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INCENTIVISING TRUST

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Abstract:

We argue that trust can be incentivised by measures which increase the ability of trusters to protect themselves against risk. We work within the framework originally established by Berg, Dickhaut and McCabe (1995) in which trust is measured experimentally as the ability to generate reciprocity in response to an initial offer of money within a two-person game. An incentive is conveyed both by means of variations in the multiplier applied to the first player's initial offer and by giving the first player the opportunity to insure themselves against the possibility that the second player will fail to reciprocate their initial offer. Measured trust is strongly responsive to both these incentives. Thus third parties have the ability to influence the outcome of the game, not only, as in the analysis of Charness *et al* (2008), by punishing failure to reciprocate and rewarding 'good' initial offers, but also by offering protection which strengthens the first player's risk efficacy, or ratio of assets to risk.

Key words: Experimental economics; Game theory; Risk; Reciprocity

JEL codes: A13; C70; C73; D81;

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1. Introduction

There is now a large literature attesting to the importance of social capital, and specifically of interpersonal trust, in determining the level of economic efficiency and economic development. Following Putnam's demonstration (1995) of the importance of social networks in determining relative rates of development in northern and southern Italy, Knack and Keefer (1997) and Whiteley (2000) have demonstrated statistically that indices of trust are significantly correlated with inter-country variations in economic growth, and La Porta *et al.* (1997) have shown that trust is positively associated with judicial efficiency and the absence of corruption. As the literature has developed, so a range of alternative measures of trust have evolved. The original practice of assessing trust by means of attitudinal questions (such as the World Values Survey's 'Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?') has been supplemented by more precise and easier-to-interpret experimental methods, which have been used to measure trust and its correlates in environments as diverse as Zimbabwean resettlement schemes (Barr 2003), Ugandan villages (Mosley and Verschoor 2005) and the Harvard first-year economics classroom (Glaeser *et al.* 2000). From these experimental studies have come a range of findings on the correlates of trust, which suggest, in particular, that trust levels tend to be higher amongst the better-off, the more educated, older people, and those in denser social networks.

The big gap which remains in all of this is the question of how trust-relationships are made and broken. Even if we know that richer and more educated individuals and societies trust one another more than the poorer and less educated, we do not know why, nor do we know a great deal about the processes by which distrust can be turned into trust, either in the political or in the interpersonal sphere. One interesting aspect of this is the role, if any, of market processes in incentivising trust. For whereas markets exist for most factors of production which are valuable in the development process, such as labour, physical capital and human capital in most of its forms, trust, scarce resource though it is, is classically a commodity which cannot be bought with money. What is still more interesting is that, on the rather casual evidence which is available, the application of standard *non-market* methods for increasing the degree of public trust in a service – such as the increasingly tough audit procedures being used for 'quality assurance' in health and education – often turns out not to increase the degree of trust which the public profess in that service (O'Neill, 2002). The question of what actually will motivate trust, and indeed what will demotivate it, is therefore germane. In this paper we tackle this question by comparative experimental analysis of the determinants of trust and of trust-building processes, both between separated individuals and within groups.

Our point of departure is that by trusting behaviour we increase our vulnerability to the actions of others; that is, we expose ourselves to an increased risk that others will exploit us, in the hope of deriving benefit from the possibility

that they will do the opposite and behave in a mutually equitable manner. Thus, a situation in which trust between two individuals does not exist because of mutual fears about possible exploitation by others may be replaced by a situation in which those fears are discounted sufficiently for a trusting interchange to occur. The idea which we explore here is that one element in distrust can be removed by the discovery, or the deliberate making available, of evidence which reduces the costs of trusting for the truster. The literature on this point (eg Barr, Dickhaut and McCabe 1995, Glaeser *et al.* 2000, Barr 2003) treats trust-increasing evidence as coming from the truster's past 'social history', that is her personal background and her experience of other people including the trustee. Our main thesis in this paper is that trusting behaviour may derive from other sources which do not relate to evidence from the past. In particular, trust may be induced because the trustee provides a pledge of future good behaviour which is believed, or because she or a third party provides a material incentive which reduces the costs of trusting for the truster. We call trust induced by this means *incentivised trust*. Incentivised trust is trust which derives from the making available of evidence which reduces the truster's risk efficacy, or the reserves which the truster has at her disposal to cope with breach of trust, by contrast with *affective trust* which does not depend on evidence of any kind¹ but rather on instinct or emotion. Examples of incentivised trust may be given from a number of contexts: guarantees given to consumers to refund the purchase money on defective goods encourage uncertain consumers into the market, and peer-monitoring arrangements act as bona-fides to encourage uncertain lenders to lend even to those without collateral.

