Social Preferences in a Chinese Cultural Context

Saileshsingh Gunessee^a, Tom Lane^{b,*}, Shangjue Xie^a

^a Nottingham University Business School China, University of Nottingham Ningbo China, 199 Taikang East Road, Ningbo 315100, China

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Abstract

This paper investigates the effects of social distance and national bias on social preferences in China. In a field experiment featuring a diverse subject pool, we implement an incentivised dictator game, in which we vary the way decision-makers are primed to think about their social distance from the potential recipients of their generosity, as well as the nationality of these recipients. We find that decision-makers become substantially less pro-social when primed social distance increases. However, national bias is not found – there is no evidence subjects are willing to give more money to Chinese strangers than to unknown foreigners. The effects of social distance emerge more strongly at closer levels of distance for those who are rural, low-educated and poor, while they appear more strongly at greater levels of distance for their urban, high-educated and rich counterparts.

Keywords: Social preferences; social distance; network; nationalism; dictator game. **JEL Codes**: C93; D91.

*Corresponding author: Phone: +86(0) 574 8818 0000-8434

Email: tom.lane@nottingham.edu.cn

^b School of Economics, University of Nottingham Ningbo China, 199 Taikang East Road, Ningbo 315100, China

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1. Introduction

China's economic development in the post-1978 era has been astonishing, not least on account of a paradox which makes explaining its stellar growth more difficult. Economists conventionally believe that strong institutions greatly support growth. However, the evidence suggests that, during its period of explosive growth, China's formal institutions have been relatively weak. In particular, the country has been characterised by a weak and imperfectly enforced legal code, an incomplete regulatory framework, and an underdeveloped financial system. ²

A proposed solution to the paradox is that Chinese economic development has instead been supported by the existence of strong informal social institutions. The Chinese are believed to be a collectivist people, and such a national trait may have provided the societal structures and cohesion conducive to economic development, even in the absence of these being imposed from the top down.³ For example, the World Values Survey has typically found generalised trust, an important component of social capital, to be unusually high in China. Allen *et al.* argued that "alternative financing channels and governance mechanisms, such as those based on reputation and relationships" may have effectively filled gaps left in the institutional framework.⁴ Likewise, Chinese private businesses rely on personal connections (*guanxi*) to compensate for a lack of official protection.⁵ In essence a distinctive institutional form has emerged in China to facilitate economic progress: network capitalism, which is characterised by informal relationships, given ill-defined private property rights, as opposed to a market-based system.⁶

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¹ Acemoglu, Johnson and Robinson, 2001; Rodrik, Subramanian and Trebbi, 2004

² Allen, Oian J. and Oian M., 2005; Pearson, 2005

³ Leung and Au, 2010; Whyte, 1995

⁴ Allen, Qian J. and Qian M., 2005, pp. 57-58

⁵ Dunning and Kim, 2007; Weng and Xu, 2018

⁶ Boisot and Child, 1996

However, the nature of Chinese social institutions and cohesion warrants deeper analysis. Are the Chinese really a highly community-orientated people, or does this depend on how community is defined? Both family and *guanxi* are widely believed to be very important in Chinese culture⁷, but does a spirit of solidarity extend to those who are more socially distant? The arguments of some scholars, that in collectivist cultures such as China strong trust holds only for narrowly defined in-groups, might suggest not.⁸ There is, furthermore, evidence that people in other cultures behave more selfishly when interacting with more socially distant individuals.⁹ This can be seen as a manifestation of in-group and out-group discrimination.¹⁰

This paper attempts to empirically explore these issues, using an incentivised field experiment to investigate the effects, in China, of social distance on preferences over the distribution of economic resources (hereafter, referred to as *social preferences* or pro-social behaviour). We implement a dictator game, where each participant is required to make a decision over how to distribute a fixed sum of real money between their self and another person. We attempt to manipulate the psychological sense of social distance the decision-maker will feel towards the other person, by varying the way we prime the decision-maker to think about them. Thus, we can examine whether the Chinese are likely to engage in similar levels of sharing behaviour – measured in terms of the proportion of money given to the other person – regardless of who they are sharing with, or, alternatively, whether rates of sharing are likely to decline when the degree of social distance increases.

We are interested not only in whether the Chinese share less with those who are socially distant from them domestically, but also whether they share less with those who are socially distant *and* of a different nationality. Even if the Chinese have an internally collectivist culture in the broadest terms, this speaks little to how they will behave towards those outside of the

⁷ Fan, 2000; Weng and Xu, 2018

⁸ Bond, 1991; Triandis, 1995

⁹ Ruffle and Sosis, 2006; Falk and Zehnder, 2013

¹⁰ Thomas and Liao, 2010

culture. It is well established that intergroup bias can affect social preferences¹¹, and this can include discriminatory treatment against those belonging to a different nationality.¹² It is also clear that nationalistic attitudes persevere in contemporary China.¹³ We therefore prime decision-makers in our experiment not just on their social distance from the potential beneficiary of their giving, but also on the beneficiary's nationality.

Another important question is whether the effects of social distance on social preferences are different amongst different subsets of the Chinese population. Our study is able to explore this by collecting questionnaire data from our participants. There are expectations of variation in pro-social behaviour in a Chinese context.¹⁴ One might expect that those who have benefitted more from Chinese economic development would exhibit sharing behaviour across a wider range of social distance.

Our study contributes to the literature on social preferences in China, and in particular on how these are influenced by social distance. While the literature on social preferences in China is burgeoning¹⁵, to date there have been relatively few incentivised studies focusing on the effect of social distance. Some have artificially induced it in the laboratory using minimal groups. Using such methods amongst subjects in China, Buchan *et al.* found a surprising positive effect of social distance on pro-social behaviour – their subjects discriminated in favour of the out-group against the in-group. ¹⁶ Cadsby *et al.*, on the other hand, observed that subjects were willing to cheat to benefit in-group members at the expense of out-group members. ¹⁷ More closely related to our study, Song *et al.* used university affiliation to

¹¹ E.g. Hewstone, Rubin and Willis, 2002; Becchetti, Castriota and Conzo, 2013; Lane, 2016

¹² See Castro, 2008; Carpenter and Cardenas, 2011

¹³ Gries et al., 2011

¹⁴ Leung and Au, 2010; Hoffmann and Larner, 2013

¹⁵ See Croson and Buchan, 1999; Bohnet et al., 2008; Hennig-Schmidt, Li and Yang, 2008; Cameron et al., 2013; Chew, Ebstein and Zhong, 2013; Gong, Yan and Yang, 2015; Chang et al., 2016; Sturm et al., 2019

¹⁶ Buchan, Johnson and Croson, 2006. However, in a hypothetical experiment using the same subject pool, the authors found real social distance would have a negative effect on pro-sociality (Buchan and Croson, 2004).

¹⁷ Cadsby, Du and Song, 2016

investigate the effects of real social distance.¹⁸ They found, in a trust game experiment, that Chinese students were less pro-social towards those more socially distant from them.¹⁹ Also related is Chen *et al.*, who found in a dictator game using stickers as currency that Chinese children were more generous towards their friends than towards strangers.²⁰

This paper departs from these extant studies by adopting a field experimental approach and thus diverse subject pool. It also allows social distance to vary by priming participants' network relationship by distinguishing between allocation between family/friends, where ties should be strong and distance small, compared to allocation to strangers and foreigners, where ties should be weak and distant. Put differently, social distance is entwined with in-group and out-group treatment seen through a network standpoint, with the question being whether it affects social preferences. The use of "relationships" to prime social distance can be justified for two reasons. First, as highlighted above, personal and informal connections play a vital role to generate social cohesion and contribute to Chinese collectivism. Second, Chinese social identity it is argued can be constructed around relationships, which in turn influence behaviour.²¹ Hwang contends that resource allocation and exchange by the Chinese is governed by rules based on relationships. 22 His paper argues that distant relationships are directed by a fairness rule, while human relations/sentiments rule (renging) govern mixed ties and finally, a needs rule shapes close affective ties. Critics argue that relationships take a crucial role in Chinese society to the extent that Chinese people are willing to risk being exploited so as to build more rewarding and successful social networks.²³

We also contribute to the emerging literature using incentivised methods to research national discrimination in China. Related to our study is a field experiment by Hoffmann and

¹⁸ Song, Cadsby and Bi, 2012

¹⁹ See also similar findings in Cadsby et al., 2015.

