Revealing the Preferences of Social Financiers

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Abstract

Financiers of social entrepreneurs are typically characterized as having some form of pro-social or CSR related objective. While in some studies such objectives have been formulated on an analytically inconvenient level, other contributions are limited only to charity finance. In this paper we identify Fehr and Schmidt's inequality aversion as an analytically tractable and most basic motivation of social financiers in general. Specifically, we show that the financiers' decision structures and their observable behavior coincide with the experimental findings of Fehr and Schmidt (1999). Moreover, we derive behavioral implications for social entrepreneurs. Paradoxically, given that financiers do not prefer a self-consumption of the social service, they contribute more if the entrepreneur provides them nevertheless.

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1. Introduction

Social entrepreneurs solve societal problems by creating goods or services that meet the needs of specific disadvantaged individuals. Their operations are financed through diverse sources. Some entrepreneurs generate earned income by charging user fees or member dues while other organizations sell mission-unrelated goods or services on for-profit markets. Despite such activities, social entrepreneurs often rely heavily on external funds. As an indication, the US SIF Foundation (2012) reports that individuals, institutions, investment companies, or money managers held $3.74 trillion of socially responsible investment assets in 2012 in the United States. For the same year, Giving USA (2013) highlights that US charitable contributions totaled $316.23 billion.

As external finance is apparently important for a social venture's success, it is essential to understand how social entrepreneurs can optimally attract such funds. In this paper we seek to identify, in a first instance, a simple common motivation by which social financiers are guided. This motivation allows us, in a next step, to derive several important implications for the optimal design of entrepreneurial ventures.

The management literature has long assumed that investors pursue only financial returns. This perspective has been challenged quite recently as it lacks to explain why social ventures are usually able to attract funds even though they cannot offer investors a market-adequate repayment. In this line, some approaches suggest that, in addition to financial returns, socially responsible investors usually seek to fulfill some social as well as personal objectives.[1] Hence, they are willing to sacrifice a part of their profits in expectation of some non-monetary value. Other observations reveal that profit-oriented firms often implement corporate-social-responsibility strategies in hope of satisfying stakeholder needs. In this respect, they build partnerships with social entrepreneurs and support them financially.[2] Obviously, the outlined motivations are able to explain why social entrepreneurs receive external funds despite their limited repayment ability. However, these general preferences are less applicable to predict the funding behavior of investors in response to the social entrepreneur's operational decisions such as the choice of the target group or the quality of the social good or service.

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[1] Compare, for example, Bollen (2007), Buttle (2007), Derwall et al. (2011), Pérez-Gladish et al. (2012), and Schueth (2003).

[2] Compare, for example, Nelson and Jenkins (2006), Prieto-Cárron et al. (2006), Zahra et al. (2008).

In contrast, analytically convenient preferences can be found in the public-economics literature. Among others, such preferences include altruism[3], warm glow[4], prestige[5], or inequality aversion[6]. The corresponding studies as well as related works focus exclusively on donations to charitable causes and provide several insights of how charities can increase their fundraising success. For example, Harbaugh (1998) finds that nonprofit organizations can increase contributions by publicizing donations in dollar categories rather than by reporting the exact amount. Or, Andreoni (2006) shows that the announcement of initial gifts has a positive influence on the subsequent fundraising success.

This paper attempts to identify an analytically tractable and most basic motivation of a wide class of social-financier types, not only contributors to charities. As a plausible restriction, however, we just consider private individuals or institutions, as the motivation of public decision makers may be dominated by political goals (Kickul and Lyons, 2012). We start our analysis by revealing typical decision structures of social financiers and find that the structures are almost identical to two experimental settings analyzed in the literature on public economics, viz., the dictator and the public-good game. Most prominently, Fehr and Schmidt (1999)[7] (henceforth F&S) found that in such experiments individuals are governed by inequality aversion. By contrasting empirically observable behavior of financiers and participants of such experiments, we follow F&S and argue that this preference specification is also a promising candidate to explain the behavior of social financiers in general.

With the F&S specification of inequality aversion at hand, we derive several implications concerning the optimal design of the entrepreneurial venture. For example, we find that the entrepreneur should provide the service only to individuals who are poorer than his social financiers. Likewise, the service quality should be limited. Moreover, we show that financiers dislike costless own direct benefits, e.g., through consuming the entrepreneur's service, if they perceive a strong disutility from being better off than other individuals. Paradoxically, though, the entrepreneur should nevertheless enable such direct benefits as they will increase the financiers' total contributions.

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[3] See Bergstrom et al. (1986).

[4] See Andreoni (1989).

[5] See Harbaugh (1998).

[6] See Fehr and Schmidt (1999) or Bolton and Ockenfels (2000).

[7] Until Dec, 2013 the paper received over 6000 Google-Scholar citations, which is unique among all publications in the field of social preferences.

The paper is organized as follows. In the next section we analyze typical decision structures and behavior of social-venture financiers and contrast our findings with existing experimental results. In the third section we briefly introduce a technical characterization of F&S-inequality aversion and adjust it to the social entrepreneurship context. In the fourth section some basic propositions concerning the behavior of social financiers are derived. We then indicate further important behavioral issues whose analysis would also benefit from an application of the F&S-preference function. Finally, we conclude this paper with implications for further research.

2. Decision structures and financier behavior in social-venture funding

The identification of a financier's decision structure in social-venture financing requires, first of all, a closer look on the fields of activities of social entrepreneurs. In principle, entrepreneurs create social value by solving social problems through innovative processes and ideas. There is rich evidence that poverty[8] or the non-provision of public goods through commercial markets or the government[9] are central to a large part of social problems. Poverty or, more specifically, the inability of people to pay for goods and services traded on markets often entails that basic human needs cannot be satisfied. In this respect, social entrepreneurs provide subsidized or free-of-charge private goods or services (henceforth social services) to needy individuals. Typically, social services are designed to meet urgent consumption needs directly (e.g., food, shelter, clothing, health care) or to empower individuals to self-improve their life-situation (e.g., micro-loans, education and training, advocacy, access to networks).

