_I, \mu_I)$ case. When competition is characterized by $S(\mu_N, \mu_N)$, then neither organization will gain anything by choosing a manger who is not the A-type in terms of motivation rents, it is straight forward to show that the equilibrium choice is in the subset A^2. When $S(\mu_I, \mu_N)$ is realized then the Nash equilibrium are also in A^2. The perhaps more interesting main case is when the organizations in the field are unconnected and therefore uninformed of each other's types. This competitive main case is denoted $S(\tilde{\mu}, \tilde{\mu})$ and could in the context of our example be interpreted as competition between different universities. We know it is rational for O_i to play the A-type regardless of the type of O_j and that it is rational for O_j to play the A-type regardless of the type of O_i i.e. it is always rational for each player to play the A-type regardless of which type they think they are competing with. Therefore, the Nash-equilibria will be found in the subset A^2 (see figure 2).[8]

The non-competitive game in *section 3* leads to equilibrium without a manager, if the donor asks the organization to pick one, the most altruistic is chosen. The donor is then forced to give up the full asymmetric information rent to the non-profit organization. When the competition is intensified the organizations will choose the balanced or weakly motivated manager and hence establish a hierarchy in equilibrium. These two scenarios represent a flat

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[8] The other possibility is to define organization i as $O_i(\mu_I, \mu_N)$ and j in the same manner but this will give rise to conflicts of interest within the organization. The motivated type wants the value oriented manager in order to get the mission rent whereas the neutral type is willing to conform with the neutral manager. This situation may give rise to bargaining between the types both with and without competition, this is especially plausible in the former case when the neutral type risks the contract if a value oriented manager is chosen without gaining anything. This bargaining process can be modeled or assumed away for purpose of exposition.

and value oriented organization in contrast to a hierarchical organization with neutral managers.

One illuminating example in Glaeser (2002) is the case of universities in USA. The orientation and many of the matters now considered as natural to be decided by the university where once decided by the donors. The mission of the university, where the most important part is the research agenda, was dictated by the donors when the universities lacked own resources. The bargaining power of the universities increased with their wealth, once wealthy the universities became more research oriented and its top tier administrators where recruited from the ranks of researchers. The research oriented university can thus be seen as a result of its endowments which ensured autonomy and empowered it with the ability to choose its own mission in accordance with the preferences of the researchers.

The case without competition can also be seen as a situation when the organization is endowed. If a manager is required, then the most value-oriented will be chosen. The competitive case corresponds to the phase when the organization lacks own resources and will adapt by establishing a hierarchy with pragmatic managers. Laws that inhibit the accumulation of independent university resources can with this perspective be seen as a way of controlling the research agenda. The screening institution can be given a less literal interpretation and be associated with a human resource department. The increase of human resource programs at the university level could for example be connected to the secular growth of the tertiary production and the new causes of information asymmetries related to the increasing importance of personal attributes of the workforce.

