A Theoretical Model of Trust Game Behaviour

In this appendix we present a model of behaviour in the Trust Game when both sender and recipient are altruistic utility maximisers. The amount sent in the game is denoted s, and the amount returned r; the initial endowment given to the sender is denoted m. The final amount accruing to the sender is:

$$C_S = m - s + r \tag{1}$$

Since the experimenter triples s, the final amount accruing to the recipient is:

$$C_R = 3s - r \tag{2}$$

The following constraints apply to the amounts sent and received:

$$m \geq s \geq (r / 3) \geq 0 \tag{3}$$

We will suppose that the sender and recipient have the following altruistic utility functions:

$$U_S = {C_S}^A + \alpha \cdot {C_R}^A, \quad 1 \geq A \geq 0 \tag{4}$$

$$U_R = {C_S}^B + \beta \cdot {C_R}^B, \quad 1 \geq B \geq 0 \tag{5}$$

However, replacing equations (4-5) with Cobb-Douglas utility functions makes little difference to the results. The relative value of the recipient's consumption to the sender is captured by the parameter α. The relative value of the recipient's consumption to the recipient is captured by the parameter β. In the theoretical model, we make no assumptions about the psychology underpinning these utility functions. For example, the value that the recipient places on C_S may arise from sympathy for the sender, or from the fact that the recipient values a social norm rewarding trusting behaviour. (In the paper, we present evidence on which of these explanations is more likely, but our theoretical model is agnostic on this point.)

The sender chooses s to maximise his expectation of U_S and the recipient chooses r to maximise U_R. The structure of the model is best illustrated by first considering the decision of the recipient. Choosing r to maximise U_R subject to equations (1-3) produces the following solution:

$$r = \max\left(0, \frac{(\phi+3)\cdot s - \phi\cdot m}{\phi+1}\right), \quad \phi = \beta^{\frac{1}{1-B}} \tag{6}$$

Figure A2-1 illustrates equation (6), and Figures A2-2 and A2-3 illustrate the consequences for C_S. For low values of s, the recipient sends nothing back: the recipient would make r negative if she could. After s has reached the critical value $\phi \cdot m / (\phi + 3)$, the recipient begins to reward the sender; if the sender transfers the whole of the initial endowment, he receives $3m / (\phi + 1)$ in return. Note that this value is greater or less than m, depending on whether ϕ is greater or less than two.

Figure A2-2 illustrates the case in which $\phi < 2$, and Figure A2-3 the case in which $\phi > 2$. In both cases, C_S is declining in s up to the point $\phi \cdot m / (\phi + 3)$, then increasing in s. The slope of the negative part of the function is –1 (while $r = 0$); the slope of the positive part of the function is $(\phi + 3) / (\phi + 1) > 1$. In Figure A2-2, it is in the sender's interest to send the whole of the endowment, even if he is completely selfish (i.e., if $\alpha = 0$). In Figure A2-3, it is in the interest of a completely selfish sender to send nothing. When the sender is altruistic, the set of possible utility-maximising choices is $\{[0, x], m\}$. The V-shaped function means that no value of s between x and m could possibly maximise utility. In the unlikely event that the sender knows the value of ϕ with certainty, we will either see $s = m$, in which case a positive amount is returned, or $s \in [0, x]$, in which case nothing is returned. We will not see both $s < m$ and $r > 0$ simultaneously. Note also that for $s \geq \phi \cdot m / (\phi + 3)$, the recipient takes ϕ times the total amount accruing to the sender.

It is more likely that the sender is basing his choice of s on an expectation of the value of ϕ. In order to illustrate the factors driving the sender's decision in this case, we consider a simple example in which the sender decides that $\phi = \phi_L$ (a low value) with probability π and $\phi = \phi_H$ (a higher value) with probability $(1 - \pi)$. Therefore, from the sender's point of view, using equations (1-2) and (6):

with probability	$\{C_S = m - s, C_R = 3s\}$	*if*	$s \leq \phi_L \cdot m / (\phi_L + 3)$
π	$\{C_S = C_R / \phi_L = (m + 2s) / (1 + \phi_L)\}$	*if*	$s \geq \phi_L \cdot m / (\phi_L + 3)$
with probability	$\{C_S = m - s, C_R = 3s\}$	*if*	$s \leq \phi_H \cdot m / (\phi_H + 3)$
$(1 - \pi)$	$\{C_S = C_R / \phi_H = (m + 2s) / (1 + \phi_H)\}$	*if*	$s \geq \phi_H \cdot m / (\phi_H + 3)$

These conditions imply three regions of s with three different expected utility functions:

when $s \leq \phi_L \cdot m / (\phi_L + 3)$

then $E(U_S) = (m - s)^A + \alpha \cdot (3s)^A$ (7)

when $\phi_L \cdot m / (\phi_L + 3) \leq s \leq \phi_H \cdot m / (\phi_H + 3)$

then $E(U_S) = \pi \cdot (1 + \alpha \cdot \phi_L^A) \cdot ((m + 2s) / (1 + \phi_L))^A$ (8)

$+ (1 - \pi) \cdot ((m - s)^A + \alpha \cdot (3s)^A)$

when $s \geq \phi_H \cdot m / (\phi_H + 3)$

then $E(U_S) = \pi \cdot (1 + \alpha \cdot \phi_L^A) \cdot ((m + 2s) / (1 + \phi_L))^A$ (9)

$+ (1 - \pi) \cdot (1 + \alpha \cdot \phi_H^A) \cdot ((m + 2s) / (1 + \phi_H))^A$

Note that in the first case the sender expects nothing back. In the second case the sender expects something back with probability π, and in the third case the sender is certain that he will receive something back, although he is not sure how much this will be. In equation (9) $E(U_S)$ is strictly increasing in s, so the value of s that maximises expected utility in this range is $s = m$. In equation (7) the optimal value is:

$$s = m \cdot \left(\frac{\psi}{1 + \psi} \right), \ \psi = \left(\alpha \cdot 3^A \right)^{\frac{1}{1-A}} \qquad (10)$$

