Profit with Purpose?

A Theory of Social Enterprise with Experimental Evidence

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Introduction

- Consider the following agency problem
- An agent takes effort e and the outcome can be H (high) or L (low)
- Output has a measurable part (π) and a social component (θ)
- Subsequent to the initial outcome, there is a further state-contingent action to be taken $x = 0$ or 1
- If the state is $s = h$ profits should be sacrficed for the social goal, otherwise if $s = l$

- With probability e, the decision of the agent is given by the following matrix:

	$x = 1$	$x = 0$
$s = h$	$\pi_L + \theta_h$	π_H
$s = l$	$\pi_L + \theta_\ell$	π_H

- With probability $1 - e$, the decision of the agent is given by the following matrix:

	$x = 1$	$x = 0$
$s = h$	π_L	π_L
$s = l$	π_L	π_L.

- For-profits (FP) make the agent full financial residual claimant but set $x = 0$
- Non-profits (NP) make the agent zero financial residual claimant but set $x = 1$
- Can we do better - Social Enterprise?
- Agent financial residual claimant but chooses x
- Agent's intrinsic motivation becomes important.
- Not just that, the "firm's" or the "founder's" type is important as well, and the role of matching

Motivation

- There is a lot of interest in for-profit social enterprises:

  "In contrast to an ordinary commercial business, it expressly measures its success both in terms of its financial performance (e.g., pecuniary profits, shareholder value, return on investment, etc.) and its success in advancing a social mission or addressing social concerns." (Dees, p. 86)

- It is more flexible than having a non-profit BUT faces a mission integrity problem

- How to ensure the profit and social purpose are being correctly traded off?

Existing Literature

- Contract failure - Hansmann (1980), Easley and O'Hara (1983), Glaeser and Shleifer (2001), and Bilodeau and Slivinski (2004) - variants of the multi-tasking argument of Holmstrom and Milgrom (1991)

- High powered incentives distort allocation of effort to tasks whose ouputs are hard to measure

- Focuses on pure for-profits or pure non-profits (non-distribution constraint)

- We have three distinguishing features

- managers are motivated ("citizen managers")
- benefits are not purely private - they have a non-rival component
- no constraints on (financial) residual claimancy (e.g., risk-aversion or limited liability)

- Theoretical literature on motivated agents, intrinsic and extrinsic motivation (Besley-Ghatak 2005, Benabou-Tirole 2006)

- Experimental literature on intrinsic motivation and incentives (Fehrler-Kosfeld, 2012, Tonin-Vlassopoulos 2012, Fehr-Herz-Wilkening 2012)

This Paper

- Develops a model of social enterprise
- Discusses how selection of "citizen-managers" can solve the mission integrity problem
  - crucial to conclusions
- Reports on results from a lab experiment which explores the main trade-off
- Calibrates the model to the data and studies the market equilibrium

Motivated Agents?

- Standard agency model assumes selfish behavior

- But deviations in non-profits are accepted:

- Weisbrod (1988) observes that

> "Non-profit organizations may act differently from private firms not only because of the constraint on distributing profit but also, perhaps, because the motivations and goals of managers and directors ... differ. If some non-profits attract managers whose goals are different from those managers in the proprietary sector, the two types of organizations will behave differently." (page 31).

- This means that selection as well as incentives can be important
- We will model this in our matching framework below.
- We do not look at issues of financing - ongoing work

Road Map

- Examples (generic and specific)
- Theoretical Framework
- Experimental Design
- Results

Examples

- Organized like for profits but has some control of the owners (through dual class voting structure) on mission:
  - Ben and Jerry's, New York Times, commercial microfinance
- Social business ventures: Grameen Danone (often "hybrid" ownership structure, with non-profits being part owners)

- Firms that source inputs from "ethical" sources and cost more
  - don't use child labor
  - environmentally friendly energy
  - fair trade
- Low profit LLC (L3C), Community Interest Company (CIC), the B-Corporation are some emerging legal forms
- Main issue is, allowed to earn profits but worried about mission drift

I. Theoretical Framework

Overview

- Firm established by a founder.
- Running the firms is delegated to a manager
- Manager has two main tasks to perform
  - mission choice and productive effort

- The Firm: produces a good which it sells to customers and on which it can earn a profit (possibly zero).

- The good is valued by the consumer but also has a benefit which is external to the firm.

- It can be valued by the manager/entrepreneur and by society at large.
  - its social output is *non-rival*

- The manager choose effort and mission choice

Effort

- Effort shifts the probability distribution over profits (plus any mission-related payoffs) in the sense of first-order stochastic dominance.

- Let $c(e)$ be the cost of effort. It is assumed to have the standard properties: it is strictly increasing and strictly convex.

- Let $c(\underline{e}) = 0$. Define $\hat{e}(z)$ as:

$$\hat{e}(z\lambda) = \arg\max_{e \geq \underline{e}} \{ze - c(e)/\lambda\}$$

and $\hat{e}(\lambda z) = \underline{e} > 0$ if $z \leq \lambda c'(\underline{e})$.

- The parameter λ is a measure of the manager's competence.

- The parameter z is the reward from high effort which could be a combination of intrinsic motivation, A, and rewards from contributing to society or financial rewards.

Mission choice

- A discrete (binary) decision $x \in \{0, 1\}$ intended to capture how the manager enhances non-pecuniary concerns against making money.

- $x = 1$ means the pro-mission action and $x = 0$ means the commercial action

States

- There are two states.

- The effort choice determines which of two states $r \in \{L, H\}$ occurs where $r = H$ occurs with probability e and $r = L$ occurs with probability $(1 - e)$.

- After the realization of r there is a further state $s \in \{l, h\}$ that is realized with q being the probability of state h. The realization of state s is independent of the actions of the agent.

Payoffs

- The social entrepreneur's payoffs depend on the state that is realized and the mission choice. These have two parts.

- The first is profit, $\pi(x, s, r)$, where

$$\begin{aligned} \pi(x, s, L) &= \pi_L \\ &\text{and} \\ \pi(0, s, H) &= \pi_H > \pi(1, s, H) = \pi_L. \end{aligned}$$

- This says that is $r = H$ makes it is feasible to generate a high profit but this depends on the choice of x. If $r = L$, then only the low profit results independent of the action choice. Let $\Delta = \pi_H - \pi_L$.

- The second is a social payoff $\theta(x, s, r)$ which satisfies

$$\begin{aligned} \theta(x, s, L) &= \theta(0, s, H) = 0 \\ &\text{and} \\ \theta(1, h, H) &= \theta_h > \theta(1, l, H) = \theta_\ell > 0. \end{aligned}$$

- When the state $r = L$, there is no scope for generating a high social payoff. When the state is $r = H$, this can be done but only when $s = h$ which case choosing $x = 1$ yields θ_h.

- Let

$$\bar{\theta} = q\theta_h + (1 - q)\theta_\ell.$$

- Summary:

- With probability e, $r = H$ and then the decision of the agent is given by the following matrix:

	$x = 1$	$x = 0$
$s = h$	$\pi_L + \theta_h$	π_H
$s = l$	$\pi_L + \theta_\ell$	π_H

- With probability $1 - e$, $r = L$, upon which the decision of the agent is given by the following matrix:

	$x = 1$	$x = 0$
$s = h$	π_L	π_L
$s = l$	π_L	π_L.

- We assume:

Assumption 1: $\theta_h > \triangle > \theta_\ell$.