²⁰ Chen, Y., Zhu and Chen, Z., 2013

²¹ Liu, Li and Yue, 2010

²² Hwang, 1987

²³ Liu, Li and Yue, 2010

Larner, who found Chinese participants donated more money to a Chinese charity than a foreign one.²⁴ More relevant still is the work of Liu et al., who ran a trust game experiment in which Chinese students interacted with individual foreigners; they found the Chinese were more pro-social to co-nationals than to Japanese.²⁵ Our study is differentiated in particular by taking place in a field setting, and by focusing on discrimination against foreigners in general rather than of any specific nationality.

Our results show social distance matters when it comes to social preferences in China. Rates of giving were highest when participants are primed to think about the beneficiary as "someone from your personal network, like a family member or friend in China." Giving was substantially lower when participants are instead primed to think of them as "someone you don't know in China". Moreover, participants primed to think about the recipient being "someone you don't know in China" gave no more than participants who were primed to think about the recipient instead being a foreigner "unknown to you and living abroad". We therefore find no evidence of a nationality-based out-group bias amongst Chinese people against foreigners. We also find that social distance differently affects social preferences among different layers of Chinese society. Amongst rural, low-educated and relatively poor individuals, the negative effect of increased social distance on rates of sharing tended to emerge more strongly at closer levels of social distance than it did for urban, high-educated and relatively rich individuals.

The paper next presents the experimental design, followed by the empirical results and then it provides concluding remarks with implications.

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²⁴ Hoffmann and Larner, 2013

²⁵ Liu et al., 2011

2. Experimental Design

2.1. Measuring social preferences

To measure social preferences, we implemented a simple dictator game. The sum of money to be split was 20 RMB (3.35 USD at the time of the experiment). Though this is rather a small stake compared to those often employed in dictator games in developed countries, the lower income levels and cost of living in China should be taken into account. Given that the median hourly wage amongst participants in our experiments was approximately 25 RMB²⁶, and that the experiment was designed to take subjects only around 20-25 minutes to complete, we argue that our experiment was incentivised to a conventional level.

2.2. Treatments

To investigate the effects of social distance on giving, we manipulated the language presented to dictators. In all treatments, dictators were told they had to split the money "between yourself and another person". They were not given any more information about who this person actually was. However, across treatments, we differently primed dictators on how to think about the interaction. Framing language – telling dictators to think about the recipient "as if" they were a particular type of person – was used to create different images of the recipient in different treatments, and thus to vary the extent of social distance the dictator might imagine feeling towards them.

In the *Baseline* treatment, the sentence read, "Think of the other person as if someone else in China." This treatment was designed to prime an intermediate level of social distance, and thus to provide a control group against which to compare the effects of the remaining treatments.

 $^{^{26}}$ This is obtained by extrapolating from subjects' self-reported monthly income, and assuming 160 hours of work per month.

In the *Stranger* treatment, the sentence read, "Think of the other person as if a stranger, like someone you don't know in China". This frame was designed to raise the level of social distance the dictator would feel towards the recipient relative to the *Baseline* treatment, priming them specifically to think about someone they did not know.²⁷

In the *Family/Friends* treatment, the sentence read, "Think of the other person as if someone from your personal network, like a family member or friend in China." This frame was designed to reduce the level of perceived social distance relative to the *Baseline* treatment, priming the dictator to think about somebody close to them.

In the *Foreigner* treatment, the sentence read, "Think of the other person as if a foreigner, like someone unknown to you and living abroad." As in the *Stranger* treatment, this frame was designed to increase the level of perceived social distance relative to *Baseline* by priming the dictator specifically to think about someone they did not know. Moreover, this treatment aimed to create further social distance by priming the dictator also to think of the person as a foreigner outside China. The *Foreigner* treatment therefore also allows us to explore the role of national discrimination on social preferences.

We designed the experiment to avoid deceiving participants. In all treatments, the recipient of dictators' donations was in fact the researcher who had privately provided the funding for the experiment. Thus, the information given to participants that they would be sharing the money with another person was truthful. Across the different treatments, we did not falsely lead dictators to believe that the recipient would actually match the description of the person we asked them to think about. Our instructions were quite transparent in merely asking subjects to imagine the recipient "as if" they were a particular type of person.

²⁷ While "someone else in China" would, except for a vanishingly small minority of potential recipients, also be "someone you don't know in China", we still expect the *Baseline* and *Stranger* treatments to exert psychologically different effects, with the specific language of the *Stranger* treatment likely to prime feelings of greater social distance.

We acknowledge that we deliberately withheld the information about the recipient's true identity – had we revealed this, it would have been likely to interfere with our attempts to prime different levels of social distance across treatments. As such, subjects were not fully informed about the payoff mechanism. Our approach therefore did not involve any 'sin of commission' but rather one of 'omission', which would not generally be considered deception by the mainstream experimental economics community. However, there is no universal agreement on what constitutes experimental deception and some scholars have applied much more stringent definitions, under which our study could be considered deceptive. We note, however, that regardless of how one defines deception, the potential negative externalities that could be imposed on future research are far minimised in a field study like ours, where very few of the subjects are likely to participate again in an economic experiment, relative to a conventional lab experiment using a student subject pool. On the subject pool of the s

The likely effect of manipulating social distance simply through hypothetical priming is to reduce treatment effects, as subjects may be less affected by being asked to imagine a particular type of recipient than being genuinely faced by someone of that description. Therefore, our estimated treatment differences should not be considered precise measurements of the effects of social distance, but as lower bounds for the effects that would be detected if we had created real variation in social distance. At the same time, although the effects of social distance are explored through hypothetical priming, the dictator decisions themselves should be thought of as genuinely incentivised, as they determined the monetary payoff for the decision-maker.

Our treatments are designed to address two questions. First, does social distance influence the social preferences of Chinese people? For this, we will compare the amounts given by

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²⁸ Cooper, 2014

²⁹ See Colson et al., 2016

³⁰ Lusk, 2019

dictators in the *Baseline* treatment with those in the other treatments. If social distance matters, we would expect more to be given in the *Baseline* treatment than in either the *Stranger* or *Foreigner* treatments where greater social distance is primed. We would also expect less to be given in the *Baseline* treatment than in the *Family/Friends* treatment, which primes closer social distance.

Our second question is whether Chinese social preferences are influenced by nationality. We will address this by comparing levels of giving in the *Stranger* and *Foreigner* treatments. Both treatments create social distance by priming the dictator to think about someone unknown to them, but the *Foreigner* treatment also creates national difference. If there is a national bias against foreigners, we would expect giving to be lower in the *Foreigner* treatment than the *Stranger* treatment.

A post-experimental questionnaire was also designed, to collect data on subjects' demographic characteristics and some attitudinal indicators. This was done in order that any treatment differences could be subjected to control variables, and also to test whether the strength of such treatment effects differed for different subsamples within the experiment.

2.3. Implementation

A key design feature of our experiment is that it was conducted in the field. As such, it gains the advantage of providing a more representative sample than would be provided by a typical laboratory experiment using student participants.³¹ Just 4% of our subjects were students.

The experiment was run in Ningbo, a relatively large and wealthy coastal city located in Zhejiang Province, approximately 150km south of Shanghai. Subjects were recruited by an experimenter randomly approaching individuals in three large shopping areas across the city. Those who agreed to participate were taken to nearby coffee stores or dining areas where the

³¹ For a discussion, see Harrison and List, 2004.

experiment was conducted. Before the experiment began, subjects were told they would receive a 2 RMB participation fee, and that they could possibly earn additional money depending on the outcome of the experiment. Subjects were also told their anonymity and privacy would be guaranteed.