For example, Aidchild mainly aims at satisfying basic human needs of HIV-infected orphans in Uganda who do not receive support from extended family members. Founded in 2000, the organization runs multiple centers and serves more than 3,000 children and adults with numerous services such as shelter, food, medical care, and education.[10] In contrast, the nonprofit organization KIVA alleviates poverty by empowering needy individuals to self-improve their living standard. KIVA runs an internet platform which seeks to match micro-loan investors in the industrialized world with loan applicants in developing countries. Given a successful matching, the investors' funds are forwarded by the organization to a local microfinance institution which grants the loan to the beneficiary and monitors its repayment.

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[8] Compare Dees (1998), Seelos and Mair (2005), Austin et al. (2006), and Starke (2012).

[9] Compare Bilodeau and Slivinski (1998), Austin et al. (2006), and Nicholls (2009).

[10] Compare Aidchild (2013).

Basically, KIVA pays no interests to the investor, however, in order to cover operating costs the local finance partner charges a fee which lies below market prices.[11]

Beside poverty alleviation through social services, entrepreneurs also engage in the provision of public goods where governments fail to do so. Here, entrepreneurs often provide environmental, cultural, political or infrastructural projects. In general, a public good is characterized by the non-exclusion and non-rivalry properties. Specifically, once the good is provided, no individual can be excluded from its consumption and the own consumption is not affected by other individuals' behavior. For example, an improved infrastructure benefits all individuals in the corresponding geographic region. All people can use the good and the individual benefit is, in principle, not affected by the others' use of the infrastructure.

The encyclopedia Wikipedia is one of the most prominent examples for public goods. Founded in 2003 the non-profit US-American foundation Wikimedia Inc. provides and administers a general internet knowledge infrastructure in 285 languages which is free to everybody and of course non-rival in consumption. The encyclopedia is supported by volunteers who write and edit pages as well as donors who cover the majority of administration and development costs.[12]

In order to cover the costs of supplying social services or public goods, entrepreneurs, typically, apply for funds with a variety of financiers such as private donors, sponsors, or social investors. During the application process, the financiers expect the entrepreneur to provide detailed information about the project, which enables them to assess the impact of their funding. Specifically, financiers demand information concerning the social problem, the involved and targeted individuals, and the costs and benefits of providing the good or service. In general, social entrepreneurs document such details in their business plans, in advertisements, or on their internet platforms. For example, Aidchild publishes nutrition lists which detail the weekly menu supplied in its care centers and KIVA specifies the purpose of a granted loan. Wikipedia informs in length where and with what desired effect money is spent or new projects are launched.

With the detailed project information at hand, financiers consider the amount and conditions of funding (e.g., interest rate, repayment, duration). In this respect, it can often be observed that, in contrast to supporting profit-oriented projects, social financiers voluntarily

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[11] Compare Kiva (2013).

[12] Compare Wikipedia (2013).

agree on funding conditions that imply a below-market return on investment. This sacrifice of return is important for social entrepreneurs as the peculiarities of the social problem often preclude them from designing the good or service in a profitable manner. For example, Aidchild cannot charge orphans the local market prices for food or housing as their payment ability is insufficient. A similar problem occurs with public goods. Due to the non-exclusion property, prices cannot be charged for such goods and, therefore, their provision must be financed by voluntary contributions. The limited opportunity to generate financial returns prevents social entrepreneurs from applying for funds at usual capital markets. Instead, as Emerson (2003) points out, social financiers are willing to support entrepreneurs with non-repayable funds or repayable capital with below market returns on investment. These funding instruments have in common that financiers give up own monetary payoff in comparison to investments in commercial markets. In the following, we refer to this foregone payoff as a donation.

As indicated above, in most cases, the entrepreneur not only forwards donations to people in need, as can be observed with KIVA, but transforms it into a social service or public good. This is an important feature of the financier's decision structure as the transformation, in turn, is likely to influence his willingness to donate. Specifically, the recipient's benefit level from consumption (valued in monetary terms) can be higher or lower as the monetary donation. For example, the consumption benefit of a service tends to be lower if the entrepreneur has to cover administration costs, or the recipient's preference for the supplied service is not as intense as for other services offered at markets. In contrast, it tends to be higher if the financier's contribution is intended for self help, e.g., high-quality education helps the beneficiary realize a much higher future income. The benefit of the entrepreneur's service is also higher if the service implies a need satisfaction for the recipient that cannot be reached by forwarding the donations directly. This is the case, for example, if, with the transferred money at hand, the recipient is not able to buy a similar good or service at a market price that includes a significant profit margin.

Up to this point, we identified three important features of a financier's decision structure which are common for social services and public goods. First, the financier basically decides on the level of donations which he transfers to the social entrepreneur. Second, the entrepreneur works as an intermediary who transforms the donation into a social service or public good and provides it to the target group. Third, the financier knows (at least partially)

the entrepreneur's target group, and he is also capable to develop an idea of how recipients benefit from the good or service.

However, a relevant distinction between both decision structures is given by the consumption properties rivalry and exclusion. Accordingly, a financier who contributes a Dollar to a public good creates an unrestricted benefit to all consumers who wish to consume the good. A further, yet unconsidered, typical difference in comparison to social services is that the financier can also consume the public good. For example, any individual who donates to Wikipedia is also free to use its internet service. As a consequence, the benefit from self-consumption increases the user's contribution willingness. In the extreme case, the personal consumption benefit exceeds the contribution level and, hence, it pays for the financier to fund the public good completely on his own. However, in many cases the consumption benefit is relatively low such that a one-Dollar contribution increases utility by a value below one Dollar.

From a theoretical perspective, the analyzed features of the two decision structures suggest an unambiguous prediction of a financier's behavior. Independent of whether a social service or a public good is considered, a selfish and rational decision maker will not wish to donate as the contribution implies a net reduction of the own payoff. Moreover, a decision maker concerned with financing a public good even increases his payoff by free-riding on the others' contributions. Although it can be observed that many individuals do not donate to social organizations, there exists a large body of evidence that does not comply with the theoretical prediction. For example, as GfK (2011) reports, about 35 percent of European households donate annually to charitable causes. In addition, KIVA reports that $111,078,600 have been granted in 2012[13] and Aidchild states that 30 percent of the annual budget is covered by donations[14]. Finally, for Wikipedia almost all revenues stem from voluntary contributions.[15]

Over the last decades, such contradictions have led economists to search for other motives than egoism which are able to explain the empirical findings. A seminal approach in this vain has been put forward by F&S who looked for a simple common principle that was able to explain the social behavior of individuals in various experiments. They concluded that individuals are basically guided by inequality aversion, which "means that people resist

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[13] See Kiva (2013).

