(This is a sample cover image for this issue. The actual cover is not yet available at this time.)

Economics Letters 116 (2012) 210–212

Contents lists available at SciVerse ScienceDirect

Economics Letters

journal homepage: www.elsevier.com/locate/ecolet

How much should we trust the World Values Survey trust question?

Noel D. Johnson [a,*], Alexandra Mislin [b]

[a] Department of Economics, George Mason University, Mercatus Center at George Mason University, 3351 North Fairfax Dr., 4th Floor, Arlington, VA 22201, United States
[b] Kogod School of Business, American University, United States

ARTICLE INFO

Article history:
Received 1 July 2011
Received in revised form
30 January 2012
Accepted 10 February 2012
Available online 1 March 2012

JEL classification:
C91
Z10
C83

Keywords:
Trust
Trust game
World values survey
Cross-cultural experiments

ABSTRACT

We use a unique data set of trust game replications to validate the commonly used "trust" question from the World Values Survey. We find that trust as measured by the World Values Survey is positively correlated with experimentally measured trust.

1. Introduction

Attempts to compare trust across societies often rely on survey responses contained in the World Values Survey (WVS), which was administered in five waves between 1981 and 2008 to over 250,000 respondents across 80 countries (e.g. Knack and Keefer, 1997; Zak and Knack, 2001).[1] The level of trust in a country is typically assessed using responses to the single question, "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" The indicator of trust is the percentage of individuals in the society who respond "most people can be trusted". In this paper we ask if the WVS Trust question is correlated with experimentally measured trust or trustworthiness across countries. We find it is strongly correlated with experimental trust, but not with trustworthiness.

While the single item WVS Trust measure may provide insights into attitudes about trust across the markets surveyed, it is not clear whether it is an internally valid measure or predictor of general trust behavior. Surveys of people's attitudes have been weak predictors of people's actual behaviors (Ajzen and Fishbein, 1977). Furthermore, the WVS measure of trust leaves the interpretation of who "most people" are to the survey respondents, who may interpret this differently under different circumstances in different societies (Glaeser et al., 2000). For example, some may be thinking of the people within their community, while others may be considering the institutional environment of the country and whether government officials can generally be trusted.[2]

In contrast to attitudinal measures, experimental measures of trust between anonymous individuals and with monetary incentives offer a concrete exchange setting which can capture generalized trust behavior more effectively (Camerer, 2003). Behavioral measures of trust are captured in a carefully designed and controlled experimental setting which presents an exchange

* Corresponding author.
E-mail address: njohnsoL@gmu.edu (N.D. Johnson).

[1] http://www.wvsevsdb.com/wvs/WVSData.jsp. Examples of papers which rely on the WVS Trust Question include: Ashraf et al. (2006), Fisman and Khanna (1999), Guiso et al. (2006), Glaeser et al. (2000), La Porta et al. (1997), Lazzarini et al. (2005), and Nunn and Wantchekon (2009).

[2] Knack and Keefer (1997) offered evidence for the validity of this WVS trust measure by measuring and finding a correlation (0.67) with a sample of European countries and the percentage of wallets returned in the Reader's Digest experiments of 'lost wallets' (See The Economist, June 22, 1996). Returning a lost wallet, however, is more a reflection of trustworthiness than trust, and this supports other research which has found that survey measures of trust correlate slightly with trustworthiness rather than willingness to trust (Lazzarini et al., 2005; Glaeser et al., 2000).

0165-1765/$ – see front matter
doi:10.1016/j.econlet.2012.02.010

with real money at stake, and forces subjects to carefully consider expectations of the other person's behavior and their willingness to be vulnerable. In previous studies, however, these trust experiments have correlated poorly with surveys of trust attitudes (Glaeser et al., 2000; Lazzarini et al., 2005). For example, Glaeser and colleagues conducted a study examining trust measures and antecedents of trust, which compared individual responses to survey measures of trust to their actual behavior in an experimental 'trust game' following the survey. They found no significant correlation between the WVS trust measure and behavior in the trust game, and concluded that the experimental measure of trust more effectively captures individual willingness to trust.[3] Lazzarini and colleagues (Lazzarini et al., 2005) extended Glaser's research by comparing the WVS results for level of trust in Brazil with actual behaviors in the Berg et al. (1995) trust game experiments conducted in the same country. Individuals in the trust experiments were more willing to trust than the WVS findings suggested, and again there was no significant correlation between willingness to trust in the experiments and the answer to the question whether most people can be trusted.