2. Existing literature and hypotheses

Much of the experimental literature on trust consists of variations on the classic two-person 'reciprocity game' of Berg, Dickhaut and McCabe ('BDM')(1995)². In this game, the first player, player A, is handed an initial amount of money, average \$10, of which she can allocate any proportion to a player B whom she cannot see or contact. This amount is then tripled by the experimenter, playing the role of banker, to give player B an incentive to invest in her, and player B then decides how much of this tripled amount to give back. Later variations on this model, both in the form of computer simulations (Anderhub *et al* 2002; Cox 2004) and empirical experiments (Glaeser 2003; Charness *et al* 2008; Cochard *et al* 2004), have repeated the basic two-shot

¹ The concept of affective trust is taken from Faulkner (2008). Faulkner contrasts between *affective* trust, which is trust in which the truster feels betrayed if her expectations of the trustee's behaviour are not met, and *predictive* trust, in which the decision to trust is based on objective evidence concerning the likelihood that those expectations will be met. Our concept of incentivised trust is very close to Faulkner's predictive trust, in the sense that the decision to place this form of trust in another person is based on material rather than affective considerations. Our concept of incentivised trust adds the idea that trust can be based on pledges or indications of good behaviour, or actual insurances against trust being betrayed.

² For reviews of results from the BDM game see Barr (2003) and Mosley and Verschoor (2005)

BDM game one or more times, and in some cases revealed players' identities to one another, with a view to increasing the amount of information available to trusters as they decide how much trust to give to the trustee. An important further step forward is taken by Charness *et al* (2008), who introduce into the game a third party empowered to punish a responder who has been excessively selfish, which is one way of incentivising trust. They find that these penalties have a strong and significant effect on the amounts offered and returned.

We develop the approach of Charness *et al* (2008), allowing the experimenter, or third party, to offer not only penalties for those who do not reciprocate but rewards for those who do. We do this in two ways, first by varying the multiple by which player A's initial offer is multiplied as it reaches player B, and second by offering player A insurance against the possibility that her initial offer will not be reciprocated. Both of these incentives increase risk efficacy – protection against the possibility of trust not being reciprocated – and help the first mover, player A, cultivate a reputation for being trustworthy.

3. Experimental design and data

As in Glaeser *et al.* (2003) we use a combination of survey and experimental methods. In our experiments, we replicate the original 'reciprocity game' of Berg, Dickhaut and McCabe (1995), varied in three ways. First, we use an expanded version of the pre-survey to elicit information about the causes of creation or erosion of trust. Second, we vary the multiplier for reciprocal 'trusting' behaviour: an equal number of Player B respondents received double, triple and four times the original Player A offer. And third, we incentivise trusting behaviour by introducing an opportunity for player A to insure against losses.

We conducted 90 investment games in Sheffield and Glasgow in December 2005 and February 2006. Three hundred and fifty undergraduate and postgraduate students in the departments of economics at the universities of Sheffield and Glasgow were emailed to invite them to take part in the experiment. Those students who indicated that they would like to participate in the experiments were provided with a pre-game survey questionnaire to complete (*see Appendix*) which used as point of departure that administered by Glaeser *et al* (2000). The questions asked included typical personal and family background characteristics such as age, ethnicity, parental education and income (captured as a one-zero variable by inquiring whether the student had taken the maximum available student loan). In addition, we wished to assess the individual's level of altruism, personal social capital, and political attitudes, captured through questions on immigration levels and capital punishment. Finally, we included a question from the World Values Survey standardly used to measure trust scores on a cross-sectional basis:

‘Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people’?