[14] See Aidchild (2013).

[15] See Wikipedia (2013).

inequitable outcomes; i.e., they are willing to give up some material payoff to move in the direction of more equitable outcomes" (F&S, p. 819). In this paper we argue that inequality aversion is a promising candidate for explaining the behavior of private social-venture financiers. In the remainder of this section, we give two reasons which support our hypothesis. First, the decision structures analyzed in this section are basically equivalent to two investigated experimental settings in the F&S study, viz., the dictator and the public-good game without punishment. Second, the behavior of social-venture financiers is almost identical to the behavior of participants in the F&S experiments.

We begin our argumentation by contrasting the experimental settings with the financier's decision structures in Figure 1. We use ovals to symbolize individuals and hexagons for the sets of public information. In addition, the rectangle in the public-good game represents an automatic process. The characterizations of the financier's decision structures on the left-hand side account for the previously highlighted features. Specifically, prior to the financier's decision on the donation level, he receives information about the entrepreneur's planned allocation or public-good characteristics, i.e., at what costs are donations transformed into a good or service, which individuals are targeted and how do they benefit. The figure also shows that, in contrast to social services, public goods are non-excludable and non-rival. Therefore, each individual benefits from the financier's contribution.

The corresponding experimental settings are characterized on the right-hand side of Figure 1. Accordingly, in the dictator game the decision maker knows the specific allocation rule, previously announced by the experimenter,[16] and decides how much of his own money should be spent to benefit another (other) individual(s). He is free to offer any share of his money and the other individuals must accept this decision, specifically, they cannot influence the dictator's payoff. In other words, if the dictator offers nothing, he keeps the complete amount of money, and the other individuals receive nothing. If he offers a positive share, he keeps the residuum and the other individuals benefit from his contribution. The lower panel of Figure 1 considers the public-good game where each individual decides on a contribution to the provision of the good. Initially, a payment reduces the payoff of the contributor. But, once the good is provided, a specific surplus is added to the payoff of all individuals. As an important feature, the contribution creates an individual pay-off surplus below the contribu-

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[16] In standard dictator experiments, the rule simply states that each given Dollar reaches the recipient without any (efficiency) loss.
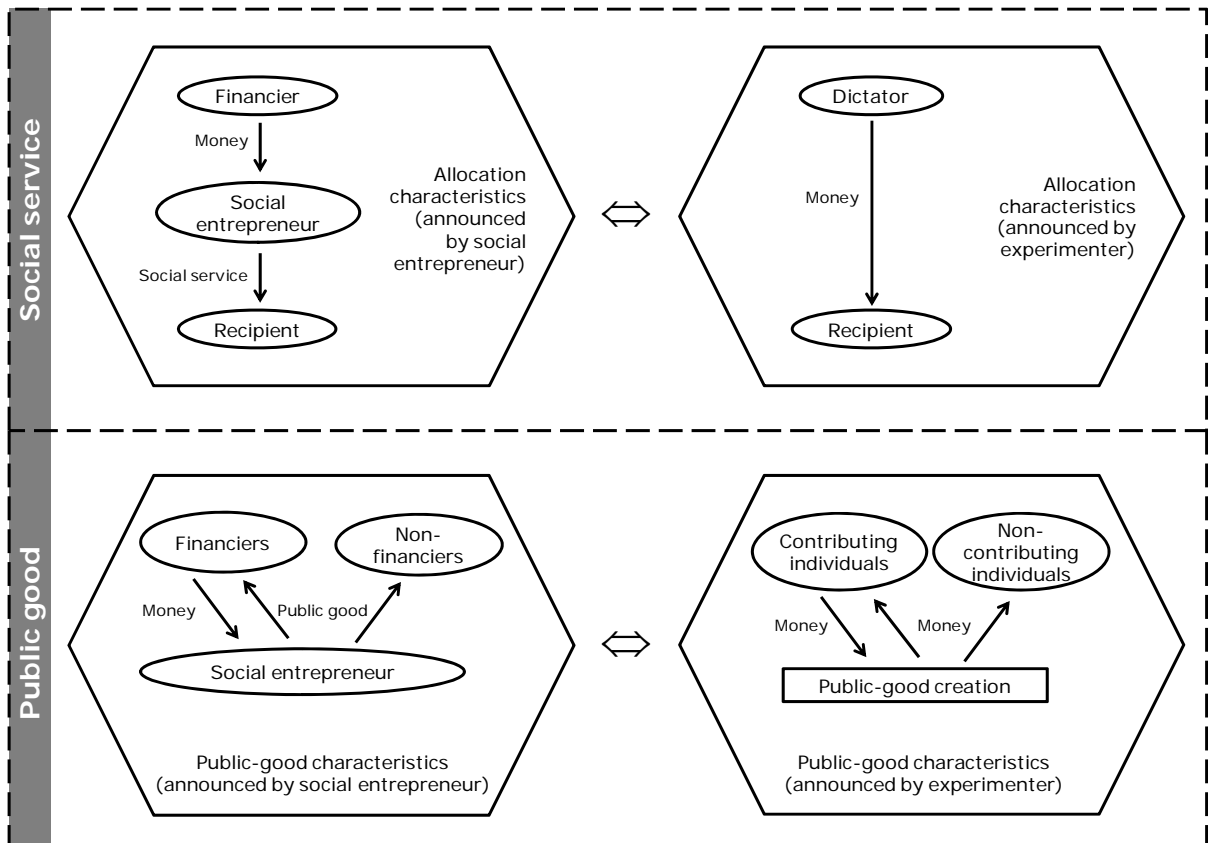
Figure 1: Contrasting the financiers' decision structures with experimental settings

tion value but, on the other hand, also implies an aggregated surplus over all consumers, which exceeds the contribution level.