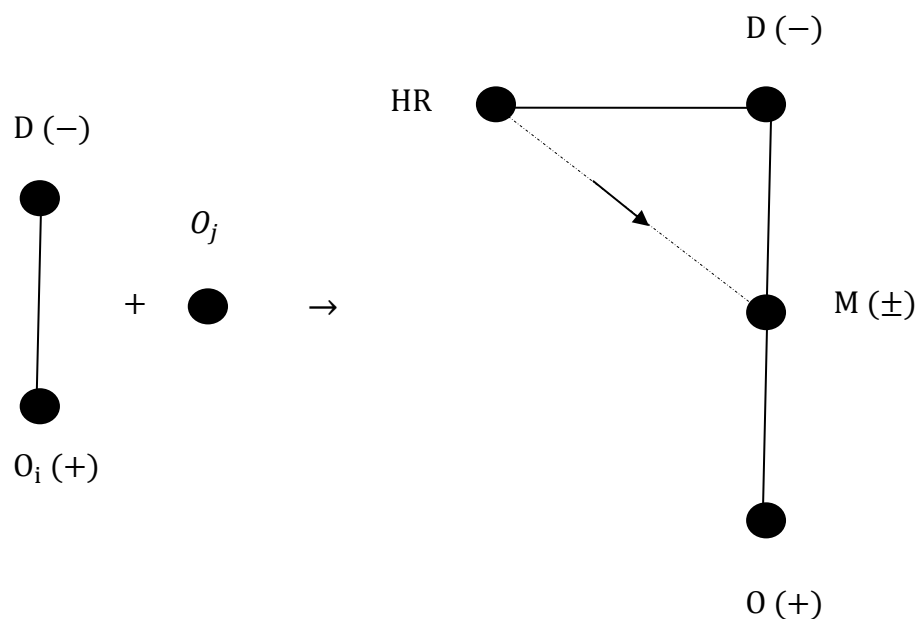**Figure 1**

Institutional Reaction

Figure 2 is meant to give the reader a compact summary of the model by emphasizing the structural features. The leftmost connection represents the case without competition which implies a donor faced with a flat value oriented organization and is forced to give up the full asymmetric information rent. The signs $(+)$ and $(-)$ represent different views regarding the orientation of the mission and where $(\pm)$ represents the intermediary view. If the manager would ask the non-profit to present a manager and establish a hierarchy, because he for example makes a mistake then the organization would inevitably employ the most value oriented manager which would be represented with an intermediary link and the sign $(+)$. The second case involves the whole addition to the left of the arrow which represents competition. Once this case is realized, it triggers a series of reactions from the actors which are represented by the structure to the right of the arrow. If the necessary conditions are met, then the donor reacts to the competition by establishing a screening institution and asks for reports. The organizations respond to the new environment by adapting to the requests from the donor and will establish a hierarchy. The strategic interaction under this competitive regime will ultimately induce a neutrality culture in equilibrium which is denoted by $(\pm)$.

 It is certainly in place to relate these findings to the terminology of DiMaggio and Powell (1983). In their language, this paper examines coercive and normative homogenization (isomorphism) in a field of nonprofit organizations providing a complex service with uncertain quality.[9] The uncertainty about the production process and motivation type of the organization, the resource dependence of a single donor and competition are characteristics that DiMaggio and Powell argue will increase the level of isomorphism in a given field.

5 CONCLUSION

The theory explains how the economic interaction between a financer and value-oriented organizations gives rise to an institutional and cultural adaptation. The result of this adaptation constitutes distinct firms which in equilibrium are optimal responses to different economical environments. The theory provides a game theoretical formulation of culture and as we have seen, relates to the sociological literature and pins down the necessary conditions for the realization of the phenomena. These conditions are derived from well established assumptions and correspond to economic institutions.

In the absence of competition the organization will choose a strongly motivated manager if asked to in order to make it too expensive for the donor to induce a truthful revelation of information from the altruistic manager. Consequently, the organization will not employ a manager and the donor will be forced to give up the full moral hazard and the mission related information rent to a non-profit firm with a flat organization.

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[9] A field consists of organizations providing similar output and facing the same economic environment in other words a set of structurally equivalent organizations with the same connections to other actors in the field but not necessarily connected to each other. *Coercive isomorphism* refers to homogenization as a consequence of direct or indirect pressure from institutions of importance for the fitness of the organization. *Normative isomorphism* is related to common ethics and norms among professionals as a result of filtering and screening processes. (DiMaggio and Powell, 1983, p.150-154)

When the organizations face competition, they will be forced to employ a value-neutral manager if an institution which can make the manager type observable is used. Such an institution is more likely to be found in the more important sectors of the economy but its efficiency is also dependent on the transaction costs in the firm. This accentuates the importance of screening and filtering processes necessary to make competition effective. When these conditions are satisfied, the donor will pay the manager a fixed wage and a bonus to induce a truthful revelation of the firm's intrinsic motives. A hierarchy with neutral managers is therefore established.

We therefore hypothesize:

(i) Value oriented organizations are either flat or have value-oriented managers if competition is non-existent or the information rents are relatively low.
(ii) The combination of a value-neutral management with a value-oriented organization is linked to a monitoring institution (e.g. human resource institution or a regulatory agency), this arrangement can be observed in competitive environments. This combination is presumably common in more important sectors of the economy where the information rents are relatively high.
(iii) The payments to the manager are commonly high-powered with competition.