2. Data and model

We use a newly constructed data set containing observations of trust and trustworthiness behavior from replications of the Berg, Dickhaut, and McCabe "Investment Game" collected across 35 countries from more than 23,000 subjects in order to test whether the WVS Trust Question is correlated with experimental trust.[4] In the original BDM Game there is a sequential exchange between a Sender and Receiver. After being anonymously paired, both players are endowed with $10. In the first stage, the Sender may pass any amount of her $10 to the Receiver. The experimenter triples this amount and gives it to the Receiver, who may then return any amount desired back to the Sender. The amount passed by the Sender as proportion of her endowment is our measure of "Experimental Trust". The proportion returned by the Receiver measures "Experimental Trustworthiness" (Camerer, 2003, p. 85). Each observation in our data represents a single replication of the BDM game and corresponds to the average trust and trustworthiness across players in that game.[5] We have 152 observations for trust covering 30 countries and 128 for trustworthiness. The data set also includes an extensive set of controls for different experimental protocols used in each replications.[6]

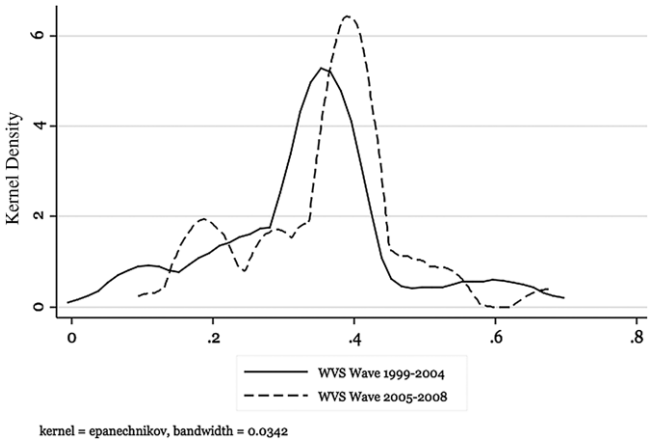

Fig. 1. Distribution of two world values survey waves.

The data on the World Values Survey Trust Question come primarily from the most recent two collection waves corresponding to the years 1999–2004 and 2005–2008.[7] These two waves of WVS trust data are highly correlated with a Pearson's correlation coefficient of 0.91 (p-value <0.001). The kernel density plots of each Wave shown in Fig. 1 highlight the close relationship between the two groups of surveys. Given their similarities, and in order to maximize the number of countries covered, we choose to combine the two WVS waves into a single variable called WVSTrust.

We estimate a series of specifications based on:

$$y_{ij} = \alpha + \beta \cdot WVSTrust_i + \Gamma' X_i + \phi_j + \varepsilon_{ij},$$

where y_{ij} represents either the logit transformed measures of experimental trust or trustworthiness for observation i in geographic region j.[8] *WVSTrust* is the survey measure of trust behavior, X_i is a vector of methodological control variables, ϕ_j is a vector of geographic region dummies, and ε_{ij} is an i.i.d. error term.

3. Findings

Table 1, Panel A reports the estimate for β when experimental trust is the dependent variable. Panel B reports β when experimental trustworthiness is the dependent variable. Huber–White standard errors are reported in parentheses.[9] In brackets we report the proportion of a standard deviation in the dependent variable that a one standard deviation increase in WVSTrust has conditional on the estimated coefficient.

The results in Panel A indicate a very strong positive correlation between WVSTrust and experimental trust. Across all three specifications, the coefficient on WVSTrust is positive and statistically significant. According to the full specification reported in column

[3] Glaeser's study also indicated that survey questions asking about specific instances of past trust behavior rather than attitudes provided an effective measure of trust behavior.