(If this value of s is greater than $\phi_L \cdot m / (\phi_L + 3)$ then the case represented by equation (7) is redundant.) In equation (8) the expected utility maximisation problem is messier. The first order condition is:

$$(1 - \pi) \cdot (m - s)^{A-1} = \left(\frac{2\pi \cdot (1 + \alpha \cdot \phi_L^A)}{(1 + \phi_L)^A} \right) \cdot (m + 2s)^{A-1} + 3\alpha \cdot (1 - \pi) \cdot (3s)^{A-1} \qquad (11)$$

Rearranging this equation produces:

$$\left(\frac{1}{3\alpha} \right) \cdot \left(\frac{m - s}{3s} \right)^{A-1} = 1 + \left(\frac{2\pi \cdot (1 + \alpha \cdot \phi_L^A)}{3\alpha \cdot (1 - \pi) \cdot (1 + \phi_L)^A} \right) \cdot \left(\frac{m + 2s}{3s} \right)^{A-1} \qquad (12)$$

Consider the final term in this equation, $((m + 2s) / 3s)^{A-1}$. As s approaches m, this term approaches one. Its smallest possible value, when $s = \phi_L \cdot m / (\phi_L + 3)$, is $(\phi_L / (\phi_L + 1))^{1-A}$, which for $\phi_L \geq 1$[a] entails a number between one half and one. If we set the term equal to one and rearrange equation (12), then we arrive at the following solution:

[a] The inequality implies that the recipient values her own consumption no less than the sender's.

$$s \approx m \cdot \left(\frac{\gamma}{3+\gamma} \right), \; \gamma = \left(3\alpha + \frac{2\pi \cdot \left(1+\alpha \cdot \phi_L{}^A\right)}{\left(1-\pi\right) \cdot \left(1+\phi_L\right)^A} \right)^{\frac{1}{1-A}} \tag{13}$$

Substituting equation (10) into equation (7), equation (13) into equation (8) and the value $s = m$ into equation (9), we arrive at three different values of $E(U_S)$, any one of which might be the global maximum, depending on the values of the parameters A, B, α, β and π. In practice, the value of s given in equation (13) is likely to be relevant to most of the senders in our experiments, since this corresponds to the case in which $s < m$ and (with probability π) $r > 0$.

As we would expect, equation (13) shows s to be strictly increasing in both the degree of altruism of the sender (α) and the probability that the recipient is very reciprocating (π). We can also compare the effect of sender altruism in the Trust Game with the effect of sender altruism in the Triple Dictator game by noting that equation (10) also gives the optimal value of s in the Triple Dictator Game. (It is the optimal amount sent when there is no chance of receiving anything back.) The ratio of the amount sent in the Trust Game to the amount sent in the Triple Dictator Game is therefore $\left(\frac{\gamma}{\psi}\right)\left(\frac{1+\psi}{3+\gamma}\right)$. For small values of γ and ψ this approximates to γ / ψ, and

$$\frac{\gamma}{\psi} = \left(3^{1-A} + \frac{2\pi \cdot \left(1+\alpha \cdot \phi_L{}^A\right)}{\alpha \cdot \left(1-\pi\right) \cdot 3\left(\left(1+\phi_L\right)\right)^A} \right)^{\frac{1}{1-A}} \tag{14}$$

This ratio is strictly increasing in π and strictly decreasing in α. In other words, an increase in sender altruism will raise the amount sent in the Triple Dictator Game relative to the amount sent in the Trust Game. This means that our empirical finding (the same-village treatment has more effect in the Trust game than in the Triple Dictator Game) cannot be explained by altruism alone.

To what extent does this theoretical result hold for large values of γ and ψ, and is it true of the difference between the transfers as well as the ratio? The simulations summarized in Table A2-1 provide some information on this question.[b] The table contains simulated values of s / m in the Trust Game (s_{TG}) and Triple Dictator Game (s_{TDG}) for different values of

[b] These simulations use the exact solution to equation (12) rather than the approximation in equation (13). Any case in which equation (12) implies a value of s / m below $\phi_L / (\phi_L + 3)$ is left blank, as equation (12) could not apply in such a case.

A, ϕ_L, α, and π, also noting the difference between the transfers, $s_{TG} - s_{TDG}$ (*diff*). The cases in which this difference is increasing in α are shaded gray: they are all for low values of both α and π. For only one combination of A, α and π values are both s_{TG} and s_{TDG} close to the mean values we observe empirically ($A = 0.75$, $\alpha = 0.4$, $\pi = 0.2$, shaded a darker gray). In this particular case, $\mathrm{d}s_{TDG} / \mathrm{d}\alpha$ is very high, which is inconsistent with our finding that there is little difference in Triple Dictator Game donations across the same-village treatment.[c] In other words, the model suggests that in our sample altruism does not have more effect on Trust Game transfers than on Triple Dictator Game transfers. The large difference we find between the treatment effect in the Trust Game and the treatment effect in the Triple Dictator Game is more likely to be explained by a larger value of π in the treatment: in other words a greater expectation of reciprocity, or more trust.

[c] There are other parameter ranges which approximately replicate the mean values of s_{TG} and s_{TDG} without such a high value of $\mathrm{d}s_{TDG} / \mathrm{d}\alpha$ (for example, $A = 0.25$, $\phi_L = 1$, $\alpha = 0.6$, $\pi = 0.5$). But in these ranges *diff* is decreasing in α.