- This implies action choice is a non-trivial problem

Citizen Managers

- A manager is indexed by i and his payoff is

$$e\left\{y_i + \gamma_i^M \theta(x, s, r)\right\} - c\left(e\right)/\lambda_i$$

- y_i is private consumption and γ_i^M is an indicator of how attached the manager is to the mission of the organization.

- We assume that there is a large group of potential manager's available.

Examples

1. The Access Problem

- Social entrepreneur cares about his good being available to particular groups of socially deserving individuals.

- This could be the founder of a university caring that poor students are admitted or the founder of a hospital caring that uninsured patients are treated.

- Suppose that the state r is whether the organization can find cost-reductions which do not reduce quality.

- Then $x = 0$ is choosing to take the cost reduction as higher profits and $x = 1$ is increasing access by lowering the price.

- The unobserved state is whether the applicant pool who would be admitted on the low price strategy are really the deserving target group that the founder envisaged.

2. The Externality Problem

- Perhaps the widest class of cases for government intervention
- But social entrepreneurs can create products that promote environmental causes or improve public health.
- In this case, the decision over $x = 0$ or $x = 1$ means weighing the value of the externality created against the cost of generating that social benefit.

3. The Internality Problem

- Social entrepreneurs can make a difference is where consumers face behavioural or information issues.

- Although this has been popularized recently by the rise of behavioural economics, the idea is much older in the guise of Musgrave (1959)'s concept of merit goods.

- Here there is no externality but individuals do not appreciate the true value of what they are consuming.

- In this case, the social entrepreneur must decide on the value of solving the internality problem as against the increased cost/reduced profit given that individuals do

For-profit

- Always sets $x = 0$, a commercial mission
  - γ_i^M is irrelevant
- Manager is a residual claimant on profit and puts in effort $\hat{e}(\lambda[A + \Delta])$.

Non-profit

- Always pursues the social mission, i.e. $x = 1$.
  - γ_i^M is affects effort
- Effort is $\hat{e}\left(\lambda\left[A + \gamma_i^M \bar{\theta}\right]\right)$

Social Enterprise

- Flexible mission

$$\hat{x}\left(\gamma_i^M; s\right) = \arg \max_{x \in \{0,1\}} \left\{\gamma_i^M \theta_s x + [1-x]\,\Delta\right\} \text{ for } s \in \{l, h\}\,.$$

- Hence $\hat{x}\left(\gamma_i^M; s\right) = 1$ if $\gamma_i^M \geq \frac{\Delta}{\theta_s}$.

- Effort is $\hat{e}\left(\lambda\left[A + v\left(\gamma_i^M\right)\right]\right)$ where

$$v\left(q, \gamma_i^M\right) = \sum_{s=h,\ell} q_s \left[\hat{x}\left(\gamma_i^M; s\right)\gamma_i^M \theta_s + \{1 - \hat{x}\left(\gamma_i^M; s\right)\}\Delta\right].$$

- Three ranges of γ_i^M :
  - For $\gamma_i^M \leq \Delta/\theta_h$, manager will be indifferent between a social enterprise and a for profit. But a non-profit is strictly dominated.
  - For $\gamma_i^M \geq \Delta/\theta_\ell$, the manager is indifferent between a non-profit and a social enterprise but a for-profit is strictly dominated.
  - Finally, for $\gamma_i^M \in \left[\frac{\Delta}{\theta_h}, \frac{\Delta}{\theta_\ell}\right]$, the social enterprise is strictly preferable.
- Effort ranking and manager's payoff ranking the same

Founders

- Has valuation parameter γ^F for the mission
- Chooses the organizational form and retains control rights over hiring and firing manager
- Earns a financial dividend $-T$ (which can be positive or negative)

Total Surplus

$$
\begin{aligned}
S^{FP}\left(\gamma^F,\gamma^M\right) &= \pi_L+\phi\left(A+\Delta,\lambda\right)\\
S^{NP}\left(\gamma^F,\gamma^M\right) &= \pi_L+\gamma^F\bar{\theta}\hat{e}\left(\lambda\left[A+\gamma^M\bar{\theta}\right]\right)+\phi\left(A+\gamma^M\bar{\theta},\lambda\right)\\
S^{SE}\left(\gamma^F,\gamma^M\right) &= \pi_L+\gamma^F\left(\sum_{s\in\{h,l\}}q_s\hat{x}\left(\gamma^M;s\right)\theta_s\right)\hat{e}\left(\lambda\left[A+v\left(\gamma^M\right)\right]\right)\\
&\quad +\phi\left(A+v\left(\gamma^M\right),\lambda\right).
\end{aligned}
$$

- For $\gamma^M\leq\underline{\gamma}$, let $\Gamma_{FP}\left(\gamma^M\right)$ solve $S^{FP}\left(\Gamma,\gamma^M\right)=S^{NP}\left(\Gamma,\gamma^M\right)$

- For $\gamma^M\in\left(\underline{\gamma},\overline{\gamma}\right)$, let $\Gamma_{SE}\left(\gamma^M\right)$ solve $S^{SE}\left(\Gamma,\gamma^M\right)=S^{NP}\left(\Gamma,\gamma^M\right)$

Proposition 1

1. *For low levels of manager motivation ($\gamma^M \in [0, \underline{\gamma}]$) there is a level of founder motivation $\Gamma_{FP}(\gamma^M) > 0$ above which a non-profit dominates a for-profit which yields the same surplus as a social enterprise. Moreover, the function $\Gamma_{FP}(\gamma^M)$ is strictly decreasing, with $\Gamma_{FP}(0) > \frac{\Delta}{\bar{\theta}}$ and $\Gamma_{FP}(\underline{\gamma}) > \Delta - \Delta\frac{\bar{\theta}}{\theta_h}$.*

2. *For middle levels of manager motivation ($\gamma^M \in \left(\underline{\gamma}, \overline{\gamma}\right)$) there is a level of founder motivation $\Gamma_{SE}(\gamma^M) > 0$ above which a non-profit dominates a social enterprise which dominates a for-profit . Moreover, $\Gamma_{SE}(\gamma^M)$ is strictly decreasing, with $\Gamma_{SE}(\underline{\gamma}) > 0 = \Gamma_{SE}(\overline{\gamma})$.*

3. *For high levels of manager motivation ($\gamma^M \geq \overline{\gamma}$) a non-profit yields the same surplus as a social enterprise, and both of these organizational forms dominate a for-profit for all $\gamma^F \geq 0$.*

Matching

- Planner/society/founder has valuation parameter γ^F
- The case of $\gamma^F > 0$ is where the public goods benefits of the manager's action exceeds his own private payoff.
- In principle, we could have $\gamma^F < 0$ - cause pursued by the founder is something that manager does not value, e.g. like a private benefit.
- For very high γ^F, NP is preferred, for intermediate values, SE, and for low values FP.

- Let $\mathcal{A}_F = \{f_0, f_1, f_2\}$ denote the set of types of founder types and $\mathcal{A}_M = \{m_0, m_1, m_2\}$ the set of types of manager types.

- One-to-one matching function $\mu : \mathcal{A}_F \cup \mathcal{A}_M \to \mathcal{A}_F \cup \mathcal{A}_M$ such that (i) $\mu(f_i) \in \mathcal{A}_M \cup \{f_i\}$ for all $f_i \in \mathcal{A}_F$ (ii) $\mu\left(m_j\right) \in \mathcal{A}_F \cup \left\{m_j\right\}$ for all $m_j \in \mathcal{A}_M$ and (iii) $\mu(f_i) = m_j$ if and only if $\mu\left(m_j\right) = f_i$ for all $\left(f_i, m_j\right) \in \mathcal{A}_F \times \mathcal{A}_M$.