The formal contract can be seen as coupled with a non-contractible managerial ethic. The definition of ethic is based on a revealed preference argument. The manager is thought to be faced with a situation which is analogous to experiments such as the ultimatum game. What the manager prefers to do when faced with such a clear cut situation defines his ethics –we emphasize the link between the internal considerations of the manager and the actual outcomes or consequences of his ethical considerations. The distinct cultures of the economy are the Cartesian products of the particular organizations' ethics which correspond to the distinct outcomes. The equilibrium culture may be a subset of these.

Appendix

Proposition 1

If the manager is properly compensated, then he will be truth telling, i.e. will give a truthful report whenever he discovers the type of the organization. The necessary conditions to achieve this are:

(1) $\pi_1 V_S'(q_I^*) + (1 - \pi_1)V_F'(q_I^*) = \mu_I$

(2) $\pi_1 V_S'(q_N^{SBM'}) + (1 - \pi_1)V_F'(q_N^{SBM'}) = \mu_N + \frac{p}{1-p}(1 - (1 - \Psi)\varepsilon)\Delta\mu$

Which are the first order conditions to problem (21) The manager has concave preferences for the service and linear preferences for money i.e. payments.

$$\begin{align*}
\max_{\{(q_I, u_{IF}), (q_N, u_{NF})\}} \quad & p\varepsilon W^{FB} \\
& + (1 - p\varepsilon)\left[\hat{p}\left(\pi_1 V_S(q_I) + (1 - \pi_1)V_F(q_I) - \mu_I q_I - u_{IF} - \frac{\pi_1 K}{\Delta\pi}\right)\right. \\
& \left. + (1 - \hat{p})\left(\pi_1 V_S(q_N) + (1 - \pi_1)V_F(q_N) - \mu_N q_N - u_{NF} - \frac{\pi_1 K}{\Delta\pi}\right)\right] - p\varepsilon\Psi\Delta\mu q_N
\end{align*}$$

Which means that the donor can achieve the first best if he compensates the manger so that he becomes truth telling.

$$\text{s.t. } u_{NF} \equiv g_{NF} - \mu_N q_N \geq 0 \text{ and } u_{IF} + \frac{\pi_0 K}{\Delta\pi} \geq u_{NF} + \Delta\mu q_N + \frac{\pi_0 K}{\Delta\pi} \leftrightarrow u_{IF} - u_{NF} \geq \Delta\mu q_N$$

$$\text{Where } U_I \equiv u_{IF} + \frac{\pi_0 K}{\Delta\pi}, U_N \equiv u_{NF} + \frac{\pi_0 K}{\Delta\pi}$$

$$\mathfrak{L} = (1 - p\varepsilon)[\hat{p}(\dots) + (1 - \hat{p})(\dots)] - p\varepsilon\Psi\Delta\mu q_N + \lambda_1 u_{NF} - \lambda_2(u_{NF} - u_{IF} + \Delta\mu q_N)$$

FOC: (eq. 22)

$$\mathfrak{L}_{q_I}' = (1 - p\varepsilon)\hat{p}(\pi_1 V_S'(q_I) + (1 - \pi_1)V_F'(q_I) - \mu_I) = 0 \leftrightarrow \pi_1 V_S'(q_I) + (1 - \pi_1)V_F'(q_I) = \mu_I$$

$$\mathfrak{L}_{u_{IF}}' = -(1 - p\varepsilon)\hat{p} + \lambda_2 = 0 \leftrightarrow \lambda_2 = (1 - p\varepsilon)\hat{p} = (1 - p\varepsilon)\frac{(1 - \varepsilon)p}{1 - p\varepsilon} = (1 - \varepsilon)p$$