[4] The data were collected by the Authors and are described in detail in Johnson and Mislin (2011). The data are also reproduced in their entirety in the appendix to Johnson and Mislin (2011).

[5] Since the variables Trust and Trustworthiness are bounded by zero and one, we choose to perform the logit transformation on each of them so as to avoid inappropriately specifying the OLS model. Thus, the dependent variables range from negative to positive infinity.

[6] All variables, including the experimental controls, are described in Appendix. The Trust and Trustworthiness samples do not perfectly overlap since not all experimenters collected data on Receiver behavior. In the Trust sample there are 46 observations from North America, 64 from Europe, 23 from Asia, 10 from South America, and 9 from Africa. In the Trustworthy sample there are 41 observations from North America, 53 from Europe, 15 from Asia, 13 from South America, and 9 from Africa.

[7] Given that BDM was published in 1995, most replications of their game did not begin until 1999. For Wave Five data (2005–2008), we simply use all observations available. For Wave Four (1999–2004) we use earlier waves (back to 1995) in order to maximize the overlap between countries covered by the experimental trust data and the WVS. For the Wave Four data we always use the most recent observation on a country.

[8] The geographic regions are defined as North America, Europe, Asia, South America, and Africa. See Johnson and Mislin (2011) for details of how these dummies are constructed.

[9] We use Huber–White standard errors to correct for minor problems of normality or heteroskedasticity.

Table 1
Are experimental trust and trustworthiness correlated with the WVS trust question?

Panel A: Dependent variable: Experimental trust (proportion sent)	(1)	(2)	(3)
WVSTrust	0.912**	1.084***	1.267**
	(0.420)	(0.437)	(0.610)
	[0.200]	[0.238]	[0.279]
Experimental Controls		x	x
Region Dummies			x
Observations	152	152	152
R-squared	0.040	0.168	0.120
Panel B: Dependent variable: Experimental trustworthiness (proportion returned)	(4)	(5)	(6)
WVSTrust	0.011	−0.155	−0.440
	(0.357)	(0.359)	(0.412)
	[0.003]	[−0.040]	[−0.113]
Experimental Controls		x	x
Region Dummies			x
Observations	128	128	128
R-squared	0.000	0.214	0.245

Notes: The measures of experimental trust and trustworthiness are logit transformed. Huber–White standard errors are reported in parentheses. Numbers in brackets indicate the proportionate change in a standard deviation of the dependent variable a one standard deviation change in WVSTrust induces. Experimental controls included and definitions for the region dummies are contained in Johnson and Mislin (2011). * Indicate significance at the 10 percent levels.
** Indicate significance at the 5 percent levels.
*** Indicate significance at the 1 percent levels.

(3) a one standard deviation increase in the percent of survey respondents who answer "yes" to the WVS Trust Question is associated with an increase in a country's experimentally measured trust of about 28% of a standard deviation.

In Panel B we report the value of β using experimental trustworthiness as the dependent variable. In contrast to the results in Panel A, there is no evidence of a positive correlation between experimental trustworthiness and answers to the WVS Trust Question. The coefficient estimates are neither economically nor statistically significant at conventional levels.

As robustness checks we estimate, but do not report, versions of specifications (1)–(6) in which we weight observations by the number of participants in the experimental studies. We also estimate (1)–(3) using the restricted experimental trustworthiness sample of 128 studies. Finally, we estimate all specifications using the raw, untransformed, versions of the dependent variables. In all cases the results in Table 1 do not change in any substantive way.

4. Conclusions

This study assesses the validity of the WVS Trust Question using data on experimental trust across countries drawn from 152 replications of the Berg, Dickhaut, and McCabe Investment Game. We find strong support for the interpretation that the WVS Trust Question measures the same thing experimenters call "trust" in the lab. By contrast, we find no relationship between our measure of experimental trustworthiness and answers to the WVS Trust Question.

