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LSE GROUPS takes place during the final fortnight of the LSE summer term. Undergraduate students are placed in small groups; these are cross-year, interdisciplinary, and group members do not know one another in advance. Each group must then devise its own research question, and carry out every stage of a small-scale research project in less than two weeks.

LSE GROUPS is part of the LSE commitment to students learning through enquiry, and developing the skills for knowledge creation. The overall theme of LSE GROUPS 2023 was *Connections*.

This paper was submitted on the final Thursday afternoon of the project.

Students then presented their work at a conference, on the closing Friday.

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# Trust Nobody: To what extent does interpersonal trust correlate to the interest in and action of Cryptocurrency investment?

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# Abstract

Past literature postulates that interpersonal trust is a determinant of cryptocurrency investment. Given the nascent nature of cryptocurrency, there has been little research on the reciprocal relationship of the impact of cryptocurrency on interpersonal trust levels, and trust resilience. Using a modified trust game as a behavioural measure of trust and trust resilience, our multiple linear regression finds no statistically significant correlation between cryptocurrency investment and interest with both measures. Nevertheless, our findings show that interpersonal trust levels are the highest for cryptocurrency investors, followed by non-interested non-investors and then interested non-investors. This indicates that interest in investing in cryptocurrency investors exhibited a higher level of trust resilience compared to non-investors. Our paper supplements existing literature on the role interpersonal trust plays in cryptocurrency investment, with broader implications on how social connections underpin, and are therefore intensified by, economic transactions.

Keywords: interpersonal trust, trust resilience, cryptocurrency, investment, altruism, risk aversion

# 1. Introduction

Social connections, and more specifically trust, is central to economic transactions (Fukuyama, 1995). Yet, little attention has been paid to the role of interpersonal trust and trust resilience in new transaction technologies such as cryptocurrencies. Both the rapid proliferation of cryptocurrencies despite numerous controversies (Smith et al. 2023) and well-documented herd behaviour in cryptocurrency markets (Boxer and Thompson, 2020) point to a social mechanism underlying its popularity. Ergo, we focus on the connection between interpersonal trust and cryptocurrency investment in our paper because, unlike traditional transaction technologies, the decentralised nature of cryptocurrencies forefronts the critical role of trust underpinning the network of cryptocurrency users.

While past literature contends that interpersonal trust promotes cryptocurrency investment (Jalan et al. 2023, Gagarina et al. 2019), we seek to advance the scarce research on the impact of cryptocurrency interest and investment on interpersonal trust and trust resilience. We hypothesise that the interest in and action of cryptocurrency investment is associated with different levels of interpersonal trust, as well as trust resilience. To test these hypotheses, we rely on the trust game (hereinafter TG) originating from behavioural economics (Berg et al. 1995) as a measure of trust, through a survey with respondents composed of cryptocurrency investors, interested non-investors, and non-interested non-investors. By running multiple linear regressions of TG decisions against dummy variables for cryptocurrency interest and investment and a set of controls, we expand on existing research covered in our literature review to elucidate the link between interpersonal trust and cryptocurrency.

# 2. Literature Review

Interpersonal trust is characterised as the "voluntary transfer of a good or favour to someone else, with future reciprocation expected but not guaranteed" (Gunnthorsdottir et al. 2002: 50). Trust plays a central role in economic exchanges (Arrow, 1972; Williamson, 1993). For instance, research has found that interpersonal trust facilitates economic growth (Knack & Keefer, 1997), international trade (Guiso et al. 2009), financial development (Guiso et al., 2004) and financial inclusion (Xu, 2020). In financial investments, interpersonal trust determines the level of market participation by influencing an individual's perceived risk of being cheated in an investment. Using a sample of 1,943 households, Guiso et al. (2008) found that the perceived risk of being cheated decreased the return on the investment, suggesting that less trusting individuals are less likely to buy stock as participation becomes less attractive. Similarly, viewing trust in conjunction with sociability, Georgarakos & Pasini (2009) found that more sociable households living in areas with higher trust are more likely to invest in stocks in European countries. Although the two studies focused only on the household level and failed to control for the effect of confounding variables of trust (e.g. race and marital status), they provide a consistency that higher interpersonal trust leads to more monetary investment in the financial market.