(eq.23)

$$\mathfrak{L}_{q_N}' = (1 - p\varepsilon)(1 - \hat{p})(\pi_1 V_S'(q_N) + (1 - \pi_1)V_F'(q_N) - \mu_N) - p\varepsilon\Psi\Delta\mu - \lambda_2\Delta\mu = 0 \leftrightarrow *$$

$$* \leftrightarrow (\pi_1 V_S'(q_N) + (1 - \pi_1)V_F'(q_N) - \mu_N) = \mu_N + \frac{\lambda_2}{1-p}\Delta\mu + \frac{v\varepsilon\Psi\Delta\mu}{1-p} = \mu_N + \frac{(1-\varepsilon)p\Delta\mu}{1-p} +$$

$$\frac{p\varepsilon\Psi\Delta\mu}{1-p} = \mu_N \leftrightarrow \pi_1 V_S'(q_N) + (1 - \pi_1)V_F'(q_N) = \mu_N + \frac{p}{1-p}(1 - (1 - \Psi)\varepsilon)\Delta\mu$$

$$\mathfrak{L}_{q_N}' = -(1 - p\varepsilon)(1 - \hat{p}) + \lambda_1 - \lambda_2 = (1 - p) + \lambda_1 - (1 - \varepsilon)p = \lambda_1 - 1 + p\varepsilon \leftrightarrow$$

$$\lambda_1 \geq 1 - p\varepsilon \geq 0, > 0 \text{ if } p\varepsilon \in (0,1) \text{ then } \overline{u}_I = 0, \text{ so } U_N = \frac{\pi_0 K}{\Delta\pi} \text{ and } U_I = \Delta\mu q_N + \frac{\pi_0 K}{\Delta\pi}$$

Proposition 2

The neutral manager is most beneficial to the donor, if we are in the B^2-region, then the donor prefers the one closest to $\Psi = T$, i.e. the "golden mean" manager. Moreover, the upper bound for the region is necessarily less than one.

The most economically intuitive way to show this is to let the donor choose the first best, as if he himself directly could decide the type.

$$\max_{\{(q_I, u_{IF}); (q_N, u_{NF}); \Psi\}} v\varepsilon W^{FB} + (1 - v\varepsilon)W - v\varepsilon\Psi\Delta\mu q_N \text{ s.t.} \begin{cases} u_{IF} - u_{NF} \geq \Delta\mu q_N \\ u_{NF} \geq 0, A \geq 0 \end{cases}$$

$$\mathfrak{L} = p\varepsilon W^{FB} + (1 - p\varepsilon)[\hat{v}(\dots) + (1 - \hat{p})(\dots)] - p\varepsilon\Psi\Delta\mu q_N + \lambda_1 u_{NF}$$
$$- \lambda_2(u_{NF} - u_{IF} + \Delta\mu q_N) + \lambda_3\Psi$$

Clearly, we have the same optimization procedure as in *proposition 1*, but with the additional condition

$\mathfrak{L}'_\Psi = -p\varepsilon\Delta\mu q_N + \lambda_3 = 0 \leftrightarrow p\varepsilon\Delta\mu q_N = \lambda_3$ which by the assumptions of *proposition 1* is greater than zero, hence $\Psi = 0$. If we instead employ the restriction $\Psi \geq c; \Psi, c \in (0,1)$ then $\Psi = c$.

The upper bound must be less than one because if it is one or more, then the donor is for any utility function increasing in money at least as well or better off without a manager. If we denote the level of managerial compassion $\Psi \in (T, 1)$ that will leave the risk averse donor indifferent between employing a manager or not as β, then the particular organization ethics is defined by $A \equiv [\alpha, T]$, $B \equiv (T, \beta)$ and $\Gamma \equiv [\beta, \omega]$. The manager cultures are the product of interaction, i.e. the Cartesians A^2, B^2 and Γ^2.

Proposition 3

The equilibrium manager culture is characterized by a low degree of benevolence towards the organization which means that the manager can be compensated in order to make him truth telling. The culture restricts the behavior to a range from the ethics of neutrality to the golden mean ethics ($\Psi = T$).

Proof

To prove this we must show that the organizations will have managers with preferences that are in the range $A \equiv \Psi \in [\alpha, T]$ in equilibrium. In other words, the set of Nash equlibria are in A^2. To show this, we must in addition show that all other preferences are unstable.