Table A2-1 Simulated Trust Game and Triple Dictator Game transfers

$A = 0.25$, $\phi_L = 1$					$A = 0.5$, $\phi_L = 1$					$A = 0.75$, $\phi_L = 1$				
π	α	*sTG*	*sTDG*	*diff*	π	α	*sTG*	*sTDG*	*diff*	π	α	*sTG*	*sTDG*	*diff*
0.1	0.1				0.1	0.1				0.1	0.1			
0.1	0.2				0.1	0.2				0.1	0.2			
0.1	0.3	0.26	0.22	0.04	0.1	0.3	0.27	0.21	0.06	0.1	0.3	0.29	0.18	0.11
0.1	0.4	0.34	0.30	0.04	0.1	0.4	0.39	0.32	0.06	0.1	0.4	0.54	0.41	0.13
0.1	0.5	0.41	0.36	0.04	0.1	0.5	0.49	0.43	0.06	0.1	0.5	0.73	0.63	0.11
0.1	0.6	0.46	0.42	0.04	0.1	0.6	0.58	0.52	0.06	0.1	0.6	0.85	0.78	0.07
0.1	0.7	0.51	0.47	0.04	0.1	0.7	0.65	0.60	0.05	0.1	0.7	0.91	0.87	0.04
0.1	0.8	0.55	0.52	0.04	0.1	0.8	0.70	0.66	0.05	0.1	0.8	0.94	0.92	0.02
0.1	0.9	0.59	0.56	0.03	0.1	0.9	0.75	0.71	0.04	0.1	0.9	0.96	0.95	0.02
0.1	1.0	0.62	0.59	0.03	0.1	1.0	0.79	0.75	0.04	0.1	1.0	0.98	0.96	0.01
0.2	0.1				0.2	0.1				0.2	0.1			
0.2	0.2				0.2	0.2				0.2	0.2			
0.2	0.3	0.31	0.22	0.09	0.2	0.3	0.35	0.21	0.13	0.2	0.3	0.45	0.18	0.27
0.2	0.4	0.39	0.30	0.09	0.2	0.4	0.47	0.32	0.14	0.2	0.4	0.69	0.41	0.28
0.2	0.5	0.46	0.36	0.09	0.2	0.5	0.57	0.43	0.14	0.2	0.5	0.83	0.63	0.20
0.2	0.6	0.51	0.42	0.09	0.2	0.6	0.64	0.52	0.12	0.2	0.6	0.90	0.78	0.12
0.2	0.7	0.56	0.47	0.08	0.2	0.7	0.70	0.60	0.11	0.2	0.7	0.94	0.87	0.07
0.2	0.8	0.60	0.52	0.08	0.2	0.8	0.75	0.66	0.09	0.2	0.8	0.96	0.92	0.04
0.2	0.9	0.63	0.56	0.07	0.2	0.9	0.79	0.71	0.08	0.2	0.9	0.98	0.95	0.03
0.2	1.0	0.66	0.59	0.07	0.2	1.0	0.82	0.75	0.07	0.2	1.0	0.98	0.96	0.02
0.3	0.1				0.3	0.1				0.3	0.1			
0.3	0.2	0.29	0.14	0.14	0.3	0.2	0.31	0.11	0.20	0.3	0.2	0.37	0.04	0.32
0.3	0.3	0.38	0.22	0.16	0.3	0.3	0.45	0.21	0.24	0.3	0.3	0.65	0.18	0.47
0.3	0.4	0.45	0.30	0.16	0.3	0.4	0.56	0.32	0.24	0.3	0.4	0.81	0.41	0.41
0.3	0.5	0.52	0.36	0.15	0.3	0.5	0.65	0.43	0.22	0.3	0.5	0.90	0.63	0.27
0.3	0.6	0.57	0.42	0.14	0.3	0.6	0.71	0.52	0.19	0.3	0.6	0.94	0.78	0.16
0.3	0.7	0.61	0.47	0.14	0.3	0.7	0.76	0.60	0.16	0.3	0.7	0.96	0.87	0.10
0.3	0.8	0.64	0.52	0.13	0.3	0.8	0.80	0.66	0.14	0.3	0.8	0.98	0.92	0.06
0.3	0.9	0.67	0.56	0.12	0.3	0.9	0.83	0.71	0.12	0.3	0.9	0.98	0.95	0.04
0.3	1.0	0.70	0.59	0.11	0.3	1.0	0.85	0.75	0.10	0.3	1.0	0.99	0.96	0.02
0.4	0.1	0.26	0.06	0.20	0.4	0.1	0.27	0.03	0.24	0.4	0.1	0.29	0.00	0.29
0.4	0.2	0.38	0.14	0.23	0.4	0.2	0.45	0.11	0.34	0.4	0.2	0.64	0.04	0.59
0.4	0.3	0.46	0.22	0.24	0.4	0.3	0.57	0.21	0.36	0.4	0.3	0.82	0.18	0.64
0.4	0.4	0.53	0.30	0.23	0.4	0.4	0.66	0.32	0.34	0.4	0.4	0.90	0.41	0.50
0.4	0.5	0.58	0.36	0.22	0.4	0.5	0.73	0.43	0.30	0.4	0.5	0.95	0.63	0.32
0.4	0.6	0.63	0.42	0.21	0.4	0.6	0.78	0.52	0.26	0.4	0.6	0.97	0.78	0.19
0.4	0.7	0.66	0.47	0.19	0.4	0.7	0.82	0.60	0.22	0.4	0.7	0.98	0.87	0.11
0.4	0.8	0.70	0.52	0.18	0.4	0.8	0.85	0.66	0.19	0.4	0.8	0.99	0.92	0.07
0.4	0.9	0.72	0.56	0.16	0.4	0.9	0.87	0.71	0.16	0.4	0.9	0.99	0.95	0.04
0.4	1.0	0.74	0.59	0.15	0.4	1.0	0.89	0.75	0.14	0.4	1.0	0.99	0.96	0.03
0.5	0.1	0.40	0.06	0.33	0.5	0.1	0.47	0.03	0.44	0.5	0.1	0.66	0.00	0.66
0.5	0.2	0.49	0.14	0.35	0.5	0.2	0.60	0.11	0.50	0.5	0.2	0.84	0.04	0.80
0.5	0.3	0.56	0.22	0.34	0.5	0.3	0.70	0.21	0.48	0.5	0.3	0.92	0.18	0.74
0.5	0.4	0.62	0.30	0.32	0.5	0.4	0.76	0.32	0.44	0.5	0.4	0.96	0.41	0.55
0.5	0.5	0.66	0.36	0.30	0.5	0.5	0.81	0.43	0.38	0.5	0.5	0.98	0.63	0.35
0.5	0.6	0.70	0.42	0.27	0.5	0.6	0.84	0.52	0.32	0.5	0.6	0.99	0.78	0.21
0.5	0.7	0.73	0.47	0.25	0.5	0.7	0.87	0.60	0.27	0.5	0.7	0.99	0.87	0.12
0.5	0.8	0.75	0.52	0.23	0.5	0.8	0.89	0.66	0.23	0.5	0.8	0.99	0.92	0.08
0.5	0.9	0.77	0.56	0.22	0.5	0.9	0.91	0.71	0.20	0.5	0.9	1.00	0.95	0.05
0.5	1.0	0.79	0.59	0.20	0.5	1.0	0.92	0.75	0.17	0.5	1.0	1.00	0.96	0.03