We employed a modified version of the double-blind system introduced by Hoffman et al.³², ensuring that not only was the dictator game recipient unidentifiable to the dictator, it was also impossible for the experimenters to identify which allocation choices were made by which dictators. Imposing such a complete level of anonymity is particularly important for an experiment exploring a sensitive topic like discrimination, as discriminatory behaviour may be regarded as socially inappropriate and subjects may therefore be unwilling to engage in it under the gaze of an experimenter.³³

The double-blind procedure was implemented as follows. Dictators were given an Envelope A containing their endowment of 20 notes, each worth 1 RMB, and an Envelope B in which they could place whatever money they wished to send the recipient. They were also given a box, in which they were told to place both envelopes before making their choice, so that the experimenter could not see them make it. After completing their allocation choice, subjects were instructed, they should fill out the post-experimental questionnaire, which when finished they should also place inside Envelope B, before sealing this envelope and putting it inside a box to hand back to the experimenter.

Furthermore, subjects were told that Envelope A might contain either 20 notes each worth 1 RMB or simply 20 blank strips of paper (in fact, all subjects received notes rather than blank strips). Thus, even if there were any subjects to whom it was not apparent that the experimenter could not identify their allocation decisions, subjects were led to believe that it would be

³² Hoffman et al., 1994

³³ Barr, Lane and Nosenzo, 2018

unclear to the experimenter whether an empty Envelope B was the result of a subject making a selfish allocation or instead having received an Envelope A with blank strips. The full experimental instructions can be found in Appendix A.

Table 1: Demographic characteristics of subjects

		Table 1: Delliog	grapine chai	racteristics of sub	jects	
Gender						
		Male			Female	
		67%			33%	
Age						
	-20	20-29	30-39	40-49	50-59	60-
	1%	43%	37%	13%	6%	1%
Marital sta	tus					
		Married			Not married	
		74%			26%	
Religion						
		Religious			Non-religious	
		42%			58%	
Single child	l					
-		Single child			Not single child	
		23%			77%	
Children						
	No	One	Two	Three	More than three	
	Child	child	children	children	children	
	29%	43%	24%	4%	0%	
Highest edu	acation leve	el				
	Primary	Middle	High	Technical high	Bachelor	Higher
	10%	29%	14%	8%	34%	5%
Geographic	cal backgro	ound in past 5 ye	ears			
		Urban			Rural	
		71%			29%	
Monthly in	come (RM	B)				
	-2000	2000-	4000-	6000-	8000-	10000
		3999	5999	7999	9999	10000-
	8%	41%	25%	11%	7%	8%

Note: total number of participants = 201. Missing observations, due to incomplete questionnaire response, are excluded when calculating percentages.

Data was collected between July 29 and August 10, 2014. 201 subjects participated in the experiment. Assignment to treatment was randomised, with the total number of available instruction sheets for each treatment limited in order that a balance was achieved (*Baseline*

n=53; *Stranger* n=48; *Family/Friends* n=49; *Foreigner* n=51). The sample recruited represented a wide range of demographic backgrounds; see Table 1 for summary statistics.

3. Empirical Results

3.1. Descriptive results with statistical tests

The distribution of allocation decisions across all treatments is presented in Figure 1. The pattern of behaviour looks fairly representative of a typical dictator game. 48.3% of our subjects kept the full endowment for themselves, a little higher than the 36.1% estimated across the literature in the meta-analysis of Engel.³⁴ Only 6.5% of subjects chose the equal split (compared to 16.7% in Engel), while a full 10.4% gave away the full endowment (compared to 5.4% in Engel). The mean amount given was 4.95 RMB, 24.8% of the pie – only slightly lower than the 28.4% estimated by Engel.

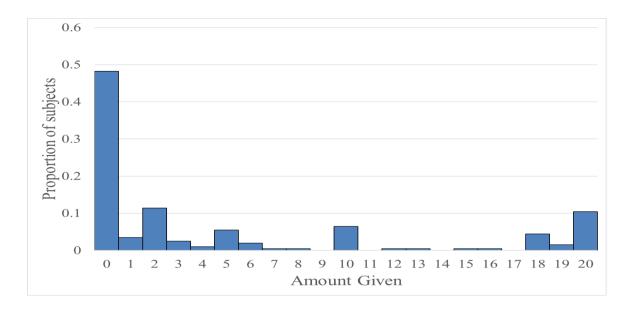


Figure 1: Giving across all treatments

³⁴ Engel, 2011

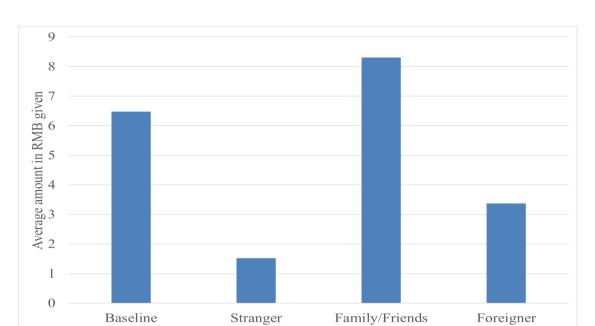


Figure 2: Mean giving by treatment

We turn next to the differences in giving between treatments. Figure 2 displays the mean levels of giving within each treatment. In the *Baseline* treatment, subjects donated on average 6.47 RMB. At 32.4% of the stake, this is slightly higher than the typical giving rate in dictator games³⁵; as the *Baseline* treatment is the most standard version of the dictator game in our experiment, this would imply a reasonably high rate of sharing amongst our subjects. As expected, mean giving in *Baseline* is less than the 8.31 RMB given on average in the *Family/Friends* treatment, and is more than the 1.52 RMB given on average in the *Stranger* treatment. Also as expected, it is more than the 3.37 RMB given on average in the *Foreigner* treatment. Somewhat surprisingly, however, more money was given in the *Foreigner* treatment than the *Stranger* treatment.

To address the significance of these treatment differences, we use a two-tailed Fisher randomisation test.³⁶ These are used to investigate differences in amounts given within all

³⁵ Ibid

³⁶ See Moir, 1998, for a discussion of this test.

possible pairs of treatments, a total of six tests. We correct our results on the basis that we are performing multiple tests, using the False Discovery Rate method of Benjamini and Hochberg.³⁷ These results are presented in Table 2, alongside the raw difference in mean amount given within each pair of treatments. While giving in *Baseline* significantly differs from giving in both *Stranger* and *Foreigner*, it does not significantly differ from giving in *Family/Friends*. Thus, we find evidence that pro-sociality towards "someone else in China" will be stronger than towards a stranger in China or a foreigner abroad, but we do not find evidence that it will be weaker than towards family members and friends. The test comparing the *Stranger* and *Foreigner* treatments is weakly significant (p=0.058), offering some evidence that pro-sociality will be stronger towards foreigners abroad than towards strangers in China. The comparisons of the *Family/Friends* treatment against both the *Stranger* and *Foreigner* treatments provide very strong evidence that pro-sociality towards family members and friends will be stronger than towards either strangers in China or foreigners abroad.

Table 2: Treatment differences and their significance

	Stranger	Family/Friends	Foreigner
Dagalin a	+4.95	-1.84	+3.10
Baseline	(0.000***)	(0.265)	(0.042**)
C4man 2 an		-6.79	-1.85
Stranger		(0.000***)	(0.058*)
F il-/Fi 1-			+4.94
Family/Friends			(0.003***)

Note: the top row in each cell presents the mean difference in giving between the treatment listed on the left and the treatment listed at the top of the table. Numbers in parentheses are p-values from Fisher randomisation tests on each treatment difference, adjusted for multiple testing using the Benjamini-Hochberg False Discovery Rate procedure. *Statistical significance at 10% level. ** Statistical significance at 5% level. *** Statistical significance at 1% level.

3.2. Regression results

We use regression analysis to test whether the treatment differences are robust when subjected to control variables. Two models are presented in Table 3, where the dependent variable is the

³⁷ Benjamini and Hochberg, 1995. This correction method works by first sorting all p-values in ascending rank, then multiplying each by the number of separate tests being performed (in our case six), then dividing each by its rank. Larger adjustments are therefore made to smaller p-values.

amount given in RMB. As there are lower and upper limits on giving, we use Tobit regressions; robust standard errors are employed. Model (1) includes dummy variables indicating treatment assignment, plus some demographic controls. Model (2) adds, as further controls, attitudinal indicators. All control variables were measured in the post-experimental questionnaire.