- Assume $\gamma^F(f_0) = \gamma^M(m_0) = 0$; $\gamma^M(m_2) > \bar{\gamma} > \gamma^M(m_1) > \underline{\gamma}$, and $\gamma^F(f_2) > \gamma^F(f_1) > 0$.

- Number of founders (managers) of each type: $N(f_\tau)$ $(n(m_\kappa))$

- Suppose that $N(f_2) = n(m_2)$ and $N(f_1) = n(m_1)$ but $N(f_0) > n(m_0)$.

- Associated with each possible match $(f_\tau, m_\kappa) \in \mathcal{A}_F \times \mathcal{A}_M$ is a choice of organization form $J(f,m) \in \{FP, NP, SE\}$ and a transfer $T(f_\tau, m_\kappa)$ when a founder of type f_τ matches with a manager of type m_κ.

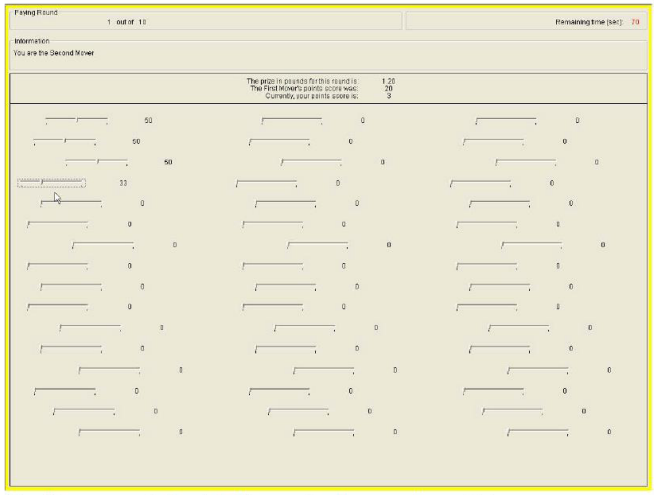
Proposition 2 *Suppose that the elasticity of effort at* $A + \underline{\gamma}\bar{\theta}$ *is less than* $\frac{(A+\underline{\gamma}\bar{\theta})\theta_l}{\Delta q(\theta_h - \theta_l)}$, *then the unique stable matching equilibrium displays assortative matching, with (i)* $J(f_0, m_0) = FP$; *(ii)* $J(f_1, m_1) = SE$ *if* $\gamma_1^F < \Gamma_{SE}\left(\gamma_1^F\right)$ *and* NP *otherwise; and, (iii)* $J(f_2, m_2) = NP$.

II. Experimental Design

- Experiment was carried out in the LSE Behavioural Lab in May 2013.

- Participants came in groups of up to 20 and it took approximately one hour to complete the range of tasks outlined below.

- They were aware before participating that the experiment would allow them to earn money for themselves as well as donating to a good cause.

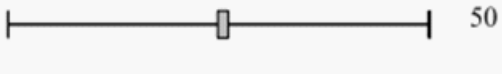


Notes: The screen presented here is slightly squarer than the one seen by our subjects.

Figure 2: Screen showing 48 sliders.

- Following Gill and Prowse (2012) we capture effort by asking the participant to locate an on screen slider in the middle of a line.

(a) Initial position.



(b) Positioned at 50.

- Relatively clean measure of effort although ability also plays a role.

- As in the model effort leads to a discrete outcome with success or failure - baseline probability of success 52%

- The participant was asked to position 48 sliders in the middle of a line during a two minute period.

- Each correctly positioned slider increased the probability of success by 1%.

- After the two minute round, success or failure was determined probabilistically in line with the model.

- We set $\pi_L = 0$ - no profit or donation to charity in state L (i.e. in the event of failure), so $\Delta = \pi_H$.

- We capture the two states in the model by a stochastic variable $\beta \in \{\beta_h, \beta_\ell\}$ with $\beta_h > 1 > \beta_\ell$ with

$$\theta_h = \beta_h \pi_H \text{ and } \theta_\ell = \beta_\ell \pi_H.$$

- β multiplies the profit if the agent contributes

- In the experiment, we set $\beta_h = 2$, $\beta_\ell = 0.2$ and $q = 1/2$ so that $\bar{\beta} = \frac{\beta_h + \beta_\ell}{2} = 1.1$

- Proceeds are
  - given to the participants as income in a for-profit
  - given to a charity of the participant's choice in a non-profit,
  - in a social enterprise, participants choose to give or keep
- In state h, the participant in the experiment can forego private income to give a multiple β_h of her what she has earned to a good cause.
- In state ℓ, he/she donates to the good cause of a less than one-for-one basis β_l.
- The observable decision is whether an individual donates or keeps what they have earned.

- The experiment runs with 11 two minute effort rounds.

- The first round was a pure practice round in which the participants were not paid.

- After this round, they played an "earning" task and a "giving" task, *in random order*

- "Earning" task captures a for-profit firm in which individuals get to keep the points that they earned.
  - There were two values of π_H (randomly chosen) communicated to participant *prior to* putting in effort.
  - The high value of π_H was 2000 points (£8) and the low value was 250 points (£1).
  - Each participant completed the earning task three times consecutively.

- "Giving" task captures a non-profit where points go to chosen charity (out of a given list of 9, including Oxfam, Amnesty etc)
  - This also had different pre-announced values of π_H, randomly chosen, before e chosen
  - It was also repeated three times *with success in the effort task* leading to an equally likely draw of $\beta_h = 2$ or $\beta_\ell = 0.2$

- The eighth through tenth round, was described to participants as completing a hybrid task.

- This captured the structure of the social enterprise model describe above.

- Here, the participants performed an effort task after which, if successful, they were presented with either $\beta_h = 2$ or $\beta_\ell = 0.2$ but with a choice between giving their earnings to charity or keeping it for themselves.

- In advance of each effort round, they were also told whether they were playing for $\pi_H = 2000$ or $\pi_H = 250$.

- In the last round, the participants were allowed to choose a task.

- They were randomly assigned to *making one of three binary choices* between any of the three tasks: earnings, giving or hybrid.

- They then undertook the effort task associated with that choice.

- We also asked each participant to complete a short survey to assess participants' degree of pro-social motivation.

- We followed Dal Bo, Finan and Rossi (2013) in asking two hypothetical questions

  - Dictator game experiment: if given £10 pounds to split between yourself and an anonymous other person, how much would you give when the person would not know who you are. The answers were $£0$, $£1$, .., $£10$

  - Receiver game experiment: if an anonymous partner had been given $£10$ to split between you and them and gave you £1. You can reject their offer, in which case you both get nothing, or accept their offer, in which case you get to keep the £1. Possible answers were 0 $=$*reject* or 1 $=$*accept*.

- Finally, we used the questionnaire proposed in Perry (1996) to measure public service motivation - attraction to policy making; commitment to the public interest; social justice; civic duty; compassion; and self-sacrifice.

- All of the individual questions which go into creating these judgements is based on a five point "Liker" scale measured from 1 =*strongly disagree* to 5 =*strongly agree*.

- From these six underlying categories, we also created an "aggregate" z-score for each participant.