Table A2-1 (continued)

	$A = 0.25$, $\phi_L = 1$					$A = 0.5$, $\phi_L = 1$					$A = 0.75$, $\phi_L = 1$			
π	α	*sTG*	*sTDG*	*diff*	π	α	*sTG*	*sTDG*	*diff*	π	α	*sTG*	*sTDG*	*diff*
0.6	0.1	0.55	0.06	0.48	0.6	0.1	0.67	0.03	0.64	0.6	0.1	0.90	0.00	0.89
0.6	0.2	0.61	0.14	0.47	0.6	0.2	0.75	0.11	0.65	0.6	0.2	0.95	0.04	0.91
0.6	0.3	0.67	0.22	0.44	0.6	0.3	0.81	0.21	0.60	0.6	0.3	0.97	0.18	0.79
0.6	0.4	0.71	0.30	0.41	0.6	0.4	0.85	0.32	0.52	0.6	0.4	0.99	0.41	0.58
0.6	0.5	0.74	0.36	0.38	0.6	0.5	0.88	0.43	0.45	0.6	0.5	0.99	0.63	0.36
0.6	0.6	0.77	0.42	0.35	0.6	0.6	0.90	0.52	0.38	0.6	0.6	0.99	0.78	0.22
0.6	0.7	0.79	0.47	0.32	0.6	0.7	0.92	0.60	0.32	0.6	0.7	1.00	0.87	0.13
0.6	0.8	0.81	0.52	0.29	0.6	0.8	0.93	0.66	0.27	0.6	0.8	1.00	0.92	0.08
0.6	0.9	0.82	0.56	0.27	0.6	0.9	0.94	0.71	0.23	0.6	0.9	1.00	0.95	0.05
0.6	1.0	0.84	0.59	0.25	0.6	1.0	0.95	0.75	0.20	0.6	1.0	1.00	0.96	0.03
0.7	0.1	0.69	0.06	0.63	0.7	0.1	0.83	0.03	0.80	0.7	0.1	0.98	0.00	0.97
0.7	0.2	0.74	0.14	0.59	0.7	0.2	0.87	0.11	0.76	0.7	0.2	0.99	0.04	0.95
0.7	0.3	0.77	0.22	0.55	0.7	0.3	0.90	0.21	0.68	0.7	0.3	0.99	0.18	0.81
0.7	0.4	0.80	0.30	0.50	0.7	0.4	0.92	0.32	0.59	0.7	0.4	1.00	0.41	0.59
0.7	0.5	0.82	0.36	0.46	0.7	0.5	0.93	0.43	0.50	0.7	0.5	1.00	0.63	0.37
0.7	0.6	0.84	0.42	0.42	0.7	0.6	0.94	0.52	0.42	0.7	0.6	1.00	0.78	0.22
0.7	0.7	0.85	0.47	0.38	0.7	0.7	0.95	0.60	0.36	0.7	0.7	1.00	0.87	0.13
0.7	0.8	0.87	0.52	0.35	0.7	0.8	0.96	0.66	0.30	0.7	0.8	1.00	0.92	0.08
0.7	0.9	0.88	0.56	0.32	0.7	0.9	0.96	0.71	0.26	0.7	0.9	1.00	0.95	0.05
0.7	1.0	0.89	0.59	0.30	0.7	1.0	0.97	0.75	0.22	0.7	1.0	1.00	0.96	0.04
0.8	0.1	0.83	0.06	0.76	0.8	0.1	0.93	0.03	0.90	0.8	0.1	1.00	0.00	0.99
0.8	0.2	0.85	0.14	0.71	0.8	0.2	0.95	0.11	0.84	0.8	0.2	1.00	0.04	0.96
0.8	0.3	0.87	0.22	0.64	0.8	0.3	0.96	0.21	0.75	0.8	0.3	1.00	0.18	0.82
0.8	0.4	0.88	0.30	0.58	0.8	0.4	0.97	0.32	0.64	0.8	0.4	1.00	0.41	0.59
0.8	0.5	0.90	0.36	0.53	0.8	0.5	0.97	0.43	0.54	0.8	0.5	1.00	0.63	0.37
0.8	0.6	0.91	0.42	0.48	0.8	0.6	0.98	0.52	0.46	0.8	0.6	1.00	0.78	0.22
0.8	0.7	0.91	0.47	0.44	0.8	0.7	0.98	0.60	0.38	0.8	0.7	1.00	0.87	0.13
0.8	0.8	0.92	0.52	0.40	0.8	0.8	0.98	0.66	0.32	0.8	0.8	1.00	0.92	0.08
0.8	0.9	0.93	0.56	0.37	0.8	0.9	0.98	0.71	0.28	0.8	0.9	1.00	0.95	0.05
0.8	1.0	0.93	0.59	0.34	0.8	1.0	0.99	0.75	0.24	0.8	1.0	1.00	0.96	0.04
0.9	0.1	0.94	0.06	0.87	0.9	0.1	0.99	0.03	0.96	0.9	0.1	1.00	0.00	1.00
0.9	0.2	0.94	0.14	0.80	0.9	0.2	0.99	0.11	0.88	0.9	0.2	1.00	0.04	0.96
0.9	0.3	0.95	0.22	0.72	0.9	0.3	0.99	0.21	0.78	0.9	0.3	1.00	0.18	0.82
0.9	0.4	0.95	0.30	0.66	0.9	0.4	0.99	0.32	0.67	0.9	0.4	1.00	0.41	0.59
0.9	0.5	0.96	0.36	0.59	0.9	0.5	0.99	0.43	0.56	0.9	0.5	1.00	0.63	0.37
0.9	0.6	0.96	0.42	0.54	0.9	0.6	0.99	0.52	0.47	0.9	0.6	1.00	0.78	0.22
0.9	0.7	0.97	0.47	0.49	0.9	0.7	1.00	0.60	0.40	0.9	0.7	1.00	0.87	0.13
0.9	0.8	0.97	0.52	0.45	0.9	0.8	1.00	0.66	0.34	0.9	0.8	1.00	0.92	0.08
0.9	0.9	0.97	0.56	0.41	0.9	0.9	1.00	0.71	0.29	0.9	0.9	1.00	0.95	0.05
0.9	1.0	0.97	0.59	0.38	0.9	1.0	1.00	0.75	0.25	0.9	1.0	1.00	0.96	0.04