The demographic controls in Model (1) are dummy variables representing gender (*Male*), whether the subject's age was above 30 (*Older*), whether the subject was married (*Married*), whether the subject belonged to an organised religion (*Religious*), whether the subject was a single child (*Single Child*), whether the subject attended at least high school (*High School*+), whether the subject had lived predominantly in a rural area in the previous five years, and whether the subject was earning at least 4000 RMB per month (*Higher Income*); and a variable indicating the number of children the subject had (*Children*). The attitudinal controls in Model (2) are Likert-scale measures of the importance the subject attached to family, friends, leisure, politics, work and religion (*Importance of Family*; *Importance of Friends*; *Importance of Leisure*; *Importance of Politics*; *Importance of Work*; *Importance of Religion*), and dummy variables indicating whether the subject expressed interest in other cultures (*Interested in Other Cultures*), support for the belief that individuals should support for the belief that group interests should prevail over individual interests (*Collectivist*).

Coefficients on the treatment dummies indicate differences in levels of giving between these treatments and the omitted *Baseline* treatment. In both models, the *Stranger* treatment dummy is negative and significant at the 1% level, strongly supporting the finding that the *Stranger* treatment reduces levels of giving relative to the *Baseline* treatment. The *Foreigner* dummy is also negative and significant – only at the 10% level in Model (1), but this rises to the 5% level with the inclusion of further controls in Model (2). This therefore also supports

Table 3: Tobit regressions on amount given

	t variable = Amoun			
	Model (1)		Model (2)	
reatment Dummies				
Stranger	-7.988***	(2.868)	-10.367***	(3.654)
Family/Friends	2.807	(3.342)	-2.030	(4.032)
Foreigner	-6.047*	(3.304)	-11.306**	(4.409)
ontrol Variables				
Male	-7.551***	(2.497)	-8.978***	(3.015)
Older	2.503	(2.609)	2.506	(2.691)
Married	0.826	(3.889)	-0.509	(4.115)
Religious	-0.705	(2.279)	-0.685	(2.790)
Single Child	-2.177	(3.211)	-5.067	(3.539)
Children	-0.228	(2.185)	1.787	(2.434)
High School+	1.533	(2.575)	1.449	(2.789)
Rural	3.563	(2.369)	0.943	(2.892)
Higher income	-0.268	(2.613)	-1.838	(2.796)
Importance of Family			5.540*	(3.046)
Importance of Friends			-3.190	(2.145)
Importance of Leisure			1.059	(1.707)
Importance of Politics			2.621**	(1.254)
Importance of Work			-1.050	(2.105)
Importance of Religion			-1.179	(1.778)
Interested in Other Cultures			5.945**	(2.501)
Support for Public Goods			-4.903	(3.689)
Collectivist			-0.469	(3.107)
Constant	5.060	(3.813)	6.084	(8.671)
rseudo R ²	0.039		0.071	,
	191		170	

Note: *** p<0.01, ** p<0.05, * p<0.1; Standard errors, corrected for heteroscedasticity, in parentheses. 10 observations dropped from Model (1) and 31 dropped from Model (2) due to missing data resulting from incomplete questionnaire response. The omitted treatment category is Baseline.

the finding that the *Foreigner* treatment reduces levels of giving relative to the *Baseline*. However, the *Family/Friends* dummy is insignificant in both models, confirming again that we lack evidence this treatment affects levels of giving relative to *Baseline*.

We use linear restriction tests to examine the other treatment differences. In both models we find the Family/Friends coefficient is significantly positive relative to the Stranger coefficient (p<0.001 in Model (1); p=0.011 in Model (2)) and the Foreigner coefficient (p=0.020 in Model (1); p=0.023 in Model (2)). This demonstrates the *Family/Friends* treatment raises giving relative to these other two treatments. We do not, however, find that the *Stranger* coefficient significantly differs from the *Foreigner* coefficient (p=0.504 in Model (1); p=0.800 in Model (2)). Therefore, the weak effect we found of giving being higher in the Foreigner treatment than in the *Stranger* treatment appears to be eliminated by the inclusion of control variables. Nonetheless, we still find an absence of national bias against foreigners; this finding is contrary to the evidence in Hoffmann and Larner who find support for nationalistic sentiment in charitable giving.³⁸

Few of the control variables exert a significant independent effect. An exception is with gender, where we find a strong and substantial effect indicating that in our experiment males behave, ceteris paribus, much more selfishly than females. This result is in the same direction as – but of a stronger magnitude than – the effect found on gender across the dictator game literature. 39 40

3.3. Do the treatment effects differ for different sub-samples of participants?

To investigate whether the treatment effects differ for different types of individuals in our experiment, we subdivide our sample according to particular characteristics, based on the data obtained in the post-experimental questionnaire. We then compare the treatment effects between particular subsamples in order to test whether these effects interact with the

³⁸ Hoffmann and Larner, 2013

³⁹ See Engel, 2011

⁴⁰ In contrast to our results, Gong, Yan and Yang, 2015, in a study in "distinctive and unique" Chinese societies, find gender effects to be reversed for dictator giving, with men being more pro-social.

characteristics according to which the sample is divided. For illustrative purposes, in Figure 3 we present the mean giving levels found in each treatment for different sub-samples. The significance of the treatment-variable interactions is tested by re-running Model (2) in Table 3 with the addition of interaction terms between the treatment dummies and the variable by which the sample is divided. We report the significance of these interaction terms in the text below, and present the full regression output in Appendix B (Tables B1 and B2).

In Figure 3 we present four cases where the sample has been split – by educational level, geographical background, income level, and attitude towards other cultures – using the binary variables *High School+*, *Rural*, *Higher Income* and *Interested in Other Cultures* as defined in the previous subsection. We find significant treatment interaction effects in all four cases, and these all follow similar patterns. The increase in giving under the *Family/Friends* treatment relative to the *Baseline* treatment is greater for the more lowly educated than for the more highly educated, is greater for rural than for urban dwellers, and is greater for those less rather than more interested in other cultures; the interaction terms with *Family/Friends* are significant at least at the 5% level for all three of these variables. The increase in giving under *Family/Friends* is also greater for the relatively poor than the relatively rich, although the interaction term is not significant.

In contrast, the decline in giving in the *Stranger* and *Foreigner* treatments relative to *Baseline* is greater for the more highly educated, for urban dwellers, for the relatively rich, and for those more interested in other cultures. All interaction terms are significant at least at the 5% level. Thus, it appears there are different discriminatory patterns in the social preferences of the rich, educated, urban, more internationally-minded Chinese elite from their poor, uneducated, rural, less internationally-minded counterparts. The elite exhibit weaker favouritism towards family and friends over "someone else in China", but they also exhibit stronger discrimination against strangers or foreigners relative to the same control group. For

those lower in society, the effect of social distance appears more strongly at a closer distance; for those higher in society, it appears more strongly at a further distance. We do not find evidence, however, that national bias is dependent on any of these characteristics – comparative behaviour between the *Stranger* and *Foreigner* treatments looks very similar between the different sub-samples in all cases. This again is contrary to the findings in Hoffmann and Larner.

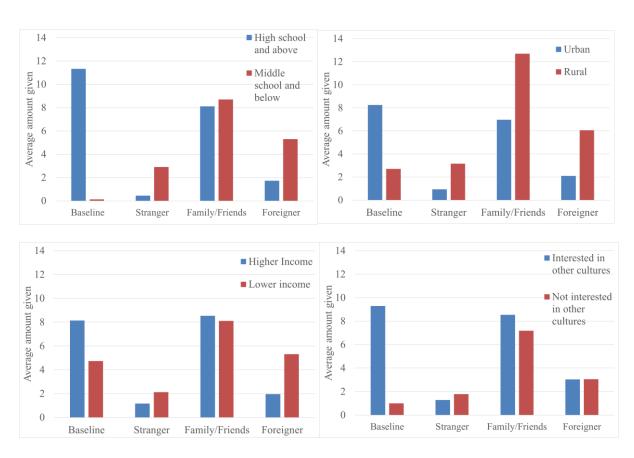


Figure 3: Mean giving by treatment for different sub-samples

We also tested for interactions between the treatment effects and other variables of interest relating to gender (*Male*), age (*Older*) and collectivist attitude (*Collectivism*). Significant effects were not found, as can be seen from the regression output in Appendix B (Tables B1 and B2).