In principle, the experimental games and the financier's decision structures differ only in one element: The transformation of money into a consumption good or service. As argued above, the entrepreneurial transformation may change the decision outcomes quantitatively or, from the financier's view, may cause, a deviation of the recipients' benefit from the donation value. This deviation incites the financier to donate a lower or higher amount compared to the direct distribution of money. However, from a qualitative perspective, there is no difference between the decision situations of financiers and experimental dictators since the crucial property is included in both settings: The financier decides on the reduction of his own monetary payoff and, simultaneously, as the flip side of this decision, on how much the recipient's utility will be increased. We, therefore, propose that the two experimental settings are conceptually equivalent to both financier's decision contexts and well-suited to analyze the motives which incite social financiers to give up own wealth.

The theoretical predictions of the individuals' behavior in the dictator and public-good experiments are identical compared to the social-financier case. Specifically, selfish dictators

will not wish to donate own monetary payoff to other individuals. Likewise, egoistic participants maximize their own utility by not contributing to the public good and, hence, by playing a free-rider strategy. However, F&S present experimental data which show that these predictions are only partly correct. For example, they cite two studies which found that in two-player-dictator games 60 to 80 percent of the dictators donated up to 50 percent of their own payoff to individuals with lower payoffs. Similar results were presented for 12 studies of repeated public-good games. F&S examined only the final period of these experiments and found that on average 73 percent of the participants did not contribute in this period. Consequently, the selected studies show that the behavior of individuals in both experimental settings is quite mixed, a result that is also indicated above for social-venture financing in practice.

We complete this section by emphasizing that the characterized experimental settings are not appropriate to analyze the behavior of for-profit social entrepreneurs. In this case, the social entrepreneur acts not simply as a channel for the financier's donations but, instead, decides on how much of the donated share will be applied to the transformation process and how much will be self-consumed. This decision structure departs significantly from the dictator or public-good game. Only if the entrepreneur announces the own profit share in advance and, hence, decides prior to the financier, the decision structures are retained from the financier's perspective.

3. F&S inequality aversion and its application to social financing

F&S model the preferences of distributors in experiments as self-centered inequality aversion, meaning that a decision maker experiences a disutility if his own payoff exceeds or falls short of the payoff of $n-1$ other individuals to whom he compares himself. F&S use the following specification to characterize inequality aversion:

(1) $\quad U_i(x_i) = x_i - \frac{1}{n-1} \alpha_i \sum_{j \neq i} max\{x_j - x_i, 0\} - \frac{1}{n-1} \beta_i \sum_{j \neq i} max\{x_i - x_j, 0\}.$

According to the first term of Equation (1), the decision maker i perceives a direct utility from the own payoff x_i. This utility is reduced by the other two terms which represent the disutility from monetary inequality. Specifically, the middle term shows that the decision maker dislikes being worse off than others. The payoff difference toward each wealthier individual is weighted by $\alpha_i/(n-1)$. In contrast, the third term represents the disutility from having a higher payoff than others and the term's impact is determined by $\beta_i/(n-1)$. Due

to this specification, the F&S preference function accounts for different degrees of inequality aversion. A purely egoistic individual is characterized by $\alpha_i = \beta_i = 0$ and maximizes utility by keeping the whole payoff for own consumption. An identical behavior results for subjects with $\alpha_i > 0$ and $\beta_i = 0$. Such individuals envy wealthier people but they do not care for the poor. Only for a sufficiently large β_i, the disutility from advantageous inequality (i.e., the payoff difference toward poorer individuals) is predominant for the decision maker, and he is willing to share his payoff with others in order to reduce this inequality.

As previously argued, inequality aversion seems to be well suited to explain the behavior of social financiers. The F&S specification, as given by Equation (1), assumes that, in a first step, the financier compares himself to a group of specific individuals. A non-exhaustive list of such individuals may include relatives, friends, neighbors, colleagues, celebrities, and target groups of social entrepreneurs. In the following we will subsume such individuals under the term circle of concern. The financier compares himself to individuals in the circle of concern on the basis of specific 'payoffs'. According to the social entrepreneurship context characterized in the second section, two categories of measures appear to be relevant: First, financiers may compare consumption levels. Suchlike evaluations could include a specific category (e.g., only food consumption) or a consumption average over all goods and services of concern. Second, financiers may consider income levels whose comparison can be carried out on a micro or a macro scale. For example, other individuals may be valued by the available budget to purchase a specific good or service or they may be compared in terms of total monetary wealth.

The necessary information to determine such measures is available from different sources. Specifically, the income and consumption levels of other individuals can be approximated by direct observations (e.g., job, consumption behavior, residence etc.), interviews, income publications (e.g., Forbes 500 list, published wage categories for public servants), news information, or income and poverty reports on country or regional basis. Moreover, entrepreneurs often report further wealth-relevant information concerning their target group, especially in the case of poverty alleviation. For example, KIVA publishes income relevant data about loan applicants to a potential financier, e.g., type of their business, number of children, and regional economic statistics. Beside the financier's assessment of individual incomes or consumption endowments, the decision on his donation also requires him to determine how his contribution will affect the recipients' endowments after the entrepreneurial transformation process. If consumption levels are compared, financiers can

use information provided by entrepreneurs or other sources about who is served and with what intensity. For example, Aidchild publishes nutrition lists which detail the weekly menu supplied in its care centers and KIVA specifies the purpose a loan is used for. If financiers compare income levels, they may estimate the monetary value of the entrepreneur's good or service by involving its market value or average costs. Moreover, recognizing also intertemporal effects, financiers could estimate how the future income or consumption level of recipients is impacted. For instance, in the case of KIVA financiers may approximate how a microloan will increase the living standard of the loan recipient. Independent of which measures financiers use in practice to compare their personal wealth to that of others, in the following, we will only refer to the term wealth to keep terminology as simple as possible. Consequently, in Equation (1) x_i denotes the wealth level of the financier and x_j the wealth of an individual in his circle of concern.

Figure 2 illustrates two exemplary decision frameworks. In Panel A the financier considers contributing to a social-service provision (viz. KIVA) whereas Panel B characterizes a public-good-decision situation (viz. Wikipedia). In both panels each black point represents a specific individual in the financier's circle of concern and indicates the respective wealth level before the financier's contribution is made. The financier's endowment is marked by the dashed line. In contrast, the white points indicate the resulting wealth levels after the financier's contribution has been transformed and allocated to the beneficiary. Additionally, the black arrows symbolize the exact amount of the donation and the dotted arrows characterize the financier's perceived improvement of the recipients' wealth due to the entrepreneur's provision.