Nonetheless, current research struggles to capture a holistic relationship between interpersonal trust and financial investment, as few studies have investigated how a financial investment might directly influence interpersonal trust. From a social constructivist angle, trust emerges from and maintains itself within the interactions between people (Berger & Luckmann, 1966; Weber & Carter, 2003). It is, thus, surprising that little attention was drawn to how financial investment, as a catalyst of social interaction, influences interpersonal trust. For instance, investors spend their leisure time discussing investments and the market with their friends, family and neighbours (Shiller, 1989; Becker, 1991; Hong et al., 2004). In addition to reinforcing interactions in existing connections, financial investments foster social interactions by creating new social networks, as demonstrated by the emergence of social sites specifically catered to traders and investors, such as Xueqiu (Zhang et al. 2018), and Stocktwits (Cookson & Niessner, 2019), which have attracted millions of users. Repeated social interactions deepen interpersonal trust (Glanville et al., 2013; Sutcliffe et al., 2012), suggesting that financial investment has great potential to increase interpersonal trust. However, there remains a lack of studies to evidence how financial investment influences levels of interpersonal trust.

As a new and distinct class of asset, cryptocurrency has drawn significant attention from the literature and the market (Corbet et al. 2018). Similar to general financial investment literature, research on the cryptocurrency investment market has established that those positing higher trust tend to be quicker in adopting cryptocurrency investment. For instance, using the World Value Survey and Twitter data, Jalan et al. (2023) found that trust significantly contributes to whether one invests in the cryptocurrency market. This is replicated in the Malaysian market, where Miraz (2021) suggested that interpersonal trust remained a significant contributor to the adoption of cryptocurrency investment after controlling for the effect of multiple variables, such as transaction transparency and expected investment performance. However, similar to the research trend for general investment, there is a lack of study that investigates how cryptocurrency investment may influence levels of interpersonal trust. Conceptually, scholars have hypothesised that the decentralised nature of cryptocurrency can enhance interpersonal trust by establishing self-regulated, direct peer-to-peer transactions and networks without the need for a third party (Tello et al. 2018; Spithoven, 2019; Jalan et al. 2023). Nonetheless, these conceptual hypotheses have not been tested by empirical studies.

Additionally, fewer studies have attempted to measure how cryptocurrency investment may influence trust resilience (i.e., the fluctuation of trust towards others after betrayal), despite its importance in the investment cycle. As stated by Lefebvre et al. (2020), sustainable investment and economic generation from investment require sustainable trust amongst the investor and returner. Studies have shown that fluctuation of trust signified by economic values is a determining factor in whether the investor is willing to sustain their current investment in the future (MaxWell & Levesque, 2014). Thus, in our attempt to view the relationship between cryptocurrency investment and trust holistically, it is essential to also understand whether cryptocurrency investment influences the degree to which one's trust fluctuates after betrayal.

In light of the two research gaps, our study seeks to investigate how cryptocurrency investment influences interpersonal trust. Given the literature reviewed, we hypothesised that:

*H1:* Investment and interest in investment of cryptocurrency leads to changes in interpersonal trust

H2: Investment and interest in investment of cryptocurrency leads to changes in trust resilience

# 3. Method

We conducted an online survey using Qualtrics and distributed it on social media platforms and messaging applications (e.g., LinkedIn, Reddit, Instagram, WhatsApp, WeChat). Due to the limited time-frame of the study, convenience sampling was utilised; posting our survey on cryptocurrency-related online threads and forums allowed us to target cryptocurrency users. Our survey first measured

participants' level of interpersonal trust and trust resilience using a modified TG (see Appendix 1). We then measured the level of control variables, including age, gender, marital status, ethnicity, income level, education level, altruism, and risk aversion level. We debriefed the participants again at the end of the survey and signposted contacts for concerns and support. The procedure and the analysis plan were pre-registered at OSF, accessible at <u>https://osf.io/qa7kj</u>.

### 3.1. Trust Game

We modified the Berg et al. (1995) Investment trust game (TG) as a measurement for interpersonal trust and trust resilience. We particularly adopted the TG as it has been used repetitively to study interpersonal trust and trustworthiness Lim & Masuda (2023). A meta-analysis by Naef and Schupp (2009) found the TG as a robust way to measure interpersonal trust that is not subject to social desirability bias or dependent on the strategy space and stake size.