4. Conclusion

Our experiment investigates the effect of social distance on social preferences in China, manipulating social distance in the way we prime different subjects to think differently about the person they are interacting with. Our results suggest social distance is an important determinant of social preferences, with decision-makers sharing substantially more money with those they were primed to think of as being socially close than with those they were primed to think of as socially distant. We interpret this as suggesting that, while the Chinese exhibit community-oriented behaviour up to a point, this is not maintained at high levels of social distance.

We do not find that the Chinese have, ceteris paribus, a nationalistic bias to their social preferences. Subjects in our experiment, in fact, give slightly (but not significantly) more to those primed as foreigners they do not know than to those primed as strangers within China. This is a striking, and perhaps surprising, result, as it suggests that the effects of social distance between strangers in China are sufficiently strong that they feel no more inclined to share with each other than they do with foreigners. We note that this particular finding contrasts with the result of Liu et al., whose trust game experiment found Chinese students did discriminate on the basis of nationality. ⁴¹ There are various differences between the two studies, including the subject pool and game type; perhaps most pertinently, subjects in Liu *et al.* knew specifically that the foreigners they were interacting with were from Japan, a historically hostile nation.

Our paper also examined whether social preferences are different amongst different subsets of the Chinese population for close/distant relationships. Amongst rural, low-educated and relatively poor individuals, the negative effect of increased social distance on rates of sharing tended to emerge more strongly at closer levels of social distance than it did for urban,

⁴¹ Liu et al., 2011

high-educated and relatively rich individuals. Amongst the former types, sharing was considerably higher towards those primed as having low social distance from the decision-maker than towards those primed as having an intermediate level of social distance; amongst the latter types, sharing did not differ much towards low or intermediately socially distant recipients, but only decayed when a high level of social distance was primed. Therefore, we find support for the conjecture that those who have benefitted more from Chinese economic development would exhibit pro-social behaviour across a wider range of social distance.

One might raise the issue that our experiment only primes social distance, rather than allowing it to actually exist; dictators are merely told to think of the recipient "as if" they had particular characteristics. As discussed in Section 2.2, this may have led to a dampening of treatment effects. We would argue that if the social distance between the dictator and recipient had been real and visible, rather than primed, the effect – if any – that this could have had would be to increase the size of the treatment differences. Nevertheless, we already find strong treatment differences using priming; future research could examine whether even stronger effects can be observed by imposing real social distance. It is possible, for instance, that the difference in giving between the *Baseline* and *Family/Friends* treatments could then become significant. It is also possible that the difference between the *Stranger* and *Foreigner* treatments could become significant, although it is unclear from our results whether we should expect to find a national bias against or in favour of foreigners.

This paper provides insights on a key facet of Chinese society and the Chinese economic miracle. As outlined in the introduction, there are social roots to Chinese economic progress, with informal social institutions playing a key role.⁴² Collectivism and social cohesion, as a facet of informal social institutions, have been proposed as the missing link to fill the purported formal institutional void. Our interpretation of the findings of this paper is that solidarity

⁴² Dunning and Kim. 2007: Whyte, 1995

towards others, while present in China when social ties are relatively close, decays to a large extent when social distance grows, with little appetite for pro-social behaviour towards strangers. As such social cohesion is constrained by social distance as governed by relationships. This suggests there are limits to "network capitalism" embedded in Chinese society and its role to fuel effective resource allocation.⁴³ It has been argued that networking while essential to doing business can lead to nepotism and cronyism.⁴⁴ In short, there is a limit to informal social institutions governed by relationships.

Declaration of Interests Statement

We have no conflicts of interest to report.

Data Availability Statement

The data collected for this study, and programming files used to conduct the analysis, will be made available as downloadable supplementary material.

 $^{^{\}rm 43}$ See Boisot and Child,1996, on network capitalism.

⁴⁴ See Whyte, 1995

References

- Acemoglu, Daron, Simon Johnson, and James A. Robinson. 2001. "The colonial origins of comparative development: An empirical investigation." *American Economic Review* 91(5), 1369-1401.
- Allen, Franklin, Jun Qian, and Meijun Qian. 2005. "Law, finance, and economic growth in China." *Journal of Financial Economics* 77(1), 57-116.
- Barr, Abigail, Tom Lane, and Daniele Nosenzo. 2018, "On the social inappropriateness of discrimination." *Journal of Public Economics* 164, 153-164.
- Becchetti, Leonardo, Stefano Castriota, and Pierluigi Conzo. 2013. "Cooperative membership as a trust and trustworthiness reinforcing device: results from a field experiment in the Philippines". *Journal of Development Studies*, 49(3), 412-425.
- Benjamini, Yoav, and Yosef Hochberg. 1995. "Controlling the false discovery rate: a practical and powerful approach to multiple testing." *Journal of the Royal Statistical Society. Series B (Methodological)* 57(1), 289-300.
- Bohnet, Iris, Fiona Greig, Benedikt Herrmann, and Richard Zeckhauser. 2008. "Betrayal aversion: Evidence from Brazil, China, Oman, Switzerland, Turkey, and the United States". *American Economic Review* 98(1), 294-310.
- Boisot, Max, and John Child. 1996. "From Fiefs to Clans and Network Capitalism: Explaining China's Emerging Economic Order." *Administrative Science Quarterly* 41(4), 600-628.
- Bond, Michael Harris. 1991. Beyond the Chinese face: Insights from psychology. Oxford: Oxford University Press.
- Buchan, Nancy, and Rachel Croson. 2004. "The boundaries of trust: Own and others' actions in the US and China." *Journal of Economic Behavior & Organization* 55(4), 485-504.
- Buchan, Nancy R., Eric J. Johnson, and Rachel TA Croson. 2006. "Let's get personal: An international examination of the influence of communication, culture and social distance on other regarding preferences". *Journal of Economic Behavior & Organization* 60(3), 373-398.
- Cadsby, C. Bram, Ninghua Du, and Fei Song. 2016. "In-group favoritism and moral decision-making." *Journal of Economic Behavior & Organization* 128, 59-71.
- Cadsby, C. Bram, Ninghua Du, Fei Song, and Lan Yao. 2015. "Promise keeping, relational closeness, and identifiability: An experimental investigation in China". *Journal of Behavioral and Experimental Economics*, 57, 120-133.
- Cameron, Lisa, Nisvan Erkal, Lata Gangadharan, and Xin Meng. 2013. "Little Emperors: Behavioral Impacts of China's One-Child Policy." *Science* 339(6122), 953-957.
- Carpenter, Jeffrey, and Juan Camilo Cardenas. 2011. "An intercultural examination of cooperation in the commons." *Journal of Conflict Resolution* 55(4), 632-651.
- Castro, Massimo Finocchiaro. 2008. "Where are you from? Cultural differences in public good experiments." *Journal of Socio-Economics* 37(6), 2319-2329.
- Chang, Simon, Thomas S. Dee, Chun Wing Tse, and Li Yu. 2016. "Be a Good Samaritan to a Good Samaritan: Field evidence of other-regarding preferences in China." *China Economic Review* 41, 23-33.
- Chen, Yongxiang, Liqi Zhu, and Zhe Chen. 2013. "Family income affects children's altruistic behavior in the Dictator Game." *PloS One* 8(11), e80419.
- Chew, Soo Hong, Richard P. Ebstein, and Songfa Zhong. 2013. "Sex-hormone genes and gender difference in ultimatum game: experimental evidence from China and Israel." *Journal of Economic Behavior & Organization* 90, 28-42.
- Colson, Gregory, Jay R. Corrigan, Carola Grebitus, Maria L. Loureiro, and Matthew C. Rousu. 2016. "Which deceptive practices, if any, should be allowed in experimental economics research? Results from surveys of applied experimental economists and students." *American Journal of Agricultural Economics*, 98(2), 610-621.