Acknowledgment

We would like to thank Nathan Nunn for suggesting the idea for this study.

Appendix. Descriptive statistics

Panel A: Trust Sample					
Variable Name	Obs	Mean	Std. Dev.	Min	Max
Variables of Interest					
WVS8199	151	0.32	0.15	0.03	0.66
WVS0508	131	0.36	0.14	0.09	0.68
WVSTrust	152	0.32	0.15	0.06	0.67
Experimental Trust	152	0.03	0.55	−1.24	2.04
Control Variables					
Sender Endowment	152	20.42	47.31	0.00	238.10
Receiver Endowed	152	0.56	0.50	0.00	1.00
Anonymous	152	0.86	0.35	0.00	1.00
Rate Return	152	0.91	0.28	0.00	1.00
Double Blind	152	0.11	0.31	0.00	1.00
Student	152	0.58	0.50	0.00	1.00
Strategy Method	152	0.40	0.49	0.00	1.00
Both Roles	152	0.22	0.42	0.00	1.00
Random Payment	152	0.34	0.48	0.00	1.00
Real Person	152	0.96	0.20	0.00	1.00

Panel B: Trustworthy Sample					
Variable Name	Obs	Mean	Std. Dev.	Min	Max
Variables of Interest					
WVS8199	129	0.31	0.15	0.03	0.66
WVS0508	111	0.36	0.14	0.09	0.68
WVSTrust	129	0.32	0.15	0.06	0.67
Experimental Trustworthiness	129	−0.55	0.53	−2.11	1.46
Control Variables					
Experimental Trust	128	0.04	0.55	−1.24	2.04
Sender Endowment	129	22.22	49.80	0.18	238.10
Receiver Endowed	129	0.56	0.50	0.00	1.00
Anonymous	129	0.85	0.36	0.00	1.00
Rate Return	129	0.90	0.30	0.00	1.00
Double Blind	129	0.12	0.33	0.00	1.00
Student	129	0.55	0.50	0.00	1.00
Strategy Method	129	0.39	0.49	0.00	1.00
Both Roles	129	0.23	0.42	0.00	1.00
Random Payment	129	0.37	0.48	0.00	1.00

References

Ajzen, I., Fishbein, M., 1977. Attitude–behavior relations: a theoretical analysis and review of empirical research. Psychological Bulletin 84, 888–918.
Ashraf, N., Bohnet, I., Piankov, N., 2006. Decomposing trust and trustworthiness. Experimental Economics 3 (Sept.), 193–208.
Berg, J., Dickhaut, J., McCabe, K., 1995. Trust, reciprocity, and social history. Games and Economic Behavior 10, 122–142.
Camerer, C., 2003. Behavioral Game Theory. Princeton University Press and Russell Sage Foundation.
Fisman, R., Khanna, T., 1999. Is trust a historical residue? information flows and trust levels. Journal of Economic Behavior & Organization 38, 79–92.
Glaeser, E.L., Laibson, D.I., Scheinkman, J.A., Soutter, C.L., 2000. Measuring trust. Quarterly Journal of Economics 115 (3), 811–846.
Guiso, L., Sapienza, P., Zingales, L., 2006. Does culture affect economic outcomes? The Journal of Economic Perspectives 20 (2), 23–48.
Johnson, N., Mislin, A., 2011. Trust games: a meta-analysis. Journal of Economic Psychology 32, 865–889.
Knack, S., Keefer, P., 1997. Does social capital have an economic payoff? a cross-country investigation. Quarterly Journal of Economics 112, 1251–1288.
La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 1997. Trust in large organizations. The American Economic Review 87 (2), 333–338.
Lazzarini, S.G, Madalozzo, R., Artes, R., Siqueira, J.O., 2005. Measuring trust: an experiment in Brazil. Revista de Economia Aplicada 9 (2), 153–169.
Nunn, N., Wantchekon, L., The slave trade and the origins of mistrust in Africa, NBER Working Paper 14783, 2009.
Zak, P.J., Knack, S., 2001. Trust and growth. The Economic Journal 111 (April), 295–321.