In the modified TG, we asked the respondents how much they, as Player Z, would give to Player A out of the £100. In the next round of the TG, we tell them that Player A has returned none of the money they sent, and repeat the TG with a new player, Player B. We repeat the game one final time with a new player, Player C, with the information that Player B also returned none of the money they sent. By observing the amount of money they transferred to Player A, we can measure the level of interpersonal trust from the initial game. Subsequently, by repeating the TG, we can measure the effect of cryptocurrency on the level of trust resilience by calculating the difference in the average amount they send in the following rounds to Players B and C.

We modified the TG to increase the convenience of data collection. As shown by Holm & Nystedt (2008), adapting the TG to a survey method with no control of the testing environment has no significant impact on the measured trust level. Adaptation also allowed us to manipulate the amount of money sent back to the participants to measure trust resilience, which the original game lacks control of. Nevertheless, we acknowledge this adaptation may result in the loss of the game's experimental perspective.

Additionally, as criticised by Cox (2004), trust measured through the TG is susceptible to changes in many other individual characteristics, such as risk aversion and altruism. To control for altruism, we used the 9-item self-reported altruism scale and took the sum of the 9 items as an indication of the individual's level of altruism (Manzur & Olavarrienta, 2021). To control for risk aversion, we adapted the scale developed by Hanna & Lindamood (2004), which classed individuals into four distinct categories based on their willingness to take financial risks. To control for the potential ordering effect of the two scales, we randomised the order of the two scales for risk aversion and altruism. We also controlled for other characteristics that have also been found to impact trust levels including age and gender (Greiner and Zednik, 2019; Xi et al. 2020), ethnic group, income level, marital status (Lindström, 2012), education level (Guiso et al., 2000; Jalan et al., 2023).

# 4. Results

To obtain a statistical power of 0.8 in our study, the sample size needed to run a multiple linear regression (with 9 predictors assuming an effect size of 0.1) is 81. We obtained 122 responses from our survey after excluding participants with prior knowledge of the trust game (n = 66).

We did not omit missing values as four of these observations were cryptocurrency users, a sizable proportion of our sample of 23 cryptocurrency users. Instead, we used the R package *missForest* to impute the missing data using a random forest imputation algorithm since it achieved the best overall predictive accuracy for small sample sizes (Mendoza et al., 2023)

	Total	Age	Ge	nder	R	lace	Marita	l Status	Educat	ion	Inco	ome	Risk Av	ersion	Altruism	
		м	Factor	Percentage	Factor	Percentage	Factor	Percentage	Factor	Percentage	Factor	Percentage	Factor	Percentage	м	
Investors	23	35.0	Female	39.13%	Asian	56.52%	Married	47.83%	Undergraduate/ Bachelor	47.83%	£0-£17000	34.78%	Average financial risk	55.74%	25.2	
Interested non-investor	34	32.6	Female	91.18%	Asian	82.35%	Married	41.18%	Undergraduate/ Bachelor	67.65%	£0-£17000	64.71%	Average financial risk	56.25%	24.8	
Non-interested non-investors	65	38.3	Female	72.31%	Asian	61.54%	Married	53.85%	Undergraduate/ Bachelor	50.77%	£0-£17000	46.15%	Average financial risk	42.11%	27.0	

 Table 1

 Demographic statistics for 3 categories of respondents

Table 1 presents the summary statistics of demographics. Detailed summary statistics are included in Appendix 2.

### 4.1 Pre-registered Analysis

To test the hypothesis that interest and investment in cryptocurrency changes interpersonal trust levels (H1), we ran a multiple linear regression of the amount respondents sent to individual A, against dummies for cryptocurrency investment and interest as well as other control variables (Appendix 3.1). We found no significant difference between the amount sent by cryptocurrency investors (Mean = 47.30), interested non-investors (Mean = 40.29), and non-interested non-investors (Mean = 43.55). The regression coefficients of the dummy variables for cryptocurrency interest ( $\beta = -2.65$ , p = 0.70) and investment ( $\beta = 6.26$ , p = 0.44) were not statistically significant at the 95% confidence level (Appendix 4.1). Therefore, we fail to reject the null hypothesis for H1.

Multicollinearity checks did not reveal any multicollinearity problems, and residual plots suggest that OLS assumptions are fulfilled (Appendix 5.1).

To test the hypothesis that interest and investment in cryptocurrency changes interpersonal trust resilience (H2), we ran a linear regression of the difference in the amount sent in each consecutive iteration of the TG (Appendix 3.2, 3.3).