In total 180 students responded to the questionnaire, a response rate of just over fifty percent. This enabled us to play 90 games, 54 games at Sheffield and 36 at Glasgow, using in each case a double-blind procedure similar to that employed by Berg *et al* (1995) and Cochard *et al* (2004). Nine of these games were single-shot games (one offer from player A, and one response from player B); in the remaining 81 cases, this basic game was repeated, with the opportunity for player A to purchase insurance against lack of reciprocity being offered in 35 of these cases. This insurance offer was made in the form:

Do you wish to consider taking out insurance, to cover the possibility that you may not receive from player B as much as you offered?

If you pay a premium of £1 you will get back the full amount you offered minus the premium should player B not return the full amount of your offer. If you pay a premium of 50p you will get back half of the amount you offered, minus the premium, if player B returns less than the amount you offered.

Individuals who completed the survey questionnaire were invited to take part in the experiment. For each game our subjects were randomly selected as player A and player B and seated in separate rooms. No players knew the identity of the person with whom they were playing: only the experimenter and the monitor were aware of this as they passed the offers between each player. Each player received an initial endowment of £5, and the amount given by player A to player B was multiplied by a factor of either 2, 3 or 4, in order to vary the incentive to trust. The ratio of the amount given to player B by player A to his/her initial endowment was recorded. Similarly the amount returned by player B to player A was recorded and the ratio of the amount given to the amount available to give was calculated. In round 2 of the repeated games both players received a second amount of £5 which was added to their then current balance and the game play was repeated. In the insurance game player A was offered, in both rounds, the opportunity to insure against the possibility of being ‘exploited’ by player B – i.e. having his offer not reciprocated. This insurance took the form of an insurance premium of either £1 or 50p to cover all or half the amount ‘lost to exploitation’, as per the rubric above³. We focus our attention on analysis of our repeated games in this paper and especially the behaviour of player A when he faces the opportunity to insure against losses, for the main reason stated by Cox (2004 p262) that “...the single-game experimental designs used to generate the data in these experiments do not discriminate between actions motivated by trust or reciprocity ...” Table 1 below shows summary statistics for our single game and repeated games.

³ We do not concern ourselves with the strict definition of fair and unfair insurance in this paper. We are more concerned with the opportunity player A has to insure against losses.

Table 1: Summary statistics for all games.

	Repeated games N=78	Single game N=9
Final balance player A (£)	14.30	8.36
Final balance player B (£)	18.79	14.22
Final balance joint (£)	33.10	22.58
Player A: ratio of initial offer to initial endowment	0.77	0.72
Player B: ratio of first-round return to first-round endowment (after multiplier applied)	0.44	0.29
Player A: ratio of second-round offer to second-round endowment	0.40	-
Player B: ratio of second-round offer to second-round endowment	0.31	-
Proportion male	0.63	0.67
Proportion on maximum loan	0.07	0
Proportion postgraduate	0.56	0.44
World Values Survey trust measure ⁴	3.05	2.89
% who regularly vote	26	33

4. Results

Consistent with the findings of other investigations (Cochard *et al* 2004), we see from the summary statistics shown in table 1 that the ratio of the amount offered by player A and that returned by player B is greater in the repeated game than in the single game. Table 2 shows the mean statistics for all our games separately. Our figures reveal similar final balances for both individuals, separately and jointly between the non-insurance game and the insurance game where player A did not take up the opportunity to insure. In all our games, we find that in the first round of play the ratio of the offer made to the amount available to offer made by player A is greater than the ratio in the second round of play, which can be explained in terms of a reputation effect: players learn through the rounds to do as they expect to be done by. In addition, in the first round of play the ratio of the return made by player B to the amount available to offer is always

⁴ This measures answers to the question:

‘Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?’ measured on a five point Likert scale.

greater than the ratio in the second round of play, which is explained by the reciprocity hypothesis where reciprocity is shown initially by player B in an effort to demonstrate reciprocity and to entice player A to offer a high amount in the subsequent period. The final return made by player B does not need to indicate trust and player B may be opportunistic in the end game, a result found by others (Anderhub *et al* 2002; Cochard *et al* 2004).