Table A2-1 (continued)

$A = 0.25$, $\phi_L = 2$					$A = 0.5$, $\phi_L = 2$					$A = 0.75$, $\phi_L = 2$				
π	α	*sTG*	*sTDG*	*diff*	π	α	*sTG*	*sTDG*	*diff*	π	α	*sTG*	*sTDG*	*diff*
0.1	0.1				0.1	0.1				0.1	0.1			
0.1	0.2				0.1	0.2				0.1	0.2			
0.1	0.3				0.1	0.3				0.1	0.3			
0.1	0.4				0.1	0.4				0.1	0.4	0.53	0.41	0.12
0.1	0.5	0.40	0.36	0.04	0.1	0.5	0.49	0.43	0.06	0.1	0.5	0.72	0.63	0.10
0.1	0.6	0.46	0.42	0.04	0.1	0.6	0.58	0.52	0.06	0.1	0.6	0.84	0.78	0.06
0.1	0.7	0.51	0.47	0.04	0.1	0.7	0.65	0.60	0.05	0.1	0.7	0.91	0.87	0.04
0.1	0.8	0.55	0.52	0.04	0.1	0.8	0.70	0.66	0.04	0.1	0.8	0.94	0.92	0.02
0.1	0.9	0.59	0.56	0.03	0.1	0.9	0.75	0.71	0.04	0.1	0.9	0.96	0.95	0.02
0.1	1.0	0.62	0.59	0.03	0.1	1.0	0.78	0.75	0.03	0.1	1.0	0.98	0.96	0.01
0.2	0.1				0.2	0.1				0.2	0.1			
0.2	0.2				0.2	0.2				0.2	0.2			
0.2	0.3				0.2	0.3				0.2	0.3	0.41	0.18	0.23
0.2	0.4				0.2	0.4	0.46	0.32	0.13	0.2	0.4	0.66	0.41	0.25
0.2	0.5	0.45	0.36	0.09	0.2	0.5	0.56	0.43	0.13	0.2	0.5	0.81	0.63	0.18
0.2	0.6	0.51	0.42	0.09	0.2	0.6	0.64	0.52	0.12	0.2	0.6	0.89	0.78	0.12
0.2	0.7	0.56	0.47	0.08	0.2	0.7	0.70	0.60	0.10	0.2	0.7	0.94	0.87	0.07
0.2	0.8	0.60	0.52	0.08	0.2	0.8	0.75	0.66	0.09	0.2	0.8	0.96	0.92	0.04
0.2	0.9	0.63	0.56	0.07	0.2	0.9	0.79	0.71	0.08	0.2	0.9	0.97	0.95	0.03
0.2	1.0	0.66	0.59	0.07	0.2	1.0	0.82	0.75	0.07	0.2	1.0	0.98	0.96	0.02
0.3	0.1				0.3	0.1				0.3				
0.3	0.2				0.3	0.2				0.3				
0.3	0.3				0.3	0.3	0.42	0.21	0.21	0.3	0.3	0.59	0.18	0.41
0.3	0.4	0.45	0.30	0.15	0.3	0.4	0.54	0.32	0.22	0.3	0.4	0.78	0.41	0.38
0.3	0.5	0.51	0.36	0.15	0.3	0.5	0.63	0.43	0.20	0.3	0.5	0.88	0.63	0.26
0.3	0.6	0.56	0.42	0.14	0.3	0.6	0.70	0.52	0.18	0.3	0.6	0.93	0.78	0.16
0.3	0.7	0.61	0.47	0.13	0.3	0.7	0.76	0.60	0.16	0.3	0.7	0.96	0.87	0.09
0.3	0.8	0.64	0.52	0.12	0.3	0.8	0.80	0.66	0.14	0.3	0.8	0.98	0.92	0.06
0.3	0.9	0.67	0.56	0.12	0.3	0.9	0.83	0.71	0.12	0.3	0.9	0.98	0.95	0.04
0.3	1.0	0.70	0.59	0.11	0.3	1.0	0.85	0.75	0.10	0.3	1.0	0.99	0.96	0.02
0.4	0.1				0.4	0.1				0.4				
0.4	0.2				0.4	0.2				0.4	0.2	0.51	0.04	0.47
0.4	0.3	0.45	0.22	0.23	0.4	0.3	0.54	0.21	0.33	0.4	0.3	0.76	0.18	0.58
0.4	0.4	0.52	0.30	0.22	0.4	0.4	0.64	0.32	0.32	0.4	0.4	0.88	0.41	0.47
0.4	0.5	0.58	0.36	0.21	0.4	0.5	0.71	0.43	0.29	0.4	0.5	0.94	0.63	0.31
0.4	0.6	0.62	0.42	0.20	0.4	0.6	0.77	0.52	0.25	0.4	0.6	0.96	0.78	0.19
0.4	0.7	0.66	0.47	0.19	0.4	0.7	0.81	0.60	0.21	0.4	0.7	0.98	0.87	0.11
0.4	0.8	0.69	0.52	0.17	0.4	0.8	0.84	0.66	0.18	0.4	0.8	0.99	0.92	0.07
0.4	0.9	0.72	0.56	0.16	0.4	0.9	0.87	0.71	0.16	0.4	0.9	0.99	0.95	0.04
0.4	1.0	0.74	0.59	0.15	0.4	1.0	0.89	0.75	0.14	0.4	1.0	0.99	0.96	0.03
0.5	0.1				0.5	0.1				0.5	0.1	0.44	0.00	0.44
0.5	0.2	0.47	0.14	0.33	0.5	0.2	0.55	0.11	0.44	0.5	0.2	0.76	0.04	0.71
0.5	0.3	0.55	0.22	0.32	0.5	0.3	0.66	0.21	0.45	0.5	0.3	0.89	0.18	0.71
0.5	0.4	0.61	0.30	0.31	0.5	0.4	0.74	0.32	0.41	0.5	0.4	0.94	0.41	0.54
0.5	0.5	0.65	0.36	0.29	0.5	0.5	0.79	0.43	0.37	0.5	0.5	0.97	0.63	0.34
0.5	0.6	0.69	0.42	0.27	0.5	0.6	0.83	0.52	0.31	0.5	0.6	0.98	0.78	0.20
0.5	0.7	0.72	0.47	0.25	0.5	0.7	0.86	0.60	0.27	0.5	0.7	0.99	0.87	0.12
0.5	0.8	0.75	0.52	0.23	0.5	0.8	0.89	0.66	0.23	0.5	0.8	0.99	0.92	0.08
0.5	0.9	0.77	0.56	0.21	0.5	0.9	0.90	0.71	0.19	0.5	0.9	1.00	0.95	0.05
0.5	1.0	0.79	0.59	0.20	0.5	1.0	0.92	0.75	0.17	0.5	1.0	1.00	0.96	0.03