The first regression of the difference in the amount sent in the second TG, as compared to the first, suggests that there is no significant difference between cryptocurrency investors (Mean = -3.91), non-interested investors (Mean = -6.65), and non-interested non-investors (Mean = -7.05). The regression coefficients of the dummy variables for cryptocurrency interest ( $\beta$  = -0.51, p = 0.86) and investment ( $\beta$  = 3.03, p = 0.37) were not statistically significant at the 95% confidence level (Appendix 4.2)

In the second regression, the difference in the amount sent in the third TG, as compared to the second, was also not statistically different between cryptocurrency investors (Mean = -7.00), non-interested investors (Mean = -4.53), and non-interested non-investors (Mean = -2.23). The regression

coefficients of the dummy variables for cryptocurrency interest ( $\beta = -0.18$ , p = 0.96) and investment ( $\beta = -1.16$ , p = 0.79) were not statistically significant at the 95% confidence level.

The Scale-Location plot (Appendix 5.2, 5.3) and the Breusch-Pagan test suggested heteroskedasticity for both regression models, implying mild unsuitability of using linear regression for fitting the relationship between the investor category and trust resilience.

#### Figure 1

Bar plots of the mean amounts in GBP given in the trust game 1, 2, and 3.



Figure 1 presents the mean amount given by the three categories of respondents across the three iterations of the TG.

# 4.2. Interpretation

Our findings suggest that cryptocurrency investors do not have significantly higher levels of trust or trust resilience than non-investors, contrary to past literature that has linked higher levels of interpersonal trust with cryptocurrency investment (Jalan et al. 2023; Miraz, 2021).

Cryptocurrencies are highly volatile digital assets (Corbet et al. 2018); cryptocurrency users have faced massive losses following the Terra/Luna collapse (Cornelli et al., 2023) and the 2022 FTX scandal (Cornelli et al., 2023). Highly volatile cryptocurrency markets thus imply that cryptocurrency users are more susceptible to personal financial losses and financial shocks that undermine trust (Jetter, 2018), and by extension, trust resilience. In turn, this may explain why trust levels and trust resilience are not significantly higher in cryptocurrency investors as compared to non-investors. Jetter (2018) proposes that following financial losses, loss of trust is a defensive response to increased vulnerability as it reduces one's risk of being cheated. Thus, financial losses from cryptocurrency investment are another channel interpersonal trust links to investment in cryptocurrency, which negates the previously proposed positive relationship between interpersonal trust and cryptocurrency.

Our results also show that the difference between non-interested and interested non-investors for both trust measures is not significant. This suggests that interest in cryptocurrency investment may be insufficient to lead to differences in interpersonal trust levels.

Alternatively, the disagreement between our findings and past literature may also be attributable to our methodological limitations, such as the use of a hypothetical scenario, limited power for causal inference, and sampling bias.

# 5. Discussion

### 5.1. Limitations

The trust game was conducted via an online survey rather than in a laboratory setting. Bottom et al. (2006) and Sanfey et al. (2003) showed that interacting with an AI as compared to a human, as well as a lack of financial incentive (Holm & Nystedt, 2008), depresses measured trust. This may have skewed our results.

Next, we were unable to draw causal relationships as our game design did not manipulate cryptocurrency investment. Thus, we cannot ascertain the empirical conclusion on the directionality of the found relationship.

Finally, our samples were subject to sampling bias as there were only 23 cryptocurrency respondents, which limits the robustness of our model. Furthermore, a large proportion of our sample were university students, who have higher trust levels than the general population (Naef and Schupp, 2009).

### 5.2. Implications

Our research adds to the existing literature on interpersonal trust and cryptocurrency investments. In contrast to previous research on the general financial investment market (Guiso et al. 2008; Georgarakos & Pasini, 2009) and cryptocurrency investments (Jalan et al. 2023; Miraz, 2021), we have suggested a more holistic picture of the relationship between interpersonal trust and investments through investigating how participation in cryptocurrency investment correlates with interpersonal trust. Moreover, we have furthered the relationship between investment and trust by providing insights into how investments influence trust resilience. Building upon past literature, we controlled for a broader set of confounding variables, instead of just selectively using specific categories of confounders that were primarily seen in past studies. For instance, Houser (2010) and Cox (2004) only controlled for certain demographic factors. Controlling for more confounders allowed us to draw more robust conclusions, where past studies may have fallen short. Our research also empirically complemented the conceptual discussions on how the decentralised characteristics and peer-to-peer mode of transaction of cryptocurrency might influence interpersonal trust (Tello et al. 2018; Spithoven, 2019; Jalan et al. 2023).