- At the end of the experiment, the participants were rewarded for the final round (the self-selection round) and for one of the earnings, giving and hybrid task rounds.

- Which round they were rewarded for was determined randomly (by a roll of the dice in the presence of the payment clerk).

Results

- Table 1: effort by task
- Table 2/Figure 1: effort by round
- Table 3: mission choice
- Table 4: effort regressions
- Table 5: mission regressions

Table 1: Effort Levels by Task

Round Type	All Rounds	Excluding Self-Selection and Practice Rounds
Practice	11.80 (6.46)	-
For Profit	22.21 (7.91)	21.58 (7.74)
Non-Profit	21.07 (7.79)	20.96 (7.74)
Social Enterprise	24.98 (7.94)	24.58 (7.80)
Total	21.82 (8.53)	22.37 (7.92)

Notes: The table gives the number of correctly positioned sliders in each two minute task for each kind of task. (Standard deviation in parentheses.)

Table 2: Effort, Choices and Payoffs by Round

Round Number	Effort	Keep as Earnings (percentage)	Average Payoff (π)
Round 1	18.60 (7.43)	-	1103.87 (877.03)
Round 2	19.48 (7.41)	-	1112.32 (877.03)
Round 3	21.62 (7.25)	-	1086.96 (876.29)
Round 4	22.78 (7.86)	-	1171.50 (875.88)
Round 5	22.37 (7.56)	-	1086.96 (876.29)
Round 6	22.77 (7.93)	-	1036.23 (872.60)
Round 7	23.86 (7.72)	87.20 (33.54)	1154.59 (876.62)
Round 8	24.40 (7.77)	85.28 (35.54)	1095.41 (876.62)
Round 9	25.48 (7.88)	86.58 (34.21)	1247.59 (868.47)
Self-selection	26.88 (8.10)	90.48 (29.53)	1264.49 (865.90)

Notes: There are 207 observations per round. (Standard Deviation in parentheses.)

Table 3: Mission Choice

	Low β round (β = 0.2)	High β round (β = 2)
Keep as Earnings	212	192
Donate to Good Cause	20	44
Total	232	236

Notes: Data are from rounds six through nine where the participants could choose either to donate or keep their earnings. There were 207 participants but only 202 were successful with a total of 468 facing the mission choice decision out a maximum of 621 such cases.

Table 4: Effort

Variable	(1)	(2)	(3)	(4)	(5)
Non-Profit Round	-0.039*** (0.014)	-0.039*** (0.014)	-0.033 (0.021)	-0.039*** (0.014)	-0.038*** (0.015)
High π	-	0.043*** (0.017)	0.052** (0.021)	0.046*** (0.017)	0.017 (0.014)
High π x Non-profit Round	-	-	-0.011 (0.031)	-	-
Social Enterprise Round	-	-	-	-	0.057*** (0.016)
High π x Social Enterprise Round	-	-	-	-	-
ID Fixed Effects	Yes	Yes	Yes	Yes	Yes
Full Set of Round Fixed Effects	Yes	Yes	Yes	No	No
Restricted Round Effects	No	No	No	Yes	Yes
Rounds	Giving and Earning	Giving and Earning	Giving and Earning	Giving and Earning	All Non-Self-Selection Rounds
R^2	0.99	0.99	0.99	0.99	0.99
Observations	1242	1242	1242	1242	1863

Notes: The data are for 207 participants over six effort rounds in columns (1) through (4) and nine effort rounds in columns (5) and (6). The dependent variable is the log of effort. Robust standard errors in parentheses: *** significant at 1%, ** significant at 5%. The restricted round effects include four dummy variables: for the first round, second round, third round and all subsequent rounds.

Table 5: Choosing to Donate in a Social Enterprise

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High β round (β = 2)	0.100*** (0.035)	0.090** (0.035)	0.094*** (0.035)	0.10*** (0.035)	0.089*** (0.034)	0.092*** (0.035)	0.129** (0.574)	0.121** (0.06)
Volunteer	-	0.086** (0.034)	-	-	-	-	-	-
Dictator	-	-	0.018** (0.007)	-	-	-	-	-
Receiver	-	-	-	-0.015 (0.056)	-	-	-	-
Attraction to Policy Making	-	-	-	-	0.054* (0.028)	-	-	-
Commitment to the Public Interest	-	-	-	-	0.089** (0.040)	-	-	-
Social Justice	-	-	-	-	-0.028 (0.038)	-	-	-
Civic Duty	-	-	-	-	-0.019 (0.036)	-	-	-
Compassion	-	-	-	-	0.040 (0.035)	-	-	-
Self-Sacrifice	-	-	-	-	-0.015 (0.040)	-	-	-
Perry Z-Score	-	-	-	-		0.012*** (0.004)	-	-
High π	-	-	-	-	-	-	-	-0.137*** (0.045)
ID Fixed Effects	No	No	No	No	No	No	Yes	Yes
R^2	0.02	0.04	0.04	0.02	0.06	0.05	0.53	0.55

Notes: The dependent variable is choosing to give the proceeds to charity in a social enterprise. Standard Errors (clustered on id) in parentheses: *** significant at 1%, ** significant at 5%, * significant at 10%. The number of observations in each regression is 468 with 202 distinct participants.

Table 6: Self-Selection

Variable	(1) Social Enterprise	(2) Social Enterprise	(3) Non-profit	(4) Log(effort)	(5) Giveaway
Competence	0.132 (0.082)	0.063 (0.113)	0.070 (0.054)	0.937*** (0.060)	0.124** (0.068)
Perry Z-score	0.035*** (0.011)	-0.012 (0.009)	0.015* (0.007)	-0.005 (0.003)	0.0239*** (0.008)
High π	0.0257** (0.124)	0.018 (0.079)	-0.018 (0.067)	-0.010 (0.032)	-0.116* (0.067)
$\beta = \beta_H = 2$					0.0594 (0.966)
Non-profit	-	-	-	-0.043 (0.046)	-
Social Enterprise	-	-	-	-0.016 (0.033)	0.0607 (0.0744)
Choice	For-profit or social enterprise	Non-profit or social enterprise	Non-profit or for-profit	-	-
R^2	0.19	0.04	0.09	0.83	0.11
Observations	64	83	60	207	147

Notes: Robust standard errors in parentheses: *** significant at 1%, ** significant at 5%, * significant at 10%.

Figure 1: Cumulative Distribution of Effort by Round

(first six rounds)