Table A2-1 (continued)

$A = 0.25$, $\phi_L = 2$				
π	α	*sTG*	*sTDG*	*diff*
0.6	0.1	0.51	0.06	0.45
0.6	0.2	0.59	0.14	0.45
0.6	0.3	0.65	0.22	0.43
0.6	0.4	0.70	0.30	0.40
0.6	0.5	0.73	0.36	0.37
0.6	0.6	0.76	0.42	0.34
0.6	0.7	0.79	0.47	0.31
0.6	0.8	0.81	0.52	0.29
0.6	0.9	0.82	0.56	0.27
0.6	1.0	0.84	0.59	0.25
0.7	0.1	0.67	0.06	0.60
0.7	0.2	0.72	0.14	0.57
0.7	0.3	0.76	0.22	0.53
0.7	0.4	0.79	0.30	0.49
0.7	0.5	0.81	0.36	0.45
0.7	0.6	0.83	0.42	0.41
0.7	0.7	0.85	0.47	0.38
0.7	0.8	0.86	0.52	0.35
0.7	0.9	0.88	0.56	0.32
0.7	1.0	0.89	0.59	0.29
0.8	0.1	0.81	0.06	0.75
0.8	0.2	0.84	0.14	0.69
0.8	0.3	0.86	0.22	0.63
0.8	0.4	0.88	0.30	0.58
0.8	0.5	0.89	0.36	0.53
0.8	0.6	0.90	0.42	0.48
0.8	0.7	0.91	0.47	0.44
0.8	0.8	0.92	0.52	0.40
0.8	0.9	0.93	0.56	0.37
0.8	1.0	0.93	0.59	0.34
0.9	0.1	0.93	0.06	0.86
0.9	0.2	0.94	0.14	0.79
0.9	0.3	0.95	0.22	0.72
0.9	0.4	0.95	0.30	0.65
0.9	0.5	0.96	0.36	0.59
0.9	0.6	0.96	0.42	0.54
0.9	0.7	0.97	0.47	0.49
0.9	0.8	0.97	0.52	0.45
0.9	0.9	0.97	0.56	0.41
0.9	1.0	0.97	0.59	0.38

$A = 0.5$, $\phi_L = 2$				
π	α	*sTG*	*sTDG*	*diff*
0.6	0.1	0.59	0.03	0.56
0.6	0.2	0.71	0.11	0.60
0.6	0.3	0.78	0.21	0.57
0.6	0.4	0.83	0.32	0.51
0.6	0.5	0.87	0.43	0.44
0.6	0.6	0.89	0.52	0.37
0.6	0.7	0.91	0.60	0.31
0.6	0.8	0.93	0.66	0.27
0.6	0.9	0.94	0.71	0.23
0.6	1.0	0.95	0.75	0.20
0.7	0.1	0.78	0.03	0.75
0.7	0.2	0.84	0.11	0.73
0.7	0.3	0.88	0.21	0.67
0.7	0.4	0.91	0.32	0.58
0.7	0.5	0.92	0.43	0.50
0.7	0.6	0.94	0.52	0.42
0.7	0.7	0.95	0.60	0.35
0.7	0.8	0.96	0.66	0.30
0.7	0.9	0.96	0.71	0.25
0.7	1.0	0.97	0.75	0.22
0.8	0.1	0.91	0.03	0.88
0.8	0.2	0.93	0.11	0.83
0.8	0.3	0.95	0.21	0.74
0.8	0.4	0.96	0.32	0.64
0.8	0.5	0.97	0.43	0.54
0.8	0.6	0.97	0.52	0.45
0.8	0.7	0.98	0.60	0.38
0.8	0.8	0.98	0.66	0.32
0.8	0.9	0.98	0.71	0.27
0.8	1.0	0.99	0.75	0.24
0.9	0.1	0.98	0.03	0.95
0.9	0.2	0.99	0.11	0.88
0.9	0.3	0.99	0.21	0.78
0.9	0.4	0.99	0.32	0.67
0.9	0.5	0.99	0.43	0.56
0.9	0.6	0.99	0.52	0.47
0.9	0.7	1.00	0.60	0.40
0.9	0.8	1.00	0.66	0.34
0.9	0.9	1.00	0.71	0.29
0.9	1.0	1.00	0.75	0.25

$A = 0.75$, $\phi_L = 2$				
π	α	*sTG*	*sTDG*	*diff*
0.6	0.1	0.78	0.00	0.78
0.6	0.2	0.91	0.04	0.87
0.6	0.3	0.96	0.18	0.78
0.6	0.4	0.98	0.41	0.57
0.6	0.5	0.99	0.63	0.36
0.6	0.6	0.99	0.78	0.22
0.6	0.7	1.00	0.87	0.13
0.6	0.8	1.00	0.92	0.08
0.6	0.9	1.00	0.95	0.05
0.6	1.0	1.00	0.96	0.03
0.7	0.1	0.95	0.00	0.94
0.7	0.2	0.98	0.04	0.94
0.7	0.3	0.99	0.18	0.81
0.7	0.4	0.99	0.41	0.59
0.7	0.5	1.00	0.63	0.37
0.7	0.6	1.00	0.78	0.22
0.7	0.7	1.00	0.87	0.13
0.7	0.8	1.00	0.92	0.08
0.7	0.9	1.00	0.95	0.05
0.7	1.0	1.00	0.96	0.04
0.8	0.1	0.99	0.00	0.99
0.8	0.2	1.00	0.04	0.96
0.8	0.3	1.00	0.18	0.82
0.8	0.4	1.00	0.41	0.59
0.8	0.5	1.00	0.63	0.37
0.8	0.6	1.00	0.78	0.22
0.8	0.7	1.00	0.87	0.13
0.8	0.8	1.00	0.92	0.08
0.8	0.9	1.00	0.95	0.05
0.8	1.0	1.00	0.96	0.04
0.9	0.1	1.00	0.00	1.00
0.9	0.2	1.00	0.04	0.96
0.9	0.3	1.00	0.18	0.82
0.9	0.4	1.00	0.41	0.59
0.9	0.5	1.00	0.63	0.37
0.9	0.6	1.00	0.78	0.22
0.9	0.7	1.00	0.87	0.13
0.9	0.8	1.00	0.92	0.08
0.9	0.9	1.00	0.95	0.05
0.9	1.0	1.00	0.96	0.04