Table 2: Mean statistics for repeated games with and without insurance

	No insurance	Insurance game	
	N = 46	Not taken N= 18	Insurance taken N= 17
Final balance player 1	13.30	13.11	17.34
Final balance player 2	18.33	17.33	20.18
Final balance joint	31.63	30.44	37.51
Ratio 1 player A offer 1	0.77	0.70	0.80
Ratio 2 player B return 1	0.43	0.39	0.51
Ratio 3 player A offer 2	0.38	0.37	0.40
Ratio 4 player B return 2	0.33	0.29	0.33

Mean of means taking multiplication factor of offer into account

In this paper we are particularly interested in how player A behaves, and in how she responds to incentives which enable her to increase her risk efficacy and protect herself against potential exploitation. Table 3 reports the difference in player A's offer in respect of each round according to the multiplication factor to which the reward is subject. A clear pattern is observable: whilst the ratio of the second offer is always below that of the first offer, it clearly increases with the level of reward. Thus it appears that trusting behaviour is not a constant, but is affected by the level of payoff. If the player can insure against losses he will not be worried about losses and will try to maximise the amount that may be returned to him. We suggest that this demonstrates a strategy of attempting to maximise one's own payoff: the higher offer made by player A signals trust in, and a sense of fair play towards, player B but is conditioned and incentivised by the fact that she is insured. As player A is insured why then does she not give all her possible funds available to player B? This may be because player A is inequality-averse and realises that if player B does not return a positive amount then she will be considerably worse off in relation to the final balance of player B.

Table 3: Player A behaviour when insurance taken, classified by multiplication factor applied to Player A's offer.

	Multiplication factor	Mean proportion
Ratio1 player A offer1	X2	0.70
Ratio3 player A offer2	X2	0.30
Ratio1 player A offer1	X3	0.82
Ratio3 player A offer2	X3	0.48
Ratio1 player A offer1	X4	0.94
Ratio3 player A offer2	X4	0.53

Table 4a and 4b reveal estimates for simple regressions of the log of the final balance of player A and the log of the joint balance for the insurance games in an attempt to understand whether 'reciprocal trust', in the sense of participants' combined final balances, can be seen as incentivised by the level of reward and by the opportunity to insure against losses, controlling for the ratio of amount offered and returned to the amount available at each stage. We build our final specification by adding one variable at a time, which allows us to check the robustness of our estimates. Our results demonstrate that all estimates are indeed robust across specifications.⁵

Table 4a Player A - repeated game with insurance

Dependent variable = Ln Final balance player 1. OLS estimation				
Specification	1	2	3	4
N=35 games	Coefficient (std error)	Coefficient (std error)	Coefficient (std error)	Coefficient (std error)
Level of reward	0.331*** (0.071)	0.231*** (0.063)	0.229*** (0.059)	0.252*** (0.054)
Ratio 1 player A round 1		0.749*** (0.184)	0.727*** (0.171)	0.563*** (0.161)
Ratio 2 player B round 1			0.477** (0.195)	0.323* (0.182)
Ratio 3 player A round 2				0.222 (0.193)
Ratio 4 player B round 2				0.473** (0.195)
Insurance taken by player A				0.161* (0.082)
Constant	1.664*** (0.214)	1.420*** (0.186)	1.226*** (0.190)	1.056*** (0.178)
Adjusted R ²	0.38	0.58	0.64	0.71

***/**/* indicates significance at the 1/5/10 percent level

Interestingly, the first offer ratio and the final return ratio are the most important of our ratios of amount given to amount available to give and are both highly significant, thus lending support to both the reputation hypothesis and the reciprocity hypothesis, with the coefficient higher on the opening offer than the final return.

⁵ Four specifications reported here. A full set of results is available from the authors upon request.