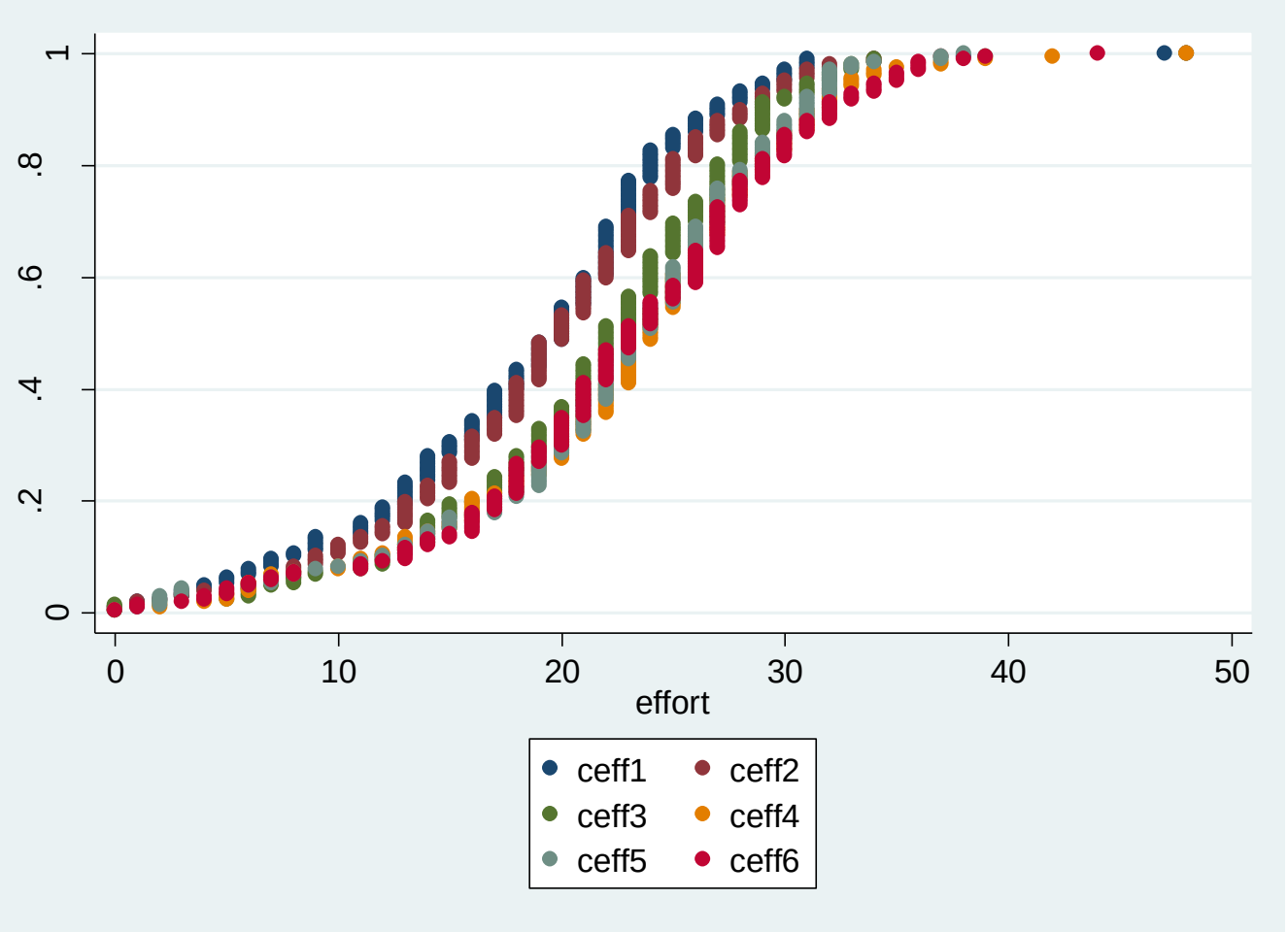


Figure 2: Non-profit versus Social Enterprise (γ=1)