Despite the null findings, our empirical investigation of how cryptocurrency investment influences trust has several policy implications. Firstly, it sheds light on how regulatory policy on cryptocurrency investment may not increase or decrease interpersonal trust of the public or potential investors.

Secondly, it provides justification as to how the promotion of the widening cryptocurrency market may not boost general interpersonal trust amongst the public as a policy tool.

# 6. Conclusion

To conclude, using an online survey on a sample of 122, we investigated how interest and investment in cryptocurrency influence the level of trust and trust resilience. Using multiple linear regression, we found no statistical difference in the level of trust and trust resilience between non-investors, interested but non-investors and investors. Such a result may be attributable to the highly volatile nature of the cryptocurrency investment market or the methodological limitations of our study, such as the use of hypothetical scenarios for TG and sampling biases. In spite of the limitations, we hope that it can provoke interest in further studies to investigate the relationship between financial investment and interpersonal trust more holistically. We hope that future research could explore this correlation on a wider scale, using more time and resources, and provide a more comprehensive, thorough and robust analysis of how financial investment influences interpersonal trust. Additionally, we hope to enlighten policymakers on how regulatory actions on the cryptocurrency market may impact potential investors and public well-being, derived from interpersonal trust.

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# Appendix

### Appendix 1: Online Survey



#### **Default Question Block**

Dear Participant,

Thanks for your interest in this LSE project about cryptocurrency. The following information is part of a consent form to participate in our study. If you agree, please click "I consent" at the end of this page, as an agreement to the statements in the table below.

#### Please only complete this study if you:

- Are using any of the following devices: phone, tablet, laptop, PC.

- Are aged above 18.

- Have not heard and completed the study or the tasks before.

#### What will my involvement be?

This study should take no more than 5–15 minutes, depending on how fast you proceed with the questions. The experiment will include a questionnaire where participants will be required to select one answer to each question from the choices listed below.

**Participation is voluntary**. There are no negative consequences for you if you decide not to take part in this study. If you decide to take part but then later on you change your mind, you can let us know by the 12th of June 2023 - you will not have to give any explanation why.

# What will my information be used for? Will my information be anonymous?

It is for undergraduate research project at The London School of Economics and Political Science (LSE). This study will not collect direct personally traceable information such as names, address and IP address. It will ask you about your age, gender, education level, income level, ethnicity and your investment interest in cryptocurrency for balance checks. Once processed, those personal data will be randomized within the dataset to make sure that no information can be directly traced back to you to retain anonymity. We will keep the data until 2026.

If you agree to take part in the research, please read the following statement and tick "Yes, I consent": 1. I have read this message and had the opportunity to ask questions.

2. I agree to participate in the survey.

3. I understand that my responses will be kept confidential and anonymous and that my personal information will be kept securely and destroyed at the end of the study.

**Point of contact:** Tiffany Tang Email Address: h.t.tang1@lse.ac.uk

Yes, I consent
 No, I do not consent

In this game you are given £100. You are person Z, and there is a person A. You have the option to give none, some or all of the money that you currently have to A.

The amount of money you give to person A gets tripled.

After this exchange, person A has a chance to return to you none, some or all of the amount you gave (after it has been tripled).

How much money would you give to person A?



Now assume that person A has given you £0 back.

**Starting over, you now have £100. You are still person Z, and there is now another person B**. You again have the option to give none, some or all of the amount you currently have to person B.

The amount of money you give to person B gets tripled.

After this exchange, person B has a chance to **return to you none, some or all the amount of money you gave (after it has been tripled).** 

How much amount of money would you like to give to person B?



Now assume that **person B has given you £0 back.** 

Starting over again, you have £100. **You are still the person Z, and there is now another person C.** You again have the option to give none, some or all of the amount of money that you currently have to person C.

The amount of money you give to person C gets tripled.

Person C now has a chance to return to you **none**, **some or** all the amount of money (after it has been tripled).

How much amount of money would you like to give to person C?