- Cooper, David J. 2014. "A note on deception in economic experiments." *Journal of Wine Economics*, 9(2), 111-114.
- Croson, Rachel, and Nancy Buchan. 1999. "Gender and culture: International experimental evidence from trust games." *American* Economic Review 89(2), 386-391.
- Dunning, John H., and Changsu Kim. 2007. "The Cultural Roots of Guanxi: An Exploratory Study" *The World Economy* 30(2), 329-341.
- Engel, Christoph. 2011. "Dictator games: A meta study." *Experimental Economics* 14(4), 583-610.
- Falk, Armin, and Christian Zehnder. 2013. "A city-wide experiment on trust discrimination". *Journal of Public Economics* 100, 15-27.
- Fan, Ying. 2000. "A classification of Chinese culture." Cross Cultural Management: An International Journal 7(2), 3-10.
- Gong, Binglin, Huibin Yan, and Chun-Lei Yang. 2015. "Gender differences in the dictator experiment: evidence from the matrilineal Mosuo and the patriarchal Yi." *Experimental Economics* 18(2), 302-313.
- Gries, Peter Hays, Qingmin Zhang, H. Michael Crowson, and Huajian Cai. 2011. "Patriotism, nationalism and China's US policy: structures and consequences of Chinese national identity". *The China Quarterly* 205, 1-17.
- Harrison, Glenn W., and John A. List. 2004. "Field experiments." *Journal of Economic Literature* 42(4), 1009-1055.
- Hennig-Schmidt, Heike, Zhu-Yu Li, and Chaoliang Yang. 2008. "Why people reject advantageous offers Non-monotonic strategies in ultimatum bargaining: Evaluating a video experiment run in PR China". *Journal of Economic Behavior & Organization* 65(2), 373-384.
- Hewstone, Miles, Mark Rubin, and Hazel Willis. 2002. "Intergroup bias". *Annual Review of Psychology* 53(1), 575-604.
- Hoffman, Elizabeth, Kevin McCabe, Keith Shachat, and Vernon Smith. 1994. "Preferences, property rights, and anonymity in bargaining games." *Games and Economic Behavior* 7(3), 346-380.
- Hoffmann, Robert, and Jeremy Larner. 2013. "The demography of Chinese nationalism: A field-experimental approach." *The China Quarterly* 213, 189-204.
- Hwang, Kwang-kuo. 1987. "Face and Favor: The Chinese Power Game." *American Journal of Sociology* 92(4), 944-974.
- Lane, Tom. 2016. "Discrimination in the laboratory: A meta-analysis of economics experiments". *European Economic Review* 90, 375-402.
- Leung, Hildie, and Winton W-T. Au. 2010. "Chinese Cooperation and Competition." In Bond Michael H. Bond (ed.), *The Oxford Handbook of Chinese Psychology*. Oxford: Oxford University Press, 499-514.
- Liu, James H., Mei-Chih Li, and Xiaodong Yue. 2010. "Chinese Social Identity and Inter-Group Relations: The Influence of Benevolent Authority" In Bond Michael H. Bond (ed.), *The Oxford Handbook of Chinese Psychology*. Oxford: Oxford University Press, 578-597.
- Liu, James H., Toshio Yamagishi, Feixue Wang, Joanna Schug, Yicheng Lin, Szihsien Yu, Chisato Takahashi, and Li-Li Huang. 2011. "Unbalanced triangle in the social dilemma of trust: Internet studies of real-time, real money social exchange between China, Japan, and Taiwan." *Asian Journal of Social Psychology* 14(4), 246-257.
- Lusk, Jayson L. 2019. "The costs and benefits of deception in economic experiments." *Food Policy*, 83, 2-4.
- Moir, Robert. 1998. "A Monte Carlo analysis of the Fisher randomization technique: reviving randomization for experimental economists." *Experimental Economics* 1(1), 87-100.

- Pearson, Margaret M. 2005. "The business of governing business in China: Institutions and norms of the emerging regulatory state." *World Politics* 57(2), 296-322.
- Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi. 2004. "Institutions rule: the primacy of institutions over geography and integration in economic development". *Journal of Economic Growth* 9(2), 131-165.
- Ruffle, Bradley J., and Richard Sosis. 2006. "Cooperation and the in-group-out-group bias: A field test on Israeli kibbutz members and city residents." *Journal of Economic Behavior & Organization* 60(2), 147-163.
- Song, Fei, C. Bram Cadsby, and Yunyun Bi. 2012. "Trust, reciprocity, and Guanxi in China: An experimental investigation." *Management and Organization Review* 8(2), 397-421.
- Sturm, Bodo, Jiansuo Pei, Ran Wang, Andreas Löschel, and Zhongxiu Zhao. 2019. "Conditional cooperation in case of a global public good Experimental evidence from climate change mitigation in Beijing." *China Economic Review* 56, 101308
- Thomas, David C., and Yuan Liao. 2010. "Inter-Cultural Interactions: The Chinese Context" In Bond Michael H. Bond (ed.), *The Oxford Handbook of Chinese Psychology*. Oxford: Oxford University Press, 679-697.
- Triandis, Harry C. 1995. Individualism and Collectivism. Boulder: Westview Press Co.
- Weng, Yulei, and Hao Xu. 2018. "How guanxi affects job search outcomes in China? Job match and job turnover." *China Economic Review* 51, 70-82.
- Whyte, Martin King. 1995. "The Social Roots of China's Economic Development." *The China Quarterly* 144, 999-1019.

Appendix A – Experimental Instructions⁴⁵

Dear Participant,

You are participating in a study in which you will earn some money. The amount will depend on the outcome of a decision you will make. At the end of the study, your earnings (0-20 RMB) will be added to a show-up fee (2 RMB), and you will be paid in cash.

You are given two document bags and two boxes, bag A (with 20 identical envelopes inside), bag B (with 20 identical envelopes inside), box C (similar to a donation box, for you to place your final choice) and an empty box. Now please read the below 6 steps carefully, then, complete each step sequentially.

Step 1: Please take two envelopes from the document bags. One will be taken from document bag A, marked as A, another one will be taken from document bag B, marked as B. The envelope A *may* contain 20 RMB notes or blank slips. Note that envelope A and B are identical and we won't know whether you receive envelope A with or without money.

Step 2: Importantly, before making your choice you must place these two envelopes in the empty box. This is to ensure all the actions taken is seen by only you and no one else.

Step 3: Once you put the envelopes in the box, you need to open them. If you get the envelope A without money, please skip instructions below and move on to step 4, and complete steps 5 and 6. After you finish the project, you will earn 2 RMB show up fee only.

If you get the envelope A with 20 RMB notes, you are fronted with the choice of splitting this amount between yourself and another person, where you can keep or give whatever you want between 0 and 20 RMB. Think of the other person as if someone else in China. ⁴⁶ After you decide whatever you want to keep and thus meaning you give the remainder to this person, please put this amount of money you want to give this person into envelope B. Note no matter how much money left in envelope A, it will be your earnings in this task.

Step 4: Please take envelope A out of the box and keep it for yourself as your earnings of this task. We will not ask you to return this envelope. Notice that envelope B should stay in the box at this time.

Step 5: Please answer all questions in the second part of the project.

Step 6: After you are done with the actions above, please fold the entire instruction-questionnaire sheet and put it in the envelope B as well. Then, please use the double-sided adhesive provided to seal the envelope B and put the envelope B into box C provided to you. Thus, anyone viewing the data wouldn't know your decision.

If you have no questions, please start!

⁴⁵ Only the experimental instructions are reproduced here. The complete set given to the participants (that is, experimental task plus survey questionnaire) is available as a supplementary material [THIS WILL BE AS ONLINE APPENDIX].