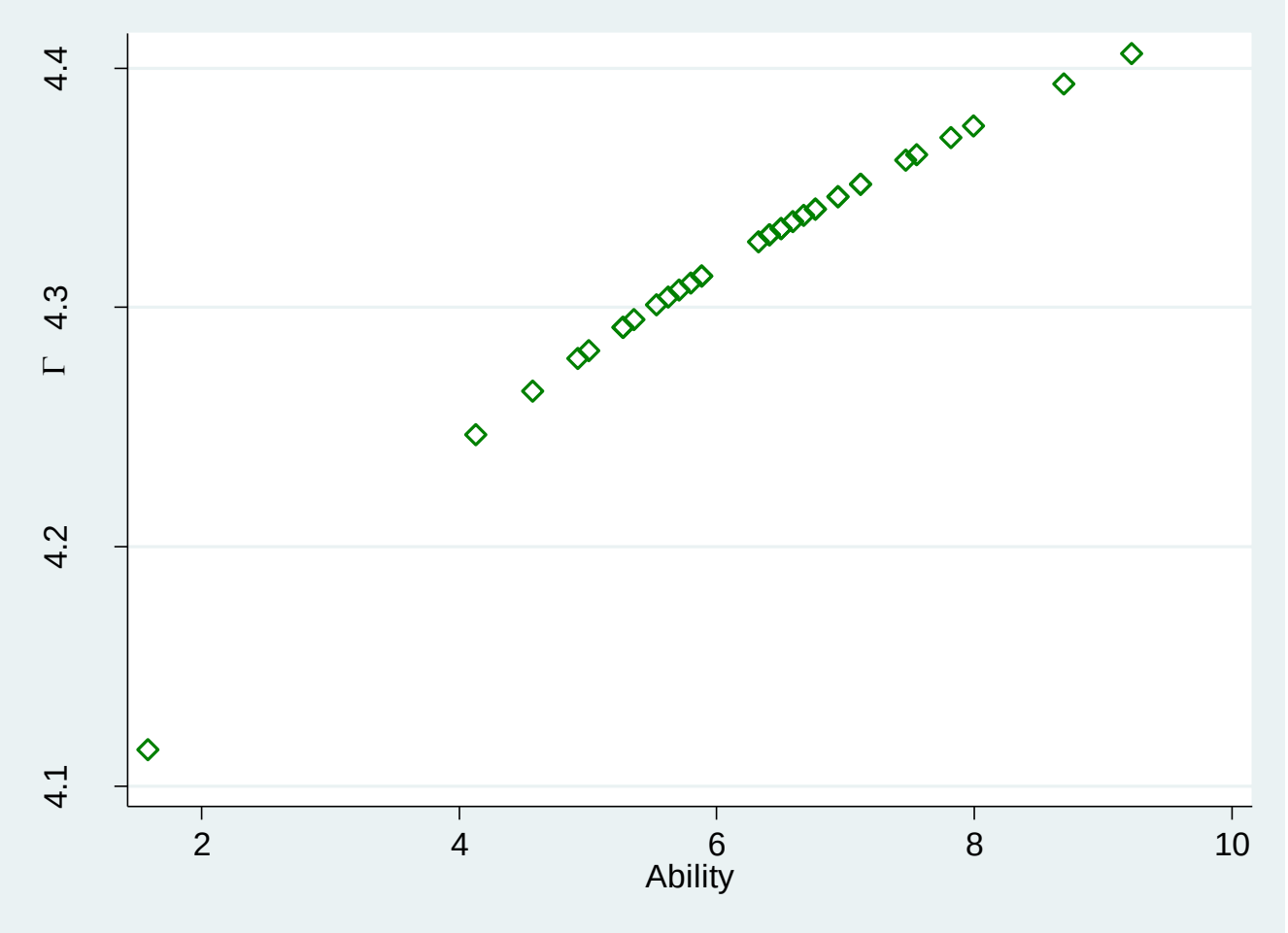


Figure 3: For-profit versus Non-Profit: Varying μ

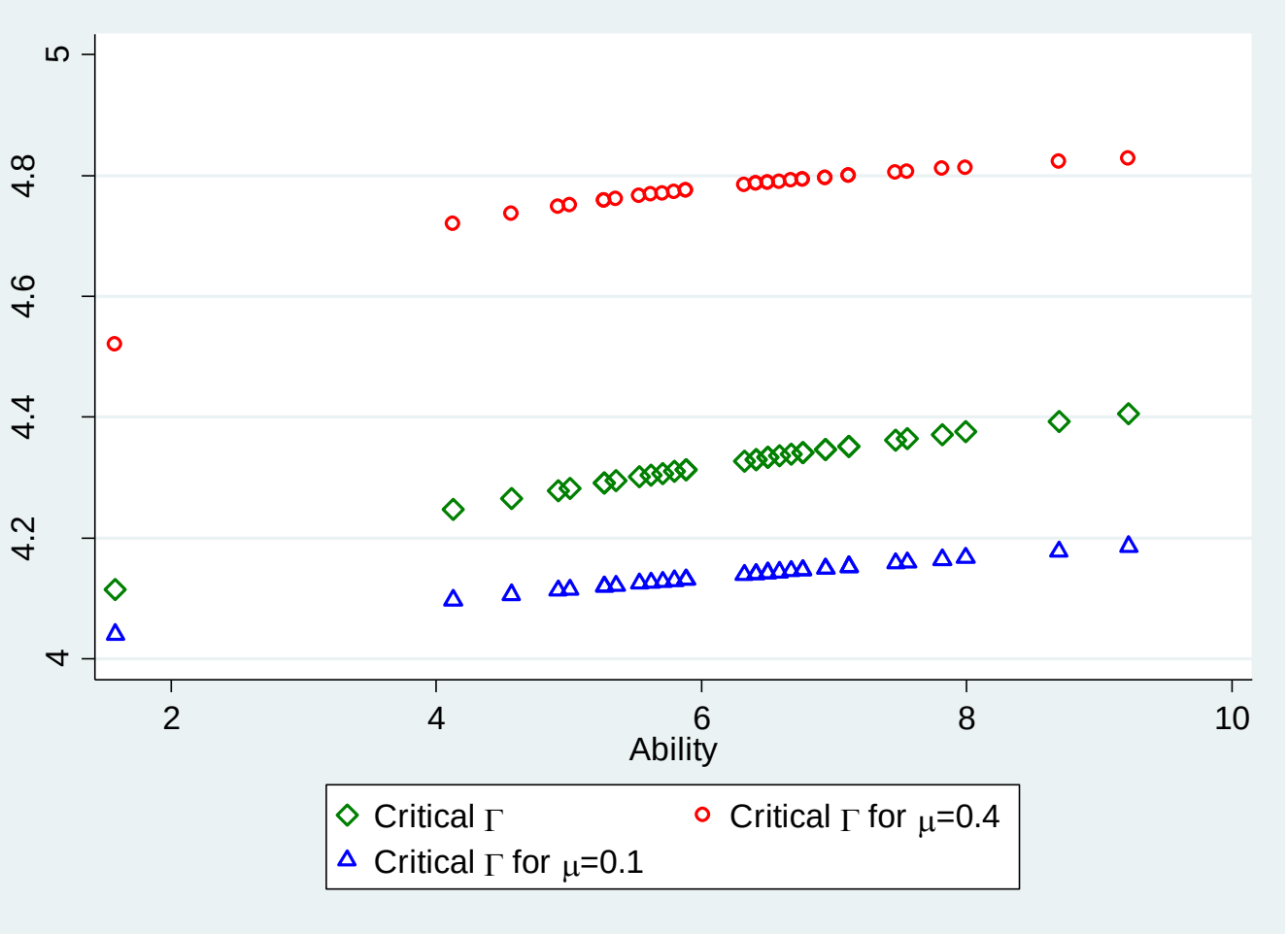


Figure 4: Non-profit versus Social Enterprise: Varying β_L