Table 4b Joint final balance - repeated game with insurance

Dependent variable = Ln Joint Final balance. OLS estimation				
Specification	1	2	3	4
N=35 games	Coefficient (std error)	Coefficient (std error)	Coefficient (std error)	Coefficient (std error)
Level of reward	0.418*** (0.075)	0.286*** (0.057)	0.286*** (0.057)	0.291*** (0.054)
Ratio 1 player A round 1		0.984*** (0.165)	0.989*** (0.167)	0.835*** (0.161)
Ratio 2 player B round 1			-0.118 (0.190)	-0.293 (0.183)
Ratio 3 player A round 2				0.343* (0.194)
Ratio 4 player B round 2				0.179** (0.194)
Insurance taken by player A				0.186** (0.083)
Constant	2.205*** (0.226)	1.884*** (0.167)	1.933*** (0.186)	1.838*** (0.179)
Adjusted R ²	0.47	0.74	0.74	0.78

***/**/* indicates significance at the 1/5/10 percent level

We wondered why, given the opportunity to insure, more player A's did not take up this opportunity. We have attempted to identify determinants of taking up insurance, and in particular whether our measures of social capital taken in our pre-game survey could be influential. This was done by running a simple probit model. Table 5 shows the results of our probit model of the probability of taking insurance given that the insurance game was being played. Once again we test the robustness of our estimates by added our covariates one at a time. We find no significant difference between males and females in the probability of insuring. Our correlates of trust, the World Values Survey measure of trust and whether the subject votes are both significant and work in the direction we expected. That is, participation in voting and being more trusting of others both lead to a lower probability of taking up insurance. Thus it appears that voting - an indicator of community-oriented behaviour - leads to a higher probability of trusting behaviour and hence to a lower likelihood of insurance. The World Values Survey trust measure, which has been claimed to be a weak measure of trust with respect to the amount sent by each player in the experimental trust game (Glaeser 2000) performs extremely well in these games as an indicator of whether or not player A will take advantage of an opportunity to insure. The coefficient on this measure is highly significant and also robust across specifications indicating that the more predisposed to trust, in a World Values Survey sense, is player A the less likely she is to insure against losses.

Table 5: Probability of player A taking out insurance

Dependent variable = Probability of taking insurance offer. Probit estimation			
Specification:	1	2	3
N=35	Coefficient (std error)	Coefficient (std error)	Coefficient (std error)
Male	0.265 (0.449)	0.028 (0.512)	0.415 (0.581)
WVS trust		-0.801*** (0.281)	-0.983*** (0.315)
Vote			-1.249* (0.706)
Constant	-0.210 (0.365)	2.273** (0.970)	2.851 (1.083)
Pseudo R ²	0.01	0.24	0.32

***/**/* Indicates significance at the 1/5/10 percent level

5. Conclusion

In this paper we investigate whether trust can be incentivised; more specifically, whether introducing a third party who acts as an insurance agent or a motivator into the traditional BDM investment game can influence the outcome of the game by reducing the exposure to risk faced by the first player in that game. We conducted investment games under experimental conditions within the department of economics at the universities of Sheffield and Glasgow during 2005/2006. Our results indicate that trust can be incentivised, in the sense that first-player offers within the context of a repeated BDM game are significantly larger if they show evidence that the fear of exploitation of their trust has been overcome by material incentives which increase their risk efficacy.

In particular, trust increases with the size of the multiplier offered as a return on the initial investment, and willingness to trust is also higher in cases where a third party offers insurance against the possibility that initial offers will not be reciprocated. Third parties have the ability to influence the outcome of the game, not only, as in the analysis of Charness *et al* (2008), by punishing failure to reciprocate and rewarding 'good' offers, but also by offering protection which strengthens the first player's risk efficacy. Thus, it appears from this evidence that trust varies in relation not only to personal characteristics, which often cannot be altered, but in relation to institutions, which can. On this small-scale experimental evidence, there is an upward-sloping supply curve, in relation not to trust – which indeed cannot be bought – but rather in relation to institutions which protect the truster's risk efficacy, or defences against exploitation. These findings appear tempting but are urgently in need of further robustness-testing against a broader sample of respondents.

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Appendix A. Draft questionnaire .

Name.....

Email.....