Before this study, have you heard of or completed the tasks

	and garnes) in the previous sections:
) Yes	
O NO	
Wha	t is your age?
	, 0
Wha	t is your gender?
Acto	
) Non-	binary / third aender
	Other, please specify
Whic O Asiar O Black O White	h ethnic group do you belong to? n, Asian British, Asian American , Black British, Carribean, African, African American
Whic O Asiar O Black O White O Mixeo	h ethnic group do you belong to? n, Asian British, Asian American , Black British, Carribean, African, African American e d or multiple ethnic groups
Whic O Asiar O Black O White O Mixeo	h ethnic group do you belong to? n, Asian British, Asian American , Black British, Carribean, African, African American e d or multiple ethnic groups Other ethnic group(s), please specify
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Whic Asiar Black White Mixed Mixed Wha Single Marri	h ethnic group do you belong to? A Asian British, Asian American Black British, Carribean, African, African American or multiple ethnic groups Other ethnic group(s), please specify t is your relationship status? e/Not married ed/Common law partner
Whic Asiar Black White Mixec Mixec Wha Single Marri	h ethnic group do you belong to? A Asian British, Asian American Black British, Carribean, African, African American d or multiple ethnic groups Other ethnic group(s), please specify t is your relationship status? e/Not married ed/Common law partner t is your highest level of education?
Whic O Asiar O Black O White O Mixed O Mixed O Single O Marri Wha	h ethnic group do you belong to? A Asian British, Asian American Black British, Carribean, African, African American d or multiple ethnic groups Other ethnic group(s), please specify t is your relationship status? e/Not married ed/Common law partner t is your highest level of education?

- O High school
- $\bigcirc$  Undergraduate/Bachelor
- O Postgraduate/Masters (or above)

#### What is your annual income level?

- O £0-£17000
- O £17001-£32000
- O £32001-£53000
- O £53001 or above

Have you invested in cryptocurrencies?

- O Yes
- ${\ensuremath{\mathsf{O}}}$  No, but interested in investing in the future
- igodot No, and not interested in investing in the future

#### block 1

Which of the statements below comes closest to the amount of financial risk that you are willing to take when you save or make investments?

(The questions below are derived from Hanna and Lindamood, 2004)

- O Substantial financial risks expecting to earn substantial returns
- ${\ensuremath{\bigcirc}}$  Above-average financial risks expecting to earn above-average returns
- O Average financial risks expecting to earn average returns
- O No financial risks

How frequently do you engage in these activities?

(Scale derived from Manzur and Olavarrienta, 2021)

	Never	Rarely	Sometir	mes Frequ	lently	Always	
t la muse adirecto		2	3		4		5
money to a charity	0						
I have donated goods or clothes to a charity	0						
I have done volunteer work for a charity	0						
I have helped carry a stranger's belongings	0						
I have helped an acquaintance to move houses	0						
I have made change for someone I did not know	0						
I have let a neighbour I did not know well borrow an item of some value to me	0						
I have offered to help a disabled or elderly stranger across a street	0						
I have offered my seat to a stranger who was standing	0						

### block 2

How frequently do you engage in these activities?

(Scale derived from Manzur and Olavarrienta, 2021)

	Never	Rarely	Som	etimes F	requently	Always	
	1	2		3	4		5
I have given money to a charity	0						
I have donated goods or clothes to a charity	0						
l have done volunteer work for a charity	0						
I have helped carry a stranger's belongings	0						
I have helped an acquaintance to move houses	0						
I have made change for someone I did not know	0						
I have let a neighbour I did not know well borrow an item of some value to me	0						
I have offered to help a disabled or elderly stranger across a street	0						
I have offered my seat to a stranger who was standing	0						

Which of the statements below comes closest to the amount of financial risk that you are willing to take when you save or make investments?

(The questions below are derived from Hanna and Lindamood, 2004)

O Substantial financial risks expecting to earn substantial returns

- O Above-average financial risks expecting to earn above-average returns
- O Average financial risks expecting to earn average returns
- O No financial risks

#### debrief

#### **Debriefing form**

#### Thank you for your participation in this research study.

For this study, it was important that we withheld some information from you about some aspects of the study. Now that your participation is completed, we will describe the withheld information to you, why it was important and provide you with the opportunity to decide on whether you would like to have your data included in this study.

#### What you should know about this study

This study investigated two questions:

(1) to what extent does interpersonal trust correlate to the interest and action of cryptocurrency investment
(2) to what extent does interpersonal trust resilience correlate to the interest and action of cryptocurrency investment.
To investigate them, you were endowed with £100 and asked how much money you wanted to give to individual A, with the understanding that the amount given would be tripled and individual A had the option to return none, some, or the entire amount. The same game was repeated with individual B, given that A did not return any money to you and then with individual C, given that B did not return any money to you. The primary outcome of this study is to determine the extent of correlation between interpersonal trust and the interest in and action of cryptocurrency investment.