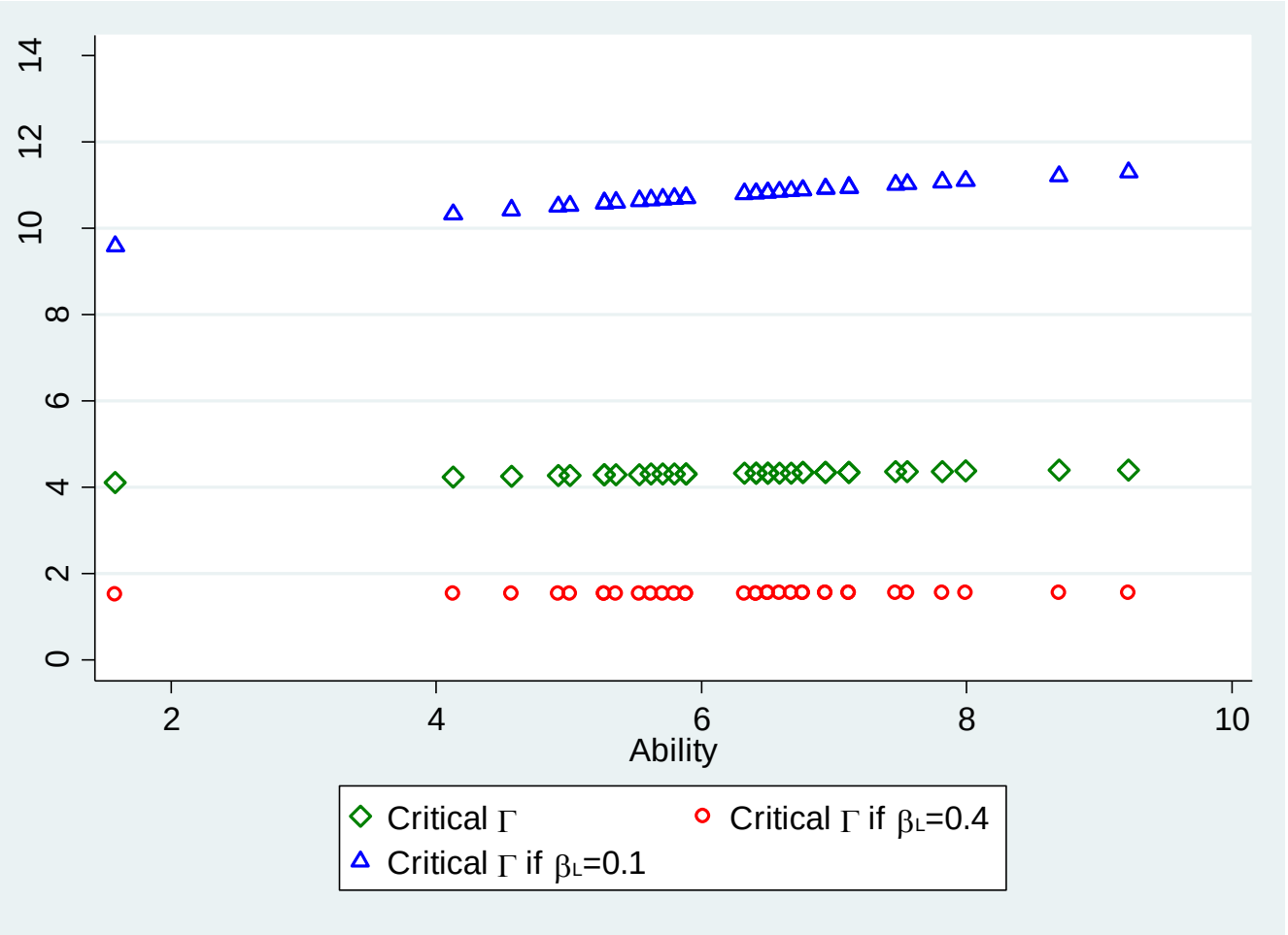


Figure 5: Non-profit versus Social Enterprise: Varying γ

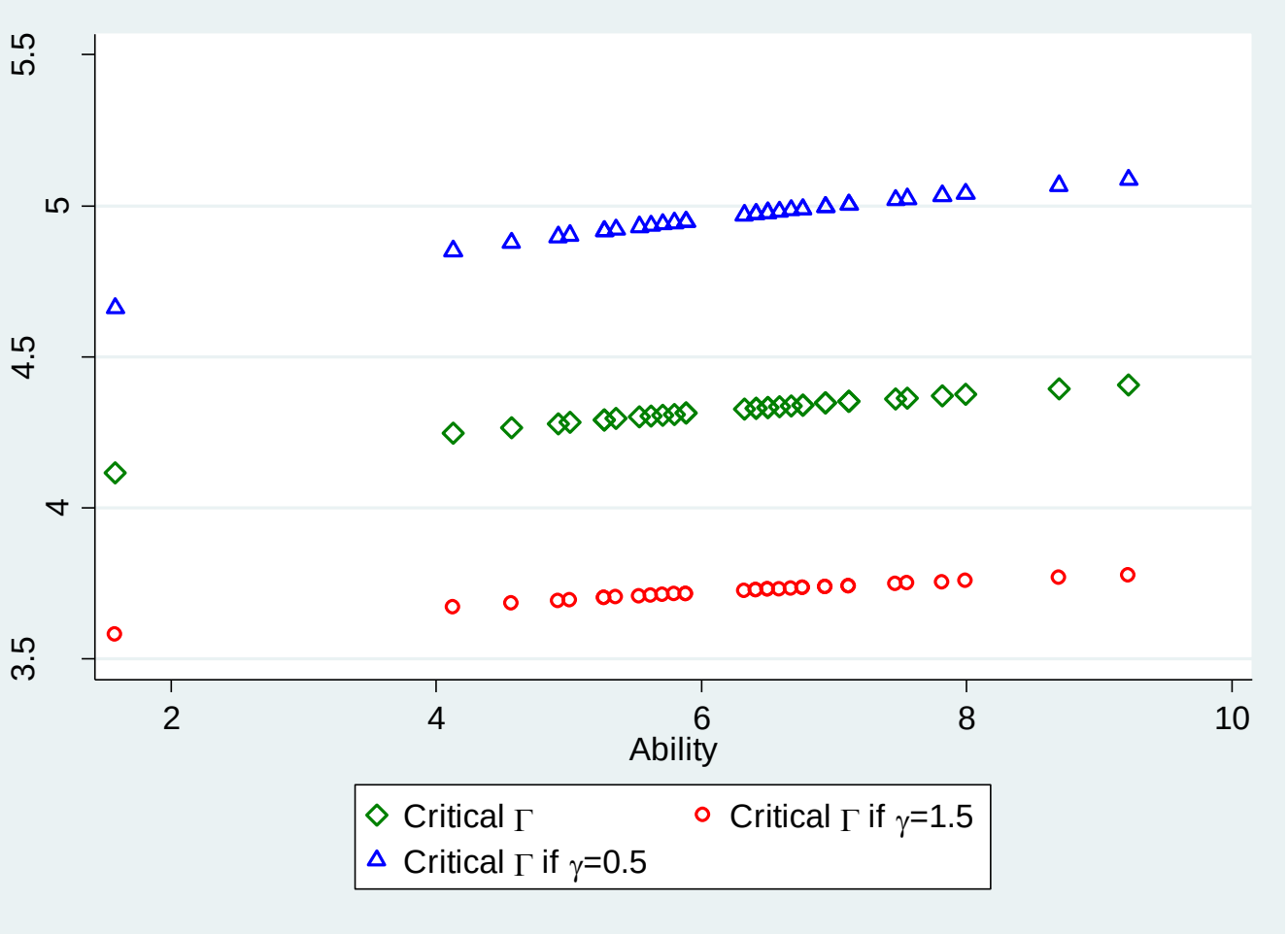


Figure 6: For-profit versus Non-Profit (γ=0)