⁴⁶ We present here the instructions from the *Baseline* treatment. In the *Stranger* treatment, this sentence was replaced by, "Think of the other person as if a stranger, like someone you don't know in China." In the *Family/Friends* treatment it was replaced by, "Think of the other person as if someone from your personal network, like a family member or friend in China." In the *Foreigner* treatment it was replaced by, "Think of the other person as if a foreigner, like someone unknown to you and living abroad."

${\bf Appendix}\;{\bf B}-{\bf Additional}\;{\bf regression}\;{\bf results}$

Table B1: Tobit regressions on amount given including treatment/variable interaction terms

			Dej	pendent Va	riable = Amoui	nt given (RI	ИВ)	
Interaction terms on:	Male		Olde	r	High Sch	ool+	Rura	ıl
Treatment Dummies								
Stranger	-14.007***	(5.310)	-14.569***	(4.259)	16.724***	(4.650)	-18.432***	(3.930)
Family/Friends	-7.042	(6.362)	-5.157	(4.896)	18.504***	(4.719)	-8.153*	(4.357)
Foreigner	-15.687***	(5.451)	-15.858***	(6.001)	12.256**	(4.898)	-19.884***	(5.173)
Control Variables								
Male	-14.697***	(5.376)	-8.541***	(2.914)	-3.616	(2.836)	-6.107**	(2.697)
x Stranger	6.608	(6.354)						, ,
x Family/Friends	8.657	(7.519)						
x Foreigner	7.418	(7.097)						
Older	2.581	(2.638)	-3.679	(4.998)	0.912	(2.378)	-2.174	(2.501)
x Stranger			9.079	(5.954)				
x Family/Friends			6.607	(7.543)				
x Foreigner			9.671	(7.058)				
Married	-0.492	(4.220)	0.680	(4.314)	-1.452	(3.724)	-2.685	(3.863)
Religious	-0.404	(2.841)	-0.721	(2.780)	-1.315	(2.417)	-4.793*	(2.875)
Single Child	-4.732	(3.389)	-5.194	(3.488)	-2.030	(2.995)	-7.416**	(3.357)
Children	1.891	(2.401)	1.607	(2.358)	2.862	(2.179)	0.724	(2.279)
High school+	1.506	(3.269)	1.476	(2.934)	28.183***	(4.787)	-0.874	(2.767)
x Stranger					-42.347***	(6.338)		
x Family/Friends					-28.158***	(6.711)		
x Foreigner					-36.294***	(6.091)		
Rural	1.015	(2.914)	0.536	(3.035)	2.077	(2.739)	- 14.503***	(4.189)
x Stranger							25.249***	(5.120)
x Family/Friends							17.524**	(7.291)
x Foreigner							26.937***	(6.901)
Higher Income	-2.075	(2.819)	-2.449	(2.790)	-0.625	(2.668)	-0.842	(2.559)
Importance of Family	4.325	(3.107)	5.461*	(2.999)	4.824*	(2.500)	5.105	(3.097)
Importance of Friends	-3.479	(2.249)	-3.223	(2.105)	-5.132**	(2.009)	-1.921	(2.019)
Importance of Leisure	0.617	(1.696)	1.501	(1.690)	0.779	(1.567)	0.985	(1.733)
Importance of Politics	2.977**	(1.302)	2.866**	(1.296)	2.276**	(1.084)	2.868**	(1.147)
Importance of Work	-0.890	(2.243)	-0.795	(2.253)	-0.811	(1.989)	-2.195	(2.163)
Importance of Religion	-1.143	(1.816)	-1.237	(1.748)	-1.220	(1.575)	-1.353	(1.724)
Interested in Other Cultures	5.876**	(2.550)	6.674**	(2.667)	4.951**	(2.350)	6.699***	(2.461)
Support for Public Goods	-4.728	(3.668)	-5.602	(3.703)	-4.363	(3.387)	-4.624	(3.623)
Collectivist	-0.583	(3.170)	-0.150	(2.928)	3.724	(3.090)	-1.417	(3.118)
Constant	11.040	9.562)	8.131	(8.450)	-16.955**	(8.505)	15.930*	(8.641)
Pseudo R ²	0.074		0.075	•	0.146		0.096	
N	170		170		170		170	

Note: *** p<0.01, ** p<0.05, * p<0.1; Standard errors, corrected for heteroscedasticity, in parentheses. 31 observations dropped due to missing data resulting from incomplete questionnaire response. The omitted treatment category is Baseline.

Table B2: Tobit regressions on amount given including treatment/variable interaction terms

	Dependen	it Variable = A	mount given (RMB)		
Interaction terms on:	Higher In	come	Interested in Ot	her Cultures	Collect	ivist
Treatment Dummies						
Stranger	-1.602	(4.933)	-9.704*	(5.706)	-15.820**	(6.788)
Family/Friends	3.666	(5.226)	15.626**	(6.100)	-8.868	(7.434)
Foreigner	-1.350	(6.527)	9.025	(6.146)	-18.186**	(8.201)
Control Variables						
Male	-8.646***	(2.970)	-6.221**	(2.600)	-9.423***	(3.064)
Older	3.129	(2.709)	-0.140	(2.518)	2.417	(2.842)
Married	-0.793	(4.127)	-0.968	(3.831)	-0.837	(4.141)
Religious	-1.006	(2.733)	-2.999	(2.624)	-0.483	(2.801)
Single Child	-4.231	(3.453)	-6.202*	(3.236)	-5.010	(3.514)
Children	1.759	(2.378)	2.001	(2.164)	2.097	(2.506)
High school+	0.606	(2.938)	-1.685	(2.758)	1.326	(2.873)
Rural	1.745	(2.951)	1.810	(2.708)	0.014	(3.247)
Higher Income	9.087*	(5.309)	-0.085	(2.602)	-2.142	(2.856)
x Stranger	-14.929**	(5.966)				
x Family/Friends	-10.882	(7.515)				
x Foreigner	-18.810*	(8.259)				
Importance of Family	5.307*	(2.975)	6.123**	(2.991)	6.449*	(3.524)
Importance of Friends	-4.464*	(2.279)	-1.846	(1.971)	-3.313	(2.234)
Importance of Leisure	0.682	(1.684)	-0.435	(1.690)	0.947	(1.690)
Importance of Politics	2.525**	(1.197)	2.677**	(1.171)	2.701*	(1.486)
Importance of Work	-2.528	(2.212)	-1.345	(1.959)	-1.269	(2.283)
Importance of Religion	-0.247	(1.848)	-0.999	(1.671)	-1.331	(1.896)
Interested in Other Cultures	6.644***	(2.473)	27.079***	(6.327)	5.683**	(2.623)
x Stranger			-29.531***	(6.327)		
x Family/Friends			-22.582***	(7.514)		
x Foreigner			-26.947***	(7.426)		
Support for Public Goods	-6.677*	(3.717)	-3.876	(3.517)	-5.323	(3.599)
Collectivist	-0.214	(2.974)	0.607	(3.010)	-6.610	(6.064)
x Stranger					5.364	(6.575)
x Family/Friends					7.167	(7.955)
x Foreigner					7.442	(8.403)
Constant	4.599	(8.699)	-10.837	(10.069)	12.204	(9.701)
Pseudo R ²	0.08	3	0.104		0.072	
N	170		170		170	

Note: *** p<0.01, ** p<0.05, * p<0.1; Standard errors, corrected for heteroscedasticity, in parentheses. 31 observations dropped due to missing data resulting from incomplete questionnaire response. The omitted treatment category is Baseline.

Online Appendix: Supplementary Material for "Social Preferences in a Chinese Cultural Context"

This file provides material that supplements the main text/paper. In particular, this is the complete set of instructions in English that includes experimental task's instructions and survey questionnaire.

Complete Instructions

Dear Participant,

Thank you for agreeing to participate in this research project in connection with my *Masters degree* at the University of Nottingham Ningbo China (UNNC). As participants who are being asked to participate, you have been chosen randomly. The study is conducted anonymously. The project is a study of how Chinese people make decisions.