As can be observed with Panel A the micro loan initiated by KIVA reduces the wealth of the private financier by a relatively small amount as he foregoes only the payment of interest. However, the benefit of the recipient is probably much larger. The individual usually uses the loan for productive purposes such as launching an own business or buying agricultural equipment, which may increase the future wealth level significantly. In Panel B the financier contributes to Wikipedia which uses the money, for example, to improve its service. Typically, the improvement will be relatively small and, hence, many Wikipedia users in the financier's circle of concern will perceive only a marginal increase of their consumption benefits. The panel also accounts for the fact that consumption is voluntary: The financier uses the web service whereas some others refuse it. Consequently, they do not benefit from the financier's contribution.
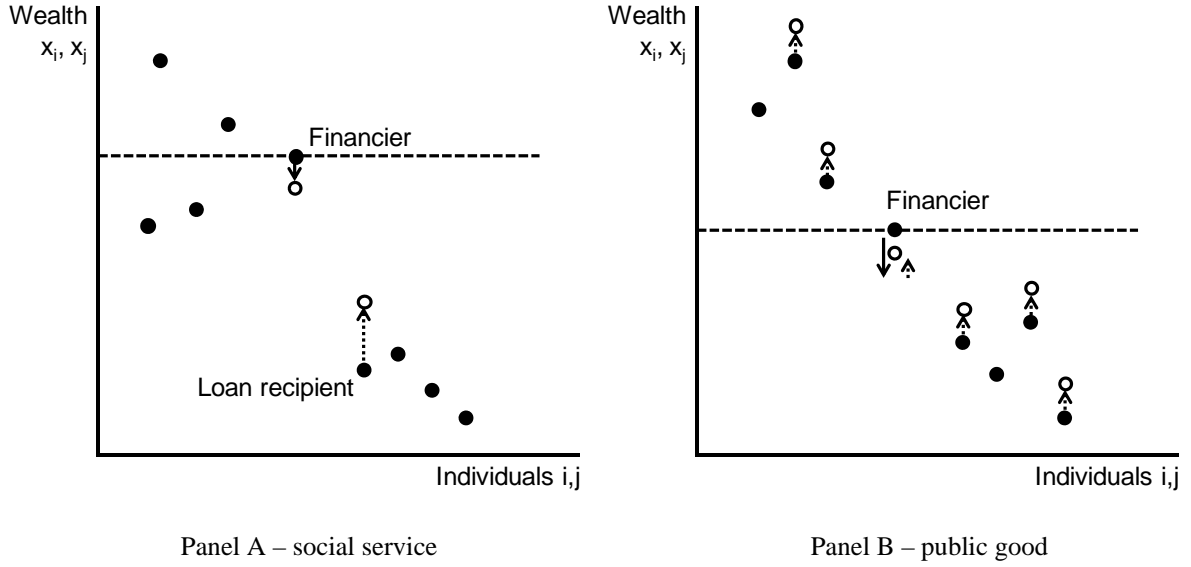
Panel A – social service   Panel B – public good

Figure 2: The financier's decision framework in the case of KIVA (Panel A) and Wikipedia (Panel B).

Given the characterized decision framework, the financier chooses the level of donations that maximizes his utility U_i. In order to simplify the analytical determination of this optimum, we rewrite Equation (1) without loss of generality as follows:

$$(2) \quad U_i(g_i) = (x_i - (1 - a_i)g_i) - \frac{\alpha_i}{n-1}\sum_{j \neq i} max\{(x_j + a_j g_i) - (x_i - (1 - a_i)g_i), 0\} -$$

$$\frac{\beta_i}{n-1}\sum_{j \neq i} max\{(x_i - (1 - a_i)g_i) - (x_j + a_j g_i), 0\}.$$

Equation (2) includes two further specifications. First, we extend Equation (1) by the decision variable g_i which denotes the financier's donation level. In Figure 2 g_i corresponds exactly to the length of the black arrow. Second, to account explicitly for the recipients' consumption benefits, we introduce the parameter $a_j \geq 0$ which characterizes individual j's constant marginal consumption benefit if the financier increases his donation. In Figure 2, consequently, $a_j g_i$ equals the length of the dotted arrow for individual j which may differ from the length of the black arrow. For example, a KIVA loan implies $a_j > 1$ because the recipient's productive use of the financier's contribution leads to a relatively high future wealth improvement. Hence, the recipient's benefit is larger than the financier's foregone interest. In the Wikipedia case, however, recipients benefit only marginally from a given contribution, i.e., we have $a_j < 1$.

Equation (2) implies the following marginal utility of donating:

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(3) $\quad \dfrac{dU_i(g_i)}{dg_i} = \underbrace{-(1-a_i)}_{\substack{\text{consumption} \\ \text{effect}}} \underbrace{-\dfrac{\alpha_i}{n-1}(1-a_i)w_i}_{\substack{\text{disadvantage} \\ \text{effect}}} + \underbrace{\dfrac{\beta_i}{n-1}(1-a_i)\overline{w}_i}_{\substack{\text{advantage} \\ \text{effect}}} + \underbrace{\dfrac{1}{n-1}\left(\beta_i \sum_{j \in \overline{W}_i} a_j - \alpha_i \sum_{j \in W_i} a_j\right)}_{\substack{\text{recipient} \\ \text{effect}}}.$

In Equation (3), W_i denotes the group of individuals who are at least as wealthy as the financier, and $\overline{W}_i$ characterizes the group of poorer individuals. Furthermore, w_i and $\overline{w}_i$ denote the numbers of individuals belonging to the respective groups. As highlighted with Equation (3), the marginal utility of donating is composed of four effects:

A negative consumption effect: The financier's contribution reduces his own consumption level (in Figure 2: reduction from the black to the white point) and, thus, his utility. This effect is the smaller, the higher a_i is, i.e., the own consumption benefit of the entrepreneur's good or service.

A negative disadvantage effect: Due to the reduction of the financier's wealth, the disadvantageous inequality toward all wealthier individuals increases. In Figure 2 such individuals are above the dashed wealth line, and the financier's donation increases the distance towards these individuals, which he dislikes.

A positive advantage effect: In contrast, the financier's utility increases as a lower own wealth reduces the advantageous inequality toward all poorer individuals below the dashed line.