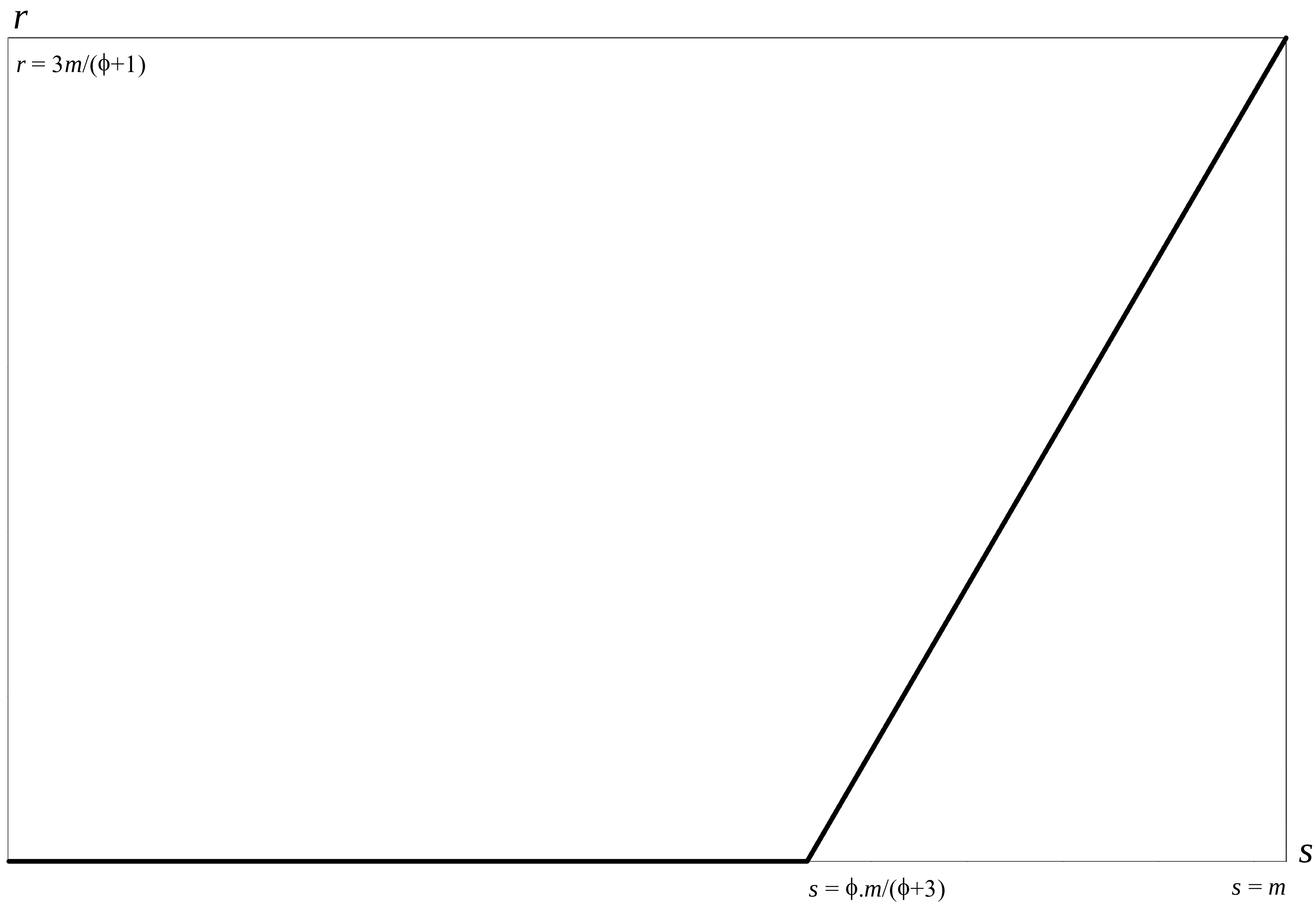

Fig. A2-1 Amount returned in the Trust Game (*r*)