Note: these personal details are for our reference only and will not be passed on to anyone else

There are three parts to the questionnaire, concerned with *personal background, attitudes and experience*. There is space for you to add any material you wish by way of clarification.

A. Personal background

1. Male/Female.....

2. Neighbourhood in which you live
(please just give the last two lines of your address e.g. 'Bearsden, Glasgow' or 'Beaminster, Dorset')

.....
.....

3. Are you aged 25 or over? Yes/No

4. Father's occupation

.....

5. Mother's occupation.....

6. Father's educational level (please circle highest qualification)

Doctorate/Master's degree/First degree (BA or BSc)/A levels/GCSEs/No GCSEs

7. Mother's educational level (please circle highest qualification)

Doctorate/Master's degree/First degree (BA or BSc)/A levels/GCSE/No GCSEs

8. Ethnicity (please circle or write in whichever applies)

White/Asian (UK national)/Black(UK national)/Other (please specify).....

9. During your secondary school education, did you live at home with both parents? Yes..... No.....

10. While you were at secondary school, did you often feel your family had to struggle to maintain a reasonable standard of living?

1 Always	2 Often	3 Sometimes	4 Very occasionally	5 Never
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11. Describe the type of degree you are taking at Sheffield (tick one):

BA Economics single honours.....

BSc Economics single honours.....

BA Business Studies single honours.....

BA Economics with () combined honours
[please fill in other subject of dual degree].....

MA in.....

Other degree course (please specify).....

12. What influenced your choice of degree programme?

(if any of these factors relevant, please fill in boxes as 1, 2, 3 etc. to indicate the order in which they influenced you)

Love of the subject

Potential usefulness of the subject

Advice from school

Advice from university staff

Advice from parents

Advice from students taking the course

Advice from students who have finished the course

13. OVERSEAS POSTGRADS PLEASE IGNORE Does your student loan exceed the statutory minimum (currently £4000/year? Yes/no

B. Personal and political attitudes

Please say whether you *agree strongly* or *disagree strongly* with the following statements, entering your feelings on the five-point scale:

14. I feel that the Government needs to take additional measures to restrict the level of immigration into this country

<i>Strongly agree</i>	<i>Agree</i>	<i>Neither agree nor disagree</i>	<i>Disagree</i>	<i>Strongly disagree</i>
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15. I feel that the Government needs to spend more on health and education and less on other purposes

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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16. I feel that the Government needs to spend more on law, order and policing and less on other purposes

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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17. I feel that the Government needs to spend more on overseas aid in support of developing countries

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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18. I believe that the level of social security benefits should be increased

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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19. I believe that the death penalty should be restored

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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20. If applicable (OVERSEAS POSTGRADS PLEASE IGNORE), please say for whom you cast your vote at the last election (May 2005)
Please circle or write in for whom you voted

Labour	Liberal Democrat	Conservative	Other party (please write in)	Eligible but did not vote <i>Do not write in this box if you were not qualified to vote (eg you were under 18)</i>
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21. Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?

(Please enter your feelings on 5-point scale)

1 Can't be too careful	2	3	4	5 Most people can be trusted
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22. Suppose that you experience a sudden financial shock – for example your book bills are much higher than expected, or you are involved in a car accident for which you have to pay the excess. Setting aside any support from your family, do you expect your friends and fellow students to help share the shock with you or not?

(Please enter your feelings on 5-point scale)

1 None would help	2	3 Some would help	4	5 All or nearly all would help
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23. What career do you expect to follow after graduation?

.....

24. When you graduate do you expect your salary to be:

1 Under £10,000 per annum	2 £10,000-£15,000 per annum	3 £15000-£25000 per annum	4 £25000-£35000 per annum	5 More than £35000 per annum
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25. In 2013 (ie five years after graduation) do you expect your income level to be:

1 Under £15,000 per annum	2 £15,000- £25,000 per annum	3 £25000- £35000 per annum	4 £35000- £50000 per annum	5 More than £50000 per annum
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26. In 2018 (ie ten years after graduation) do you expect your income level to be:

1 Under £20,000 per annum	2 £20,000- £35,000 per annum	3 £35000- £50000 per annum	4 £50000- £70000 per annum	5 More than £70000 per annum
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27. How certain do you feel of achieving the income you mentioned under 22?
(please tick **one** of the following)

I am very confident of achieving that figure.....