A recipient effect: The algebraic sign of this effect is indeterminate. The entrepreneur forwards the financier's donation to one or more beneficiaries, which increases their wealth. Given that a recipient is wealthier than the financier, the disadvantageous inequality increases and, hence, the financier's utility is reduced. If the recipient is poorer, the advantageous inequality decreases, which implies a utility increase. This second case is characterized in Figure 2, panel A. The relative wealthy investor grants a zero-interest rate loan to the poor applicant in the developing country. The beneficiary uses the loan for a business investment that generates a higher future wealth (white point). However, as indicated previously, the entrepreneur may choose more than one beneficiary. In this case, the recipient effect is a weighted accumulation of the respective inequality variations. The extreme case is given for public goods where the effect includes all individuals in the financier's circle of concern who wish to consume the good. This case is depicted in Figure 2, panel B.

4. Implications for social-venture financing

Having identified inequality aversion as a candidate for the motivation of private social-venture financiers, we can now characterize their funding behavior and predict their reactions to situational changes. Below, we highlight some basic behavioral patterns in form of propositions, each proved by pointing to the responsible marginal-utility effects in Equation (3). Subsequently, we discuss selected implications of the propositions for social entrepreneurs who are interested in attracting a maximum level of funds.

As a first issue, consider the entrepreneurial distribution policy. Basically, the social entrepreneur can choose between two allocation strategies. Either he supports an individual who is at least as wealthy as the financier or he serves an individual who is strictly poorer. The first strategy increases inequality because the recipient's consumption benefit enlarges the wealth difference toward the financier whereas the second strategy reduces inequality. Consequently, as the financier perceives an aversion toward inequality, he will prefer entrepreneurs serving poorer individuals. We capture this basic result in Proposition 1.

Proposition 1. The financier's willingness to donate is higher for poorer than for wealthier recipients.

The validity of Proposition 1 can be shown by simply analyzing the recipient effect in Equation (3). Accordingly, a marginal increase of a beneficiary's wealth increases utility if the recipient is worse off than the financier. However, utility decreases if beneficiaries are better or equally well off. Thus, the marginal utility of donating is larger for poorer than for wealthier recipients.

Proposition 1 contributes to several results from experimental social psychology which found a positive relationship between an individual's need for help and the likelihood that others will offer this help. This positive correlation is confirmed for various settings, e.g., Levitt and Kornhaber (1977) compared donations of randomly approached pedestrians, whereas Cheung and Chan (2000) conducted a general telephone survey in Hong-Kong analyzing the giving intent. The positive relationship between the need for help and the incentive to offer help also holds for different conceptions of an individual's neediness. In this respect, Levitt and Kornhaber (1977) compared donations to solicitors who exhibited different handicaps, and Berkowitz (1968) conducted controlled field experiments among male students where neediness was characterized by the affiliation to different social classes. Nevertheless, most studies do not specify a concrete social motive to explain the observed

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behavior, with a few exceptions, e.g., Berkowitz (1968) who analyzed the explanatory value of reciprocity in such settings. In this line, Proposition 1 complements the literature as it shows that inequality aversion may well explain the observed behavior of contributors.

Proposition 1 enables us to identify two behavioral implications for entrepreneurs supplying social services. First, the entrepreneur maximizes fundraising success by serving the poorest individuals. Specifically, a switch from a wealthier to a poorer target group implies that some individuals who were worse off than the recipients are now better off than the new service beneficiaries. Their marginal utility of donating, thus, increases through the change of recipients. Given that this increase is sufficiently large, i.e., the sign of Equation (3) turns positive, the entrepreneur indeed receives more donations.

Second, social entrepreneurs should make sure that the benefit of their social service or, closely related, the service quality, is not too high. This recommendation emanates from the fact that financiers dislike services which make recipients better off than themselves. As long as the wealth of a recipient is sufficiently low, a further donation of the financier is accompanied by a positive recipient effect. However, once the financier's and the recipient's wealth levels are equally large, the effect becomes negative as further contributions now increase the disadvantageous inequality between both. In this case, the financier may stop contributing or, given the decision is on a non-variable funding amount, he may not give at all. This implication is especially relevant for entrepreneurs who give needy individuals the opportunity to self-improve their life situation. For example, funding high-quality education or granting loans to highly profitable business ideas of yet poor people typically lead to a significantly higher future wealth of recipients. In this case inequality-averse financiers may remain reluctant if they expect that their own future wealth level could be exceeded.

Beside the entrepreneurial distribution policy considered in Proposition 1, the financier's willingness to donate is also influenced by his wealth rank among the individuals of concern. For an intuitive explanation, consider Figure 2, panel A. By shifting the financier's wealth level from the black to the white point, he approaches the wealth level of six individuals below the dashed line, which decreases inequality and, hence, increases his utility. However, he simultaneously diverges from the two wealthier individuals, which he dislikes. If, all other things being equal, the share of poorer individuals is now increased from 6/8 to 7/8 (e.g., through a sufficiently large reduction of the wealth level of a better-off individual), the financier's donation willingness increases. The contribution now reduces inequality toward

seven individuals (instead of six) and increases inequality toward only one individual (instead of two). This finding is specified by Proposition 2.

Proposition 2. The financier's willingness to donate increases with his wealth rank among the individuals to whom he compares himself.

For a technical explanation consider Equation (3). Here, the positive advantage effect increases with the number of individuals being poorer ($\bar{w}_i$) whereas the negative disadvantage effect decreases with the number of individuals being at least equally wealthy (w_i) than the financier. As a higher wealth rank increases $\bar{w}_i$ and reduces w_i, both the advantage and the disadvantage effect increase. Consequently, the financier perceives a higher willingness to donate.

Proposition 2 contributes to the prominent discussion on the effects of leadership giving. Accordingly, it has been observed that capital fund drives often start by announcing a significant initial contribution by a single wealthy donor, and it is hypothesized that this contribution affects the behavior of many other donors (Andreoni, 2006). Support for this hypothesis is provided by, for example, List and Lucking-Reiley (2002) or Shang and Croson (2009). They show in laboratory and field experiments that the information about past contributions increases the contributions of new donors. Yet, alternative explanations of such observations include, among others, the conformity to social norms (Shang and Croson, 2009), the existence of fixed costs (Andreoni, 1998), and that leadership gifts serve as a signal of the social venture's imperfectly observable quality (Andreoni, 2006; Vesterlund, 2003). By applying inequality aversion to the context of social venture financing, we add a new explanation to this discussion: Proposition 2 shows that, given a sufficiently large contribution, the lead donor becomes poorer than another individual whose marginal utility of donating increases. Therefore, the higher the leadership gift is and, hence, the more the wealth rank of the lead donor decreases, the more people perceive a higher willingness to donate.