Your participation in the project is voluntary. You are able to withdraw from the project at any time and to request that the information you have provided not to be used in the project. Any information provided will be confidential. There is no request for any personal contact and your name should never be placed on this form itself and it will never be related to your answers.

This project contains two parts and it would take you 20-25 minutes maximum. You will receive 2 RMB show up fee after the project. Besides, you could earn 0-20 RMB in the decision making part of this study where your earnings are based on your decision. After the first part, where you would make a choice, we will then have a second part which consists of some additional questions. In order that the responses truly represent the matters of this study, it is very important that questions are adequately completed.

The research project has been reviewed according to the ethical review processes in place at the University of Nottingham Ningbo. These processes are governed by the University's Code of Research Conduct and Research Ethics. Should you have any question now or in the future, please contact me (zx12302@nottingham.edu.cn). Should you have concerns related to my conduct of the survey or research ethics, please contact my supervisor or the University's Ethics Committee.

Part 1 Instructions

Dear Participant,

You are participating in a study in which you will earn some money. The amount will depend on the outcome of a decision you will make. At the end of the study, your earnings (0-20 RMB) will be added to a show-up fee (2 RMB), and you will be paid in cash.

You are given two document bags and two boxes, bag A (with 20 identical envelopes inside), bag B (with 20 identical envelopes inside), and two boxes, box C (similar to a donation box, for you to place your final choice) and an empty box. Now please read the below 6 steps carefully, then, complete each step sequentially.

Step 1: Please take two envelopes from the document bags. One will be taken from document bag A, marked as A, another one will be taken from document bag B, marked as B. The envelope A *may* contain 20 RMB notes or blank slips, noting that envelope A and B are identical and we won't know whether you receive envelope A with or without money.

Step 2: Importantly, before making your choice you must place these two envelopes in the empty box. This is to ensure all the actions taken is seen by only you and no one else.

Step 3: Once you put the envelopes in the box, you need to open them. If you get the envelope A without money, please skip instructions below and move on to step 4, and complete steps 5 and 6. After you finish the project, you will earn 2 RMB show up fee only.

If you get the envelope A with 20 RMB notes, you are fronted with the choice of splitting this amount between yourself and another person, where you can keep or give whatever you want between 0 and 20 RMB. Think of the other person as if someone else in China.⁴⁷ After you decide whatever you want to keep and thus meaning you give the remainder to this person, please put this amount of money you want to give this person into envelope B. Note no matter how much money left in envelope A, it will be your earnings in this task.

Step 4: Please take envelope A out of the box and keep it for yourself as your earnings of this task. We will not ask you to return this envelope. Notice that envelope B should stay in the box at this time.

Step 5: please answer all questions in the second part of the project

Step 6: After you are done with the actions above, please fold the entire instruction--questionnaire sheet and put it in the envelope B as well. Then, please use the double-sided adhesive provided to seal the envelope B and put the envelope B into box C provided to you. Thus, anyone viewing the data wouldn't know your decision.

If you have no questions, please start!

Part 2 Please answer the following questions.

A1 What is your gender? (please tick one box)
□ Male
☐ Female
A2 What is your age? (please fill out)
years old
A3 Are you married? (please tick one box)
☐ Married
□ Not-Married (e.g. Single, Widowed or Divorced)
A4 Do you belong to a religion or religious denomination? If yes, which one?
□No: do not belong to a denomination
Yes: □Roman Catholic □Protestant □Orthodox (Russian/Greek/etc.) □Muslim □Buddhist □Otho
A5 Are you the only child in your family? (please tick one box) ☐ Yes ☐ No

⁴⁷ In the *Stranger* treatment, this sentence was replaced by, "Think of the other person as if just a stranger, like someone you don't know in China." In the *Family/Friends* treatment it was replaced by, "Think of the other person as if just someone from your personal network, like a family member or friend in China." In the *Foreigner* treatment it was replaced by, "Think of the other person as if just a foreigner, like someone unknown to you and living abroad."

A6 Do you have any children? (please tick one box or write down the number if you have more than two children.) □No children □One child □Two children More
A7. What is your current job (please tick one box) White collar Blue collar Student Other job (works at home or could not be categorized as blue collar or white collar)
A8 What is the highest level of education you have completed? (please tick one box) Primary school Middle school High school Technical/vocational high school Bachelor Higher
A9 Could you tell me whether you have lived in a city, town or village in the past 5 years? (please tick one box) ☐ City (e.g. Shanghai, Ningbo) ☐ Town (e.g. Cixi, Fenghua) ☐ Village
A10 Could you tell me in what range your monthly income (in RMB) is? (<i>please tick one box</i>) ☐ Below 2000 ☐ 2000 −3999 ☐ 4000 −5999 ☐ 6000 −7999 ☐ 8000 −9999 ☐ Above 10000
B1 In the decision making task when you were deciding to keep or give money what was the reason(s) behind your choice. If you only have 1 reason please tick one out of the three options provided, or if two or all three reasons were important then rank them in order (say as 1, 2 for two reasons and 1,2,3 for all three reasons) You care about others and what was fairYou care about what others might think about you not givingYou wanted to please the researcher
B2. Optional question: what else were you considering, when you made your choice in the task.

B3 Consider the following 3 scenarios where you have the options of dividing 100 Yuan between yourself and another person. Which of the two options between A and B in each three scenarios would

you choose. (please insert the letter for options A or B in the space provided behind each situation and as indicated by 'Your choice')

Scenario 1	Option A: You keep 80 RMB and give 20RMB to the other person	Option B: You keep 20 RMB and give 80RMB to the other person	Your choice:
Scenario 2	Option A: You keep 70 RMB and give 30RMB to the other person	Option B: You keep 30 RMB and give 70RMB to the other person	Your choice:
Scenario 3	Option A: You keep 60 RMB and give 40RMB to the other person	Option B: You keep 40 RMB and give 60RMB to the other person	Your choice:

	I	I		
I1 Regardless of	whether you're	actually looking fo	raioh which one wo	uld you, personally, place first
if you were look			rajoo, which one wo	ara you, personarry, prace rust
•			have any worries abo	ut money
	A safe job with	no risk of closing o	down or unemployme	nt
	Working with p	eople you like		
	Doing an impor	tant job which give	es you a feeling of acc	complishment
I2. Would you sa ☐ Yes	ay losing face is ☐ No	more important that	an gaining face? (Ple	ase tick the appropriate box)
circle one numbe	er)	-	ant it is in your life. V	Would you say it is (<i>please</i>
	very important	ramer important	Trot very important	Tot at all important
V2. Family	1	2	3	4
V3. Friends	1	2	3	4
V4. Leisure time	1	2	3	4
V5. Politics	1	2	3	4
V6.Work	1	2	3	4
V7. Religion	1	2	3	4

V8. All things considered, how satisfied are you with your life as a whole these days? 1 means you are "completely dissatisfied" and 10 means you are "completely satisfied" (*please circle one number*)

Completely dissatisfied Completely satisfied

careful in dealing with p ☐Most people can be ☐Need to be very care	eople? (ple trusted.						ole (can 1	be '	trusted or that y	ou need to be very
V10. Would you say tha □Yes	nt in society □No	one	shou	uld l	be c	onsi	dera	ate to	ot	hers? (Please ti	ck one box)
V11. Do you think mos try to be fair to you? Pl- would try to take advan- one number)	ease show	your	resp	ons	se by	y cir	clin	g an	y o	ne number whe	ere 1 means "people
People would take advantag	-									People would to be fair to	-
	1	2	3	4	5	6	7	8	9	10	
V12. According to your altruistic? Below a circ circled choice close to <i>number</i>)	led number	clos	se to	nu	ımbe	er 1	mea	ans p	peo	ple are relative	ly more selfish and
	Selfish									Altruistic	
	1				5	6	7	8	9	10	
H1 How proud are you t	o be Chine		ทเคล	SP C	ircli	e on	e nu	ımhe	r)		
H1 How proud are you to Not at all proud	1			se c				ımbe 	<u>r)</u>	Quite proud	Very proud
H1 How proud are you to Not at all proud	Not very 2			ise c		e on t pro 3		ımbe	r)	Quite proud 4	Very proud 5