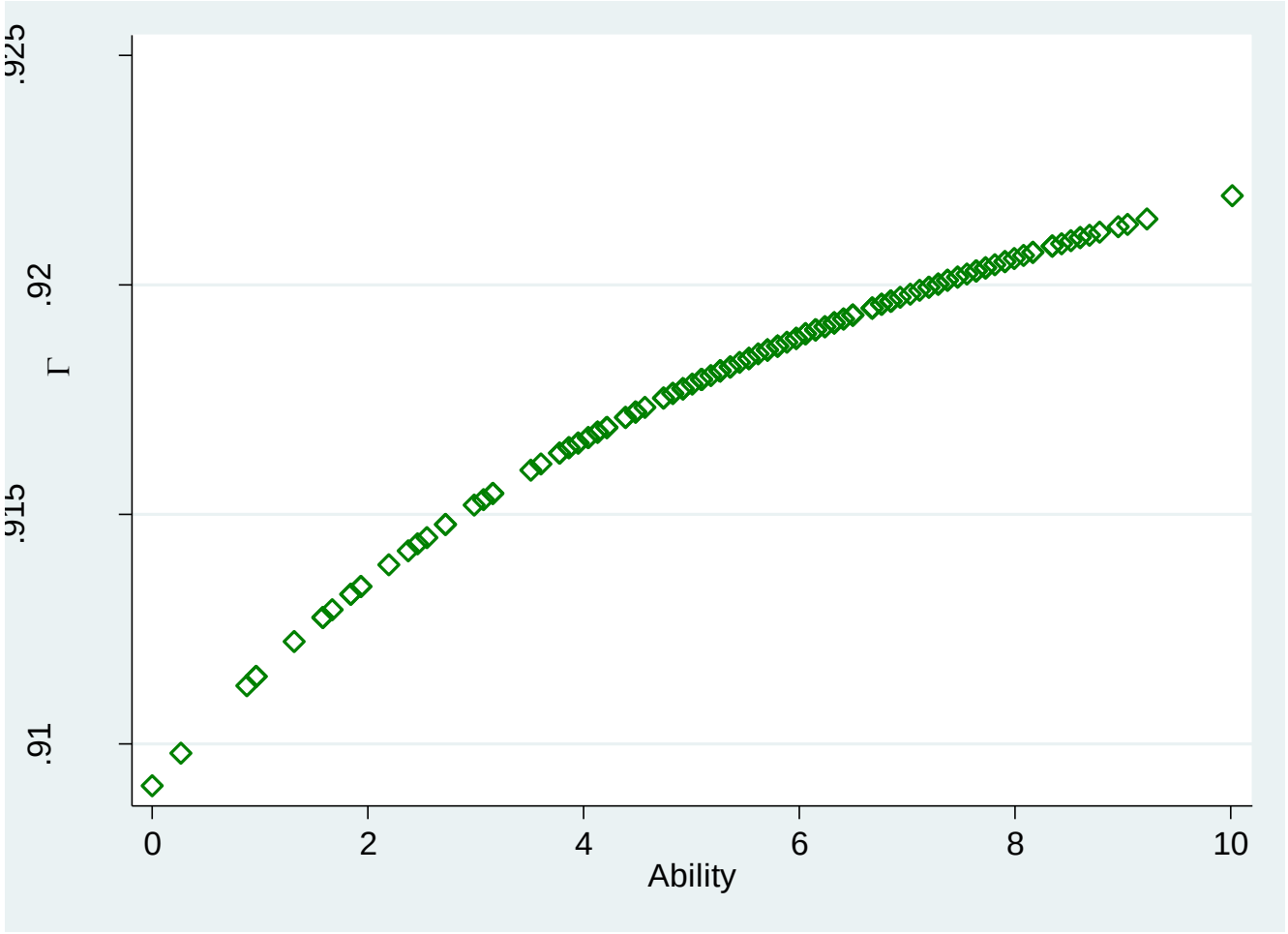
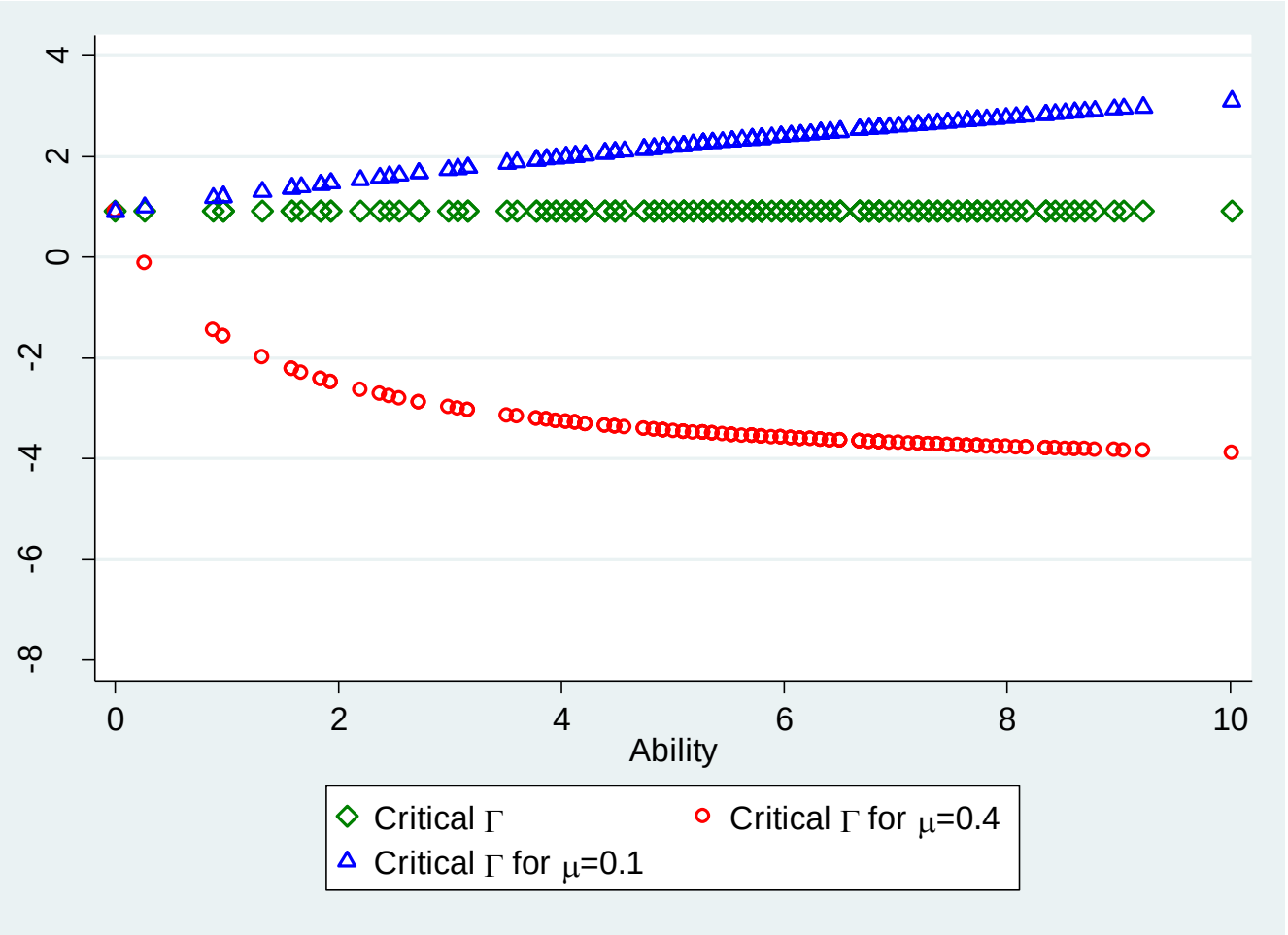


Figure 7: Non-profit versus Non-Profit: Varying μ



Calibration

- Suppose that

$$c(e) = \frac{1}{1+1/\mu} e^{\left(1+\frac{1}{\mu}\right)}.$$

- Thus:

$$e_{ijo} = (\lambda_i)^{\mu} \left(A + M_{ijo}\right)^{\mu}$$

- M_{ijo} is a payoff associated with each organizational form and A is an "intrinsic motivation" parameter which will assume to be common across all agents.

- Specifically:

$$\begin{aligned} M_{ijFP} &= \pi_{jH} \\ M_{ijNP} &= \gamma_i^M \overline{\beta} \pi_{jH} \\ M_{ijSE} &= \frac{1}{2} \sum_{s=h,l} \left[\hat{x}\left(\gamma_i^M; s\right) \gamma_i^M \beta_s + \{1 - \hat{x}\left(\gamma_i^M; s\right)\} \right] \pi_{jH} \end{aligned}$$

  Need to choose $\left\{\lambda_i, \gamma_i^M, \mu, A, \beta_\ell, \beta_h, \pi_H, \underline{e}\right\}$

- Set $\mu = 0.2$ which implies $A = 7000$ if we calibrate effort to mean difference based on experiment:

$$0.043 = 0.2[\log(A + 2000) - \log(A + 250)]$$

- Three values of $\gamma_i^M \in \{0, 1, 5\}$ based on performance in mission task.

- Use this to compute the switch point for γ^F.

- Size of gains: $\gamma^F = 1$ and $\gamma_i^M = 1$:

$$\Delta = \frac{S^{SE}(1,1) - S^{NP}(1,1)}{S^{NP}(1,1)}.$$

- Sensitivity analysis

For-Profits Versus Non-Profits

- We can calibrate for-profit versus non-profit when $\gamma^M = 0$
- This is the traditional case that has been looked at in the literature
  - e.g. Glaeser/Shleifer; Hansmann
  - in our framework a social enterprise collapses back to for-profit
- Only non-profit literature has focused on motivation

The Case for For-Profits

- Suppose that there is a class "private benefits" agency problem
  - mission is rival rather than non-rival as here

Proposition 3 *For any $\gamma^M > 0$ a for-profit will dominate a non-profit or a social enterprise if $\gamma^F < 0$ and is sufficiently large.*

- The case where $\bar{\beta} < 1$, is in many ways similar to having $\gamma^F < 0$ since the value of the cause favored by motivated managers is less on average than forgone profits.

Concluding Comments

- Model of social enterprise where mission integrity is an issue
  - There is a role for motivated agents to achieve mission integrity
  - so selection on motivation can matter in private business just as it has been argued to matter in non-profits.
- Experimental evidence on trade-off
  - mission-motivated agents exist!
- Calibration – gains for SE over NP about 10%

Future Work

- Link to CSR – when is socially valuable behaviour rewarded as higher profits?
- Government policy – is it ever optimal to encourage social-enterprise?
- Legal issues
  - How can creating a better legal structure for social enterprise help?
- Other cases where mission matters?
  - sports franchises and media outlets