It is important to emphasize that a leadership gift can only be effective if all relevant details of this contribution are accessible for any other potential financier, for instance, the identity of previous contributors, their initial wealth, and the size of their donations. Clearly, for social entrepreneurs the publication of such details is not necessary if all potential financiers can perfectly observe them. In this case, contributions directly increase the willingness to donate of such individuals who become wealthier than the lead donors. In

contrast, given that at least one of the three characterized contribution details cannot be observed, the behavior of others may remain unaffected. Then, the entrepreneur's fundraising success can only be maximized if the missing information is reported to all potential financiers.

A second implication of Proposition 2 concerns the entrepreneur's communication with individuals who do not care for his target group. Typically, such individuals remain reluctant, as, from their perspective, a contribution to the social venture represents a waste of funds.[17] However, the attitude toward donating will change if the entrepreneur is able to design an appropriate information strategy, i.e., apply communication methods that shift the circle of concern of reluctant financiers from wealthier individuals (e.g., celebrities or rich neighbors) to the target group. Under the assumption that people have a constant perception capacity[18] and, hence, compare themselves to a constant number of individuals, their willingness to donate will change as predicted by Proposition 2. In practice, an appropriate communication strategy brings potential financiers and (poorer) target-group individuals together as close as possible, e.g., through detailed reporting of personal backgrounds surrounded by pictures and movies or, even more extreme, through personal contact (e.g., letters, visits).[19] For example, Aidchild seems to apply such a matching-strategy in Uganda where their local shops and restaurants not only generate direct revenues for the care centers but also intend to create emotional awareness for the social problem.

The joint consideration of Propositions 1 and 2 yields a further implication: Social entrepreneurs should focus their fundraising efforts on sufficiently wealthy people as they are most likely to give. Intuitively, if we assume that individuals are equally inequality averse, i.e., for all people we have identical α- and β-values, wealthier individuals tend to show a higher contribution willingness. For such individuals the negative disadvantage, the positive advantage, and the recipient effect are relatively high. Specifically, the wealthier a financier is, the higher (lower) is the share of individuals being poorer (wealthier). By making a donation, the financier, thus, approaches (departs from) the wealth level of more (less) individuals, which implies a higher advantage (disadvantage) effect. Even the recipient effect

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[17] In Equation (3) the recipient effect is zero.

[18] This assumption is supported by various psychologists, e.g., Sweller (1988).

[19] The argumentation is supported by Simon (1997) who found that a higher allocation of media coverage to foreign earthquakes increases aggregate donations from U.S. citizens.

is larger because the entrepreneur's good or service reaches more individuals that are poorer than the financier.

The final behavioral issue which will be analyzed in this section relates to the desirability of the financier's own consumption. In principle, when planning for social-value creation, the entrepreneur has the opportunity to design the good or service from scratch. Thereby, he can choose to supply also the financier with costless direct consumption benefits. For example, activities like reporting donations or naming tangible assets after the donor (e.g., buildings, institutions, or initiatives) create a good image and, thus, a benefit for the financier. Additionally, the entrepreneur's choice of the legal status may allow donors to receive tax exempts. Entrepreneurs could also provide direct consumption benefits to financiers if they design their good or service as a public good. Consider, for example the healthcare context. Medical treatments or micro-health insurances at subsidized prices are social services which are typically not offered to the social organization's funders. However, the change of general healthcare conditions, e.g., through a public demonstration of health-conscious consumption or through reducing a health-threatening environmental pollution, would be a public good, which also reaches the financier. Public-good design alternatives for entrepreneurs can also be found in the education sector: Exclusive university courses for needy people are private services whereas Massive Open Online Courses (MOOCs) feature elements of a public good and are usually accessible for financiers.

Clearly, the entrepreneur's decision on the financiers' own consumption benefits should have an effect on their contribution willingness. One could expect, at a first glance, that financiers would always prefer a costless own consumption. However, the argumentation does not hold for financiers with a sufficiently high aversion toward being better off. In principle, financiers donate because they wish to reduce inequality toward poorer individuals. If they now receive own consumption benefits, the reduction of the advantageous inequality is counteracted. Since this negative effect dominates the benefits associated with the own consumption, if the financier perceives a high aversion toward advantageous inequality, he will, in a first instance, dislike own direct benefits. We formulate this result as follows:

Proposition 3. The financier dislikes own consumption benefits, if the aversion toward advantageous inequality is sufficiently high.

For a technical explanation of the result consider the marginal utility of donating, given by Equation (3). We find that an own consumption benefit ($a_i > 0$) implies a lower marginal utility if β_i is sufficiently high, i.e., $\beta_i > (n - 1 + \alpha_i w_i)/\overline{w}_i$.[20]

Paradoxically, the dislike of costless own consumption benefits does not imply that financiers contribute less. To the contrary, the contribution will increase, if it benefits poorer individuals at least as much as wealthier people, i.e., the recipient effect is non-negative. Two effects explain this reaction: First, by donating to the social organization, the financier wishes to reduce inequality toward poorer individuals. However, the own consumption benefit increases the wealth of the financier and, simultaneously, the advantageous inequality. The financier anticipates this wealth increase and counteracts by donating more. Second, as the achievement of a given wealth level now requires higher donations there is also a higher total benefit for recipients, which, additionally, increases the financier's willingness to donate. We capture our result in Proposition 4.

Proposition 4. Given a non-negative recipient effect, the financier contributes more if he receives own consumption benefits.