#### If you have questions

The main researchers conducting this study are Cai Hui Lien, Gracie Coulwill, Hei Tong Tang, Jiaxi Hu, Prachi Pachisia and Shanaya Kapoor, undergraduate students at the London School of Economics and Political Science. Please ask any questions you have by emailing us here: h.t.tang1@lse.ac.uk. If you have any questions or concerns regarding your rights as a research participant in this study, you may contact the Research and Innovation Team at research.innovation@lse.ac.uk. If by any chance you have experienced any distress, you can contact Spectrum.Life at 0808 189 01 03.

If you would like to receive a copy of the final report of this study or a summary of the findings when it is completed, please feel free to contact the researcher. Please do not disclose research procedures and/or purpose to anyone who might participate in this study in the future as this could affect the results of the study.

#### **Right to withdraw data**

You may choose to withdraw the data you provided, without penalty or loss of benefits to which you are otherwise entitled. Please email us if you wish to withdraw your data.

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# Appendix 2: Demographic statistics for "Non-interested non-investors", "Interested non-investors" and "Investors"











### Appendix 3: Linear Regression

### 3.1 Linear Regression for trust

```
\begin{split} Y_{i} &= \alpha + \beta_{1} crypto\_interest_{i} + \beta_{2} crypto\_invest_{i} + \beta_{2} age_{i} + \beta_{3} male_{i} + \beta_{5} black_{i} + \beta_{6} mixed_{i} + \beta_{7} other + \\ \beta_{8} white + \beta_{9} single + \beta_{10} undergrad + \beta_{11} highsch\_n\_bel + \beta_{12} inc17 + \beta_{13} inc32 + \beta_{14} inc53 + \\ \beta_{15} risk\_avg_{i} + \beta_{16} no\_risk_{i} + \beta_{17} subst\_risk_{i} + \beta_{18} alt_{i} + \epsilon_{i} \end{split}
```

where:

Yi	=	level of interpersonal trust, i.e. the amount participants sent to individual A
α	=	constant
cryp_interest	=	dummy variable where "interested non-investors" = 1, "non=interested non-investors" = 0 and "investors" = 0.
cryp_invest	=	dummy variable where "interested non-investors" = 1, "investors" = 0.
black mixed other white	=	dummy variables of the categorical race variable, where "Asian, Asian British, Asian American" = 0 for all dummies
no_risk risk_avg subst_risk	=	dummy variables of the categorical risk variable, where "Above average risk" = 0 for all dummies
undergrad highsch_n_bel	=	dummy variables of the categorical education variable, where "Postgraduate and above" = $0$ for both dummies
alt	=	sum of Likert items measuring altruism, with a minimum possible score of 0 and maximum of 45
Ei	=	error term

#### 3.2 Linear Regression for trust resilience from TG2 to TG1

$$\begin{split} Y_{i} &= \alpha + \beta_{1} crypto\_interest_{i} + \beta_{2} crypto\_invest_{i} + \beta_{2} age_{i} + \beta_{3} male_{i} + \beta_{5} black_{i} + \beta_{6} mixed_{i} + \beta_{7} other + \\ \beta_{8} white + \beta_{9} single + \beta_{10} undergrad + \beta_{11} highsch\_n\_bel + \beta_{12} inc17 + \beta_{13} inc32 + \beta_{14} inc53 + \\ \beta_{15} risk\_avg_{i} + \beta_{16} no\_risk_{i} + \beta_{17} subst\_risk_{i} + \beta_{18} alt_{i} + \epsilon_{i} \end{split}$$

 $Y_i$ 

= Measure of trust resilience i.e difference in the amount participants sent to individual B as compared to individual A