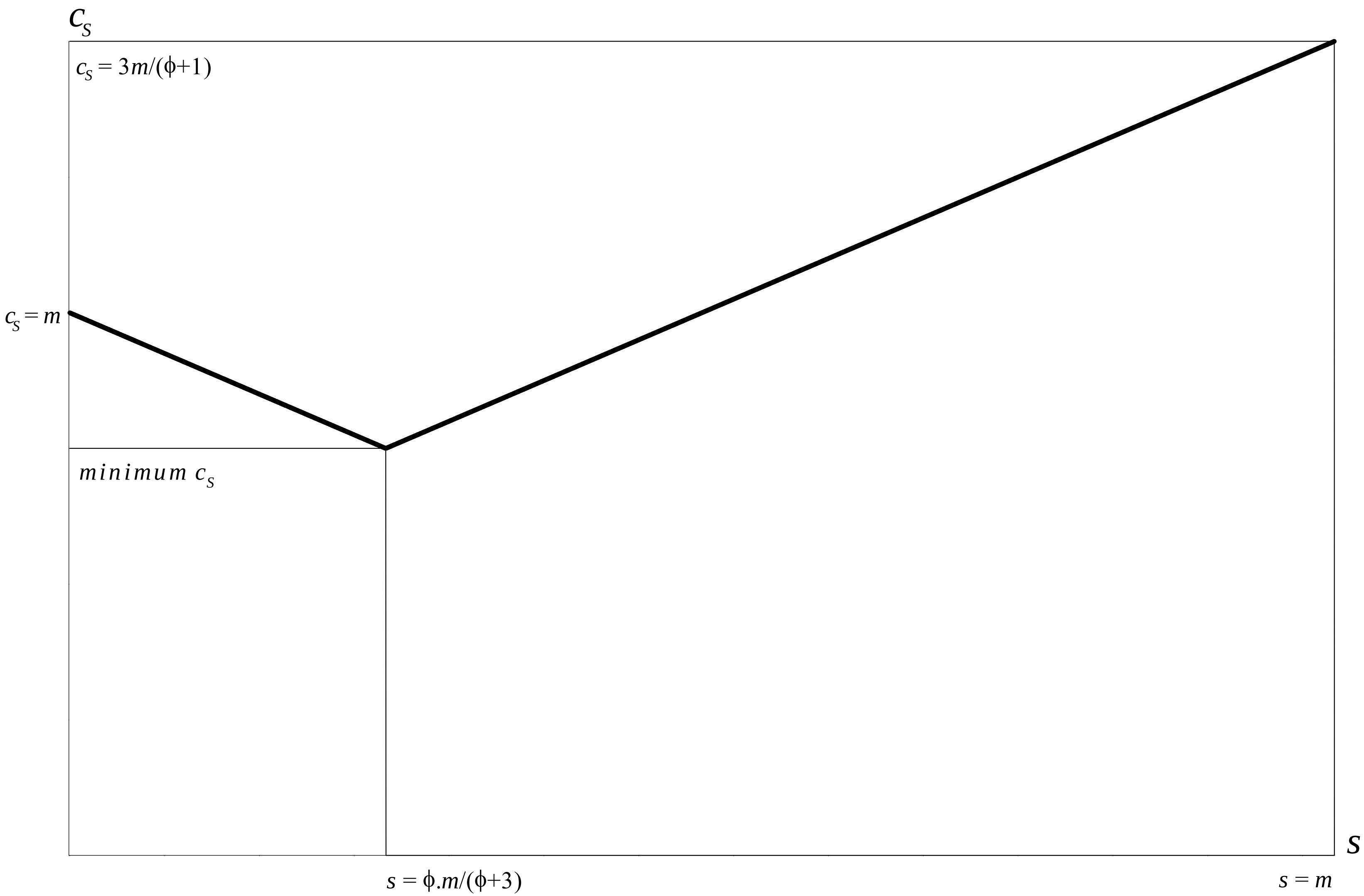

Fig. A2-2 Amount accruing to the Sender in the Trust Game (C_S) when $\phi < 2$

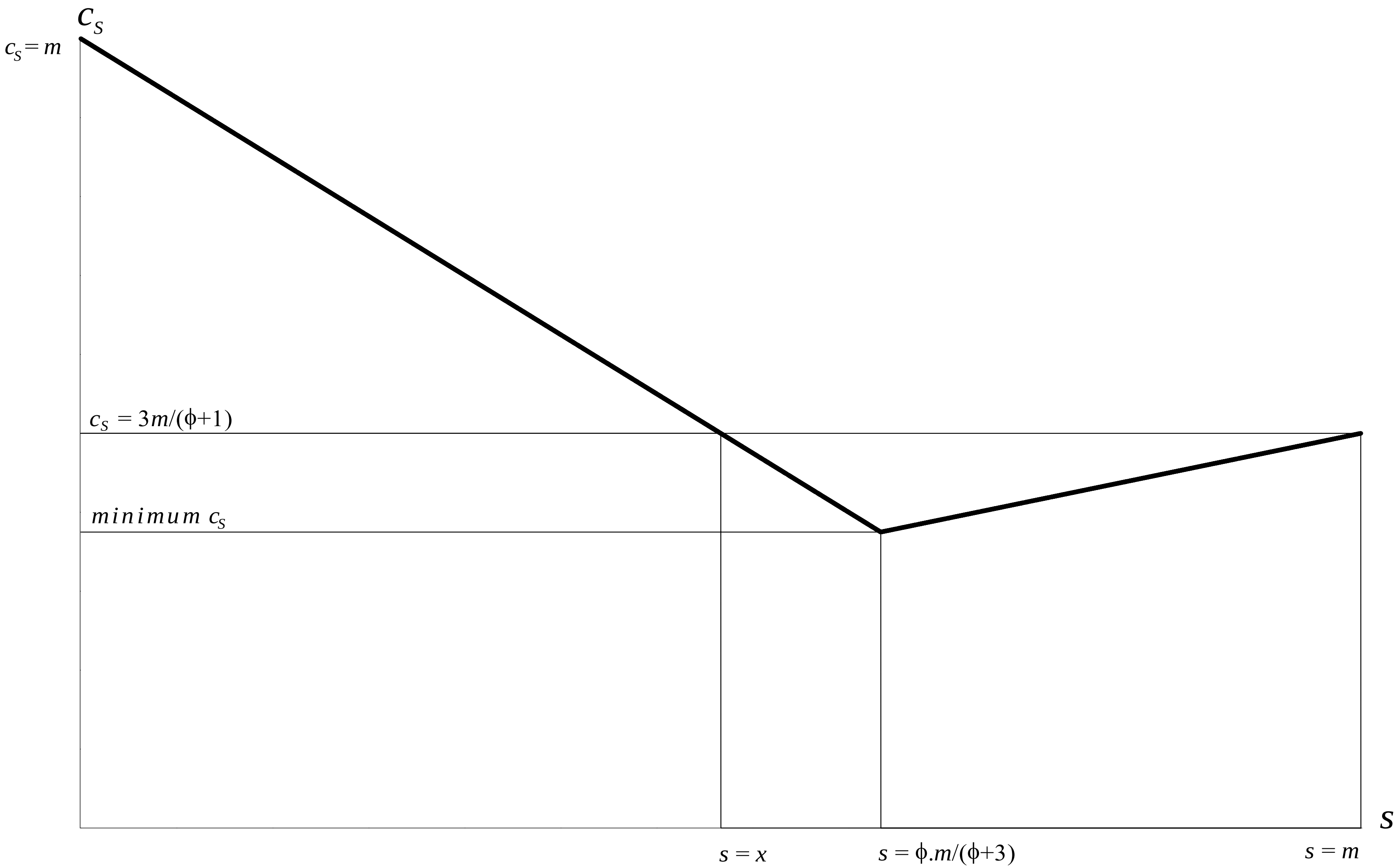

Fig. A2-3 Amount accruing to the Sender in the Trust Game (C_S) when $\phi > 2$