The financier contributes to the social enterprise until the marginal utility of donating, as characterized by Equation (3), turns negative. The sign of the marginal utility in Equation (3), thereby, depends on the number of individuals in the financier's circle of concern who are at least as wealthy as the financier (w_i). If we set Equation (3) equal to zero, employ $\overline{w}_i = (n - 1 - w_i)$,[21] and solve for w_i, we obtain its optimal size $w_i^* = [(n - 1)/(\alpha_i + \beta_i)]\{\beta_i - 1 + [R/(1 - a_i)]\}$ with R as the recipient effect as defined by Equation (3). Now consider the derivative of w_i^* with respect to the financier's own consumption benefit a_i. Given that the recipient effect is non-negative, an increase in a_i implies a constant or higher w_i^*. The realization of w_i^*, thus, requires the financier to donate more to the social enterprise in order to offset the own consumption benefits.

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[20] The argumentation shows that the own consumption is more attractive to a financier if $\beta_i < (n - 1 + \alpha_i w_i)/\overline{w}_i$. However this result does not imply that the financier donates at all. A contribution would demand a positive marginal utility of donating, which, in turn, requires a sufficiently high β_i. It can be shown, that there is an interval for β_i that implies both a positive marginal utility of donating and a desirability for own consumption if the entrepreneur's allocation causes a positive recipient effect for the financier.

[21] Note that all individuals in the circle of concern $n - 1$ are either included in $\overline{w}_i$ or in w_i.

The implications of Propositions 3 and 4 for social entrepreneurs are obvious. If the entrepreneur solicits for relatively small donations per financier, e.g., in order to diversify funding sources, he should give financiers the opportunity to decide on their own consumption level. The entrepreneur thereby maximizes total funds, as contributors with relatively high aversion toward advantageous inequality will wish not to consume, whereas others prefer own consumption. In contrast, if the entrepreneur does not offer this consumption choice, a disadvantaged financier may choose to fund a competing organization. In practice, self-consumption decisions are indeed implemented for financiers by some social ventures. For example, Wikipedia or MOOCs are offered costlessly via the internet and financiers can but do not need to use the service.

However, the situation is different if the entrepreneur wishes to maximize individual donations. As Proposition 4 suggests, in this case financiers should receive a direct consumption benefit independent of its desirability. For example, the entrepreneur could announce to publicly report every donation or to name buildings, institutions, or initiatives after the donor, irrespective of whether or not the contributor prefers this. The financier is also not able to refuse own consumption benefits, if public goods are provided, such as environmental protection, the change of a legal system, or the preservation of security. Specifically, the effects of an entrepreneur's environmental initiative usually reach all individuals in a given region, even contributors.

The presented four propositions indicate the large variety of behavioral issues whose analyses benefit from a postulation of the F&S-preference function. New insights will also emerge if the preference form is applied to further important research questions. One of those issues, for example, concerns the effects of the social organization's legal status on the financier's contribution willingness. Seminal work in this field has been done by Hansmann (1980) who emphasizes the importance of the non-distribution constraint in attracting donations to a social organization. Accordingly, donors dislike for-profit ventures as a fraction of their funds could be extracted by the owners. The application of F&S preferences sheds a new light on this discussion: The financier's willingness to contribute depends crucially on the comparison of his own wealth with that of the entrepreneur. If, for example, the financier cares for the entrepreneur and is wealthier, his choice of the contribution level does not depend on the entrepreneur's legal status. Both a profit extraction and a transfer of the contribution to poorer individuals imply equally high recipient effects and, thus, account for the financier's indifference.

As a second promising research direction we suggest a consideration of the relationship between an organization's efficiency and a financier's willingness to provide funds. In industries with several competing entrepreneurs the efficiency level is one of the key indicators for social investors. Specifically, the higher the efficiency is, the more attractive a social venture is as an investment opportunity. In this respect, the empirical literature on charitable giving shows that the willingness to donate increases with the share of donations that is used for the social purpose (Posnett and Sandler, 1989; Okten and Weisbrod, 2000). The F&S-preference function offers several features that allow for a differentiated analysis of the efficiency issue. Specifically, the efficiency of the social organization is, on the one hand, embedded in the transformation coefficient a_j (compare Equation (2)) which represents the consumption impact for an individual j. A low efficiency due to high administration costs, for example, would result in a relatively low consumption outcome for the recipient. On the other hand, as indicated previously, financiers consider organizations that serve the "wrong" individuals as inefficient. In this respect, serving too wealthy people or individuals that the financier does not care for constitutes a "waste of money". Such different forms of inefficiency should have different effects on the relative attractiveness of social organizations which compete against each other for social funding.

5. Conclusion

This paper identifies inequality aversion as an analytically tractable and most basic motivation of social financiers. We show that the decision structures of such financiers are typically equivalent to the well-known experimental settings of the dictator and the public-good game. In their seminal work F&S discover that inequality aversion best explains individual behavior in experiments. By contrasting the behavior of social financiers, we find that the F&S-preference specification is also a promising candidate to characterize the financier's motivation.

We then use inequality aversion to derive general propositions concerning the financier's behavior and identify several important implications for social entrepreneurs. Most paradoxically, we show that financiers dislike a direct own consumption benefit (e.g. through consuming the entrepreneur's good or service) if they are sufficiently averse toward being better off. Nevertheless, social entrepreneurs should provide funders with such benefits as this will maximize individual contributions. Specifically, the financiers will increase giving to compensate the disliked own benefits.

The identification of inequality aversion as the driving motive of social financiers should be especially useful for social entrepreneurs, policy makers, and researchers. As we indicated within our analysis, knowing the basic motivation of financiers helps the entrepreneur develop a best practice to attract a maximum of funds. In addition, policy makers benefit as the knowledge of the financier's objective enables them to predict their reactions to different political settings which could include tax regimes or governmental co-funding. Finally, the application of inequality aversion should also help researchers explain further empirical evidence on the behavior of social financiers.

Our analysis indicates general directions for future empirical research. Yet, relatively little is known about the main determinants of the circle of concern. Why does an individual compare himself to some people and not to others? Do individuals typically compare consumption levels, budgets to satisfy specific needs, or, more generally, total incomes? A further research issue could challenge the explanatory power of inequality aversion in experiments that account for the entrepreneurial transformation process. How do giving patterns change if recipients do not obtain money from the experimenter but real goods such as cafeteria or fuel vouchers? Related to this issue is also the question whether inequality aversion explains well the financiers giving behavior to for-profit social entrepreneurs. Put differently, how does the behavior of contributors in experiments change if an intermediate distributor can keep an unknown share of the money for own consumption?

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