#### 3.3 Linear Regression for trust resilience from TG3 to TG2

- $$\begin{split} Y_{i} &= \alpha + \beta_{1} crypto\_interest_{i} + \beta_{2} crypto\_invest_{i} + \beta_{2} age_{i} + \beta_{3} male_{i} + \beta_{5} black_{i} + \beta_{6} mixed_{i} + \beta_{7} other + \\ \beta_{8} white + \beta_{9} single + \beta_{10} undergrad + \beta_{11} highsch\_n\_bel + \beta_{12} inc17 + \beta_{13} inc32 + \beta_{14} inc53 + \\ \beta_{15} risk\_avg_{i} + \beta_{16} no\_risk_{i} + \beta_{17} subst\_risk_{i} + \beta_{18} alt_{i} + \epsilon_{i} \end{split}$$
- Y<sub>i</sub> = Measure of trust resilience i.e difference in the amount participants sent to individual C as compared to individual B

# Appendix 4: Regression Tables

Term	Estimate	Std. Error	t value	Pr(> t )
intercept	15.02	20.37	0.74	0.46
age	0.12	0.32	0.39	0.70
male	-6.37	7.11	-0.90	0.37
black	-17.03	23.46	-0.73	0.47
mixed	4.55	13.46	0.34	0.74
other	-1.71	14.70	-0.12	0.91
white	8.63	7.89	1.09	0.28
single	-6.61	8.83	-0.75	0.46
undergrad	1.42	6.84	0.21	0.84
highsch_n_bel	17.12	9.37	1.83	0.07

### 4.1 Regression Table for first linear regression

inc17	12.54	8.85	1.42	0.16
inc32	-18.65	12.26	-1.52	0.13
inc53	-3.17	8.25	-0.38	0.70
cryp_interest	-2.65	6.92	-0.38	0.70
cryp_invest	6.26	8.05	0.78	0.44
risk_avg	-0.80	7.21	-0.11	0.91
no_risk	-8.40	10.19	-0.82	0.41
subst_risk	0.61	11.54	0.05	0.96
alt	1.01	0.46	2.17	0.03

Term	Estimate	Std. Error	t value	Pr(> t )
intercept	5.09	8.43	0.60	0.55
age	-0.29	0.13	-2.23	0.03
male	-1.42	2.94	-0.48	0.63
black	6.35	9.70	0.65	0.51
mixed	-0.39	5.57	-0.07	0.94
other	13.83	6.08	2.27	0.02
white	1.04	3.27	0.32	0.75
single	-3.50	3.65	-0.96	0.34
undergrad	6.72	2.83	2.37	0.02
highsch_n_bel	5.22	3.88	1.35	0.18
inc17	-4.02	3.66	-1.10	0.28

# 4.2 Regression Table for second linear regression

inc32	-3.50	5.07	-0.69	0.49
inc53	6.59	3.41	1.93	0.06
cryp_interest	-0.51	2.86	-0.18	0.86
cryp_invest	3.03	3.33	0.91	0.37
risk_avg	0.94	2.98	0.31	0.75
no_risk	3.23	4.21	0.77	0.45
subst_risk	-3.72	4.77	-0.78	0.44
alt	-0.24	0.19	-1.27	0.21

Term	Estimate	Std. Error	t value	Pr(> t )
Intercept	11.52	11.15	1.03	0.30
age	0.00	0.17	0.01	0.99
male	-2.70	3.89	-0.69	0.49
black	7.89	12.84	0.61	0.54
mixed	-1.34	7.37	-0.18	0.86
other	-12.50	8.05	-1.55	0.12
white	-1.06	4.32	-0.24	0.81
single	-2.58	4.84	-0.53	0.60
undergrad	2.41	3.75	0.64	0.52
highsch_n_bel	-1.12	5.13	-0.22	0.83
inc17	-3.26	4.84	-0.67	0.50

# 4.3 Regression Table for third linear regression

inc32	6.05	6.71	0.90	0.37
inc53	-5.31	4.51	-1.18	0.24
cryp_interest	-0.18	3.79	-0.05	0.96
cryp_invest	-1.16	4.41	-0.26	0.79
risk_avg	-0.30	3.94	-0.08	0.94
no_risk	-3.73	5.58	-0.67	0.50
subst_risk	2.23	6.31	0.35	0.72
alt	-0.46	0.25	-1.81	0.07

# Appendix 5: Diagnostic Plots



### 5.1 Diagnostic Plot: First linear regression



### 5.2 Diagnostic Plot: Second linear regression



### 5.3 Diagnostic Plot: Third linear regression

#### Ethics Statement

The reported study is part of a research project at the London School of Economics and Political Science, approved by the LSE Eden CENTRE, for LSE GROUPS.

#### Conflict of Interest Statement

The authors declare that this research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.