No point in $B \equiv \Psi \in (T, \beta)$ is an equilibrium play for the organizations. Assume that $(\Psi_i, \Psi_j) \in B^2$ is a NE. We employ *lemma a* and *b* in the competition argument, this drives the organizations to undercut each other in order to avoid the zero payoff. By definition it is true that

$$O_i(\Psi_i, \Psi_j) \geq O_i(\Psi'_i, \Psi_j) \, \forall \, \Psi'_i \text{ and } O_j(\Psi_i, \Psi_j) \geq O_j(\Psi_i, \Psi'_j) \, \forall \, \Psi'_j, \, (A_i, A_j) \in B^2 \, (*)$$

where (Ψ_i, Ψ_j) can have the following relationships: (i) $\Psi_i < \Psi_j$ (ii) $\Psi_i = \Psi_j$ (iii) $\Psi_i > \Psi_j$.

Assume (i). Then $O_i(\Psi_i, \Psi_j) = \frac{\pi_0 K}{\Delta \pi} + (1 - \varepsilon) \Delta \mu q_N^B$ and $O_j(\Psi_i, \Psi_j) = 0$ where $\frac{\pi_0 K}{\Delta \pi} + (1 - \varepsilon) \Delta \mu q_N^B$ is the maximal payoff the organization can achieve in this region. Hence $O_i(\Psi_i, \Psi_j) \geq O_i(\Psi'_i, \Psi_j) \, \forall \, \Psi'_i \in B$ but

$O_j(\Psi_i, \Psi_j - \gamma) \geq O_i(\Psi_i, \Psi_j), \gamma \in (0, \Psi_j - T)$, therefore $O_j(\Psi_i, \Psi_j) \geq O_j(\Psi_i, \Psi'_j)$ is not true and we have a contradiction. By symmetry, (iii) can't be true either.

Assume (ii). Then $O_i(\Psi_i, \Psi_j) = O_j(\Psi_i, \Psi_j)$. But then again $O_j(\Psi_i, \Psi_j) \leq O_j(\Psi_i, \Psi_j - \gamma)$ (and similarly for O_i) which is a contradicts (*)

We also note that all upward deviations to the Γ-strategies are ruled out by this reasoning given that we start in B^2 (regions where one organization plays B and the other Γ). Clearly if we assume $(\Psi_i, \Psi_j) \in \Gamma^2$ is a NE, then we know that by our previous assumptions (either $\frac{\pi_0 K}{\Delta \pi} + 2(1 - \varepsilon) \Delta \mu q_N^B > \Delta \mu q_N^{FAI}$ or the donor is "picky") that:

$$O_i(\Psi_i, \Psi_j) = O_j(\Psi_i, \Psi_j) \, \forall \, (\Psi_i, \Psi_j) \in \Gamma^2.$$

But then we can find $A'_i \notin \Gamma$ such that $O_i(\Psi_i, \Psi_j) < O_i(\Psi'_i, \Psi_j)$ and $\Psi'_j \notin \Gamma$ such that the other organizations payoff is $O_j(\Psi_i, \Psi_j) < O_j(\Psi_i, \Psi'_j)$ which contradicts that $(\Psi_i, \Psi_j) \in \Gamma^2$ is a NE.

Hence everything in the region $(T, \omega] \times (T, \omega]$ is not an equilibrium culture.

Assume $(\Psi_i, \Psi_j) \in A^2$, then $O_i(\Psi_i, \Psi_j) = O_j(\Psi_i, \Psi_j) = \frac{1}{2}\left(\frac{\pi_0 K}{\Delta \pi} + (1 - \varepsilon) \Delta \mu q_N^A\right)$

If $\Psi_i \in A$ then $O_i(\Psi_i, \Psi_j) \geq O_i(\Psi'_i, \Psi_j)$ is satisfied and,

If $\Psi_j \in A$ then $O_j(\Psi_i, \Psi_j) \geq O_j(\Psi_i, \Psi'_j)$ is satisfied and,

If $\Psi'_i \notin A$ and $A_j \in A$, then $O_i(\Psi_i, \Psi_j) \geq O_i(\Psi'_i, \Psi_j)$, and

If $\Psi'_j \notin A$ and $A_i \in A$, then $O_j(\Psi_i, \Psi_j) \geq O_j(\Psi_i, \Psi'_j)$

Therefore there are no incentives to deviate upwards if $\Psi_i \in A$ or $\Psi_j \in A$ and A^2 is the equilibrium culture. Note that Γ^2 is an equilibrium culture in the absence of competition or when the organization is endowed. (See figure 2 above)

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