I am reasonably confident of achieving that figure.....

I am not at all certain, it is just my best guess.....

Any additional
observations.....

.....
.....

C. Experience and 'social history'

28. Have you taken part in activities on behalf of a charity organisation (fund-raising, voluntary work, distributing publicity etc.)?

A 'charity organisation' is any non-profit, non-waged activity (community development, medical, overseas development, animal welfare, educational, etc.)

If yes please give the name of the organisation.....

And describe the activities.....

How many hours per week do you spend on these
activities?.....

29. Do you belong to any clubs or affinity groups, outside of school and university
(church choirs, sports clubs, etc...) Yes /no

If yes, please describe
which.....

30. Have you joined any clubs or affinity groups within the University? Yes/no
If yes, please describe which.....

31. Do you have friends from other ethnic groups?..... Yes/No

32. Do you have friends from other countries, outside the UK?..... Yes/No

33. How often do you leave your door unlocked?

Very often	Often	Sometimes	Rarely	Never
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34. How often do you lend money to friends?

More than once a week	About once a week	About once a month	Once a year or less	Never
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35. How often do you lend personal possessions (CDs, clothes, bicycle etc) to friends?

More than once a week	About once a week	About once a month	Once a year or less	Never
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36. In general, do you see yourself as a trusting person?.....
.....
.....

37. Are you able to say why?.....
.....
.....
.....
.....

Appendix B. Experimental procedure

1: All participants convene in the 'base room'. The overall procedure of the game is outlined i.e. the purpose for our experiments, how the game is to be played, how participants will be rewarded etc...

2: Participants are divided into Player As and Player Bs. The experimenter assigns them into pairs, but the identity of these pairs is known only to the experimenter and monitors.

3: Players A and B each go to their assigned rooms. A 'routine', and a corresponding recording sheet is assigned by the experimenter to each *pair*.

4: One monitor works with the Player As. First the monitor assesses, for each player A, their level of risk aversion. The following hypothetical choice is offered: a certainty of £5 versus a 50% chance of £10 or nothing

If the player chooses the certainty, s/he is asked: 'How much of the certain income would you be prepared to give up rather than face the risky bet?'

If the player chooses the gamble, s/he is asked: 'How much more should the certain income be for you to choose the certain income rather than the bet?'

The resulting measure of risk-aversion is recorded on recording sheet 1.

5: Next the monitor lays out £5 on the table in coins and asks player A to offer any desired part of this to another player. The identity of the other player is not specified: Player A is only told that his/her 'partner' is a student within the University, that the amount invested will be doubled/ tripled/quadrupled, and that player B is free to return as much or as little as s/he desires. Each player A is asked how much s/he expects to get back.

6: The amount offered, once multiplied, is then 'transferred' to Player B. The game is repeated once.

7: Each round player A's offer and player B's return is recorded.

8: A second monitor records Player B's return. Each Player B receives an initial stake of £5. In addition s/he receives the multiplied offer from Player A. S/he decides how much of this offer to return to Player A.

9: At the conclusion of the game each player is informed of their 'final balance' and they are presented with a provisional IOU corresponding to this balance.

10: At the conclusion of all our games

- (i) the IOU is completed
- (ii) bank transfer form is handed out
- (iii) completed questionnaire is requested, if appropriate (payment of bank transfer cannot be made until this is handed over).

11: In the insurance game we repeat the stages above but at stage five player A's are given the opportunity to take out insurance. They are asked "Do you wish to consider taking out insurance, to cover the possibility that you may not receive from player B as much as you offered? If you pay a premium of £1 you will get back the full amount you offered minus the premium should player B not return the full amount of your offer. If you pay a premium of 50p you will get back half of the amount you offered, minus the premium, if player B returns less than the amount you offered." Player B is aware that they are participating in an insurance game but do not know whether player A has taken advantage of the option to insure.