Altruistic Economic Behaviors and Implicit Worldviews: A Progress Report

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Abstract

The main purpose of this paper is to study how the individual differences in implicit worldviews regarding categories versus relationships affect altruistic behavior towards parents, children and non-family members, using the survey data of Korea, Japan and the US. We found international differences that are consistent with Nisbett's theory that Easterners tend to use relationships more than categories compared with Westerners. We found statistically significant effects of implicit worldviews on some altruistic behaviors. We also found confidence in spiritual beliefs in explicit worldviews have significant effects on some altruistic behaviors.

1. Introduction

Altruism and intergenerational transfers have been widely studied in economics (see, e.g., Fehr and Schmidt, 2006), and Horioka (2012) has found substantial international variations in altruism for China, India, Japan, and United States. Since the variation is not explained by income differences, a natural candidate for explaining such variation is culture. Some researchers have recently started to study use worldviews in order to explain international differences in intergenerational altruistic attitudes (see, e.g., Kubota et al. 2013 for a study of Japan and United States and Akkemik et al. 2013 for a study of Turkish people living in Turkey and in Germany). These authors have found elements in explicit worldviews (or belief systems) such as confidence in worldview beliefs have statistically significant effects on intergenerational altruistic attitudes and explain substantial proportions of international differences in them.

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This paper differs from the previous literature in that it uses unique data that represent implicit worldviews about categories and relationships. Our research question is how implicit worldviews affect altruistic economic behavior towards parents, children and non-family members. We used survey data of Korea, Japan and the US that contains various measures of implicit and explicit worldviews, individual preferences. We found that implicit worldviews have statistically significant effects on some altruistic attitudes. The remainder of the paper is organized as follows. Section 2 explains the main variables for our analysis concerning worldview and confidence and section 3 describes data and economic framework. The estimation results are summarized and discussed in section 4 and section 5 concludes.

2. Worldviews and Confidence

2.1. Implicit and Explicit Worldviews

Hiebert (2008, pp. 25-26) defines "worldview" in anthropological terms as "the foundational cognitive, affective, and evaluative assumptions and frameworks a group of people makes about the nature of reality which they use to order their lives. A worldview is behind each culture, and Hiebert considers explicit and implicit levels of a worldview as in Figure 1. He posits different types of logics at the implicit level of the worldview. The most important ones are algorithmic logic and relational logic. This difference corresponds with Nisbett's (2003, pp. 139-147) theory of categories versus relationships. Nisbett's hypothesis based on intellectual traditions in ancient Greece and ancient China is that Westerners would have a greater tendency to categorize objects than would Easterners. Nisbett cites experimental evidence for his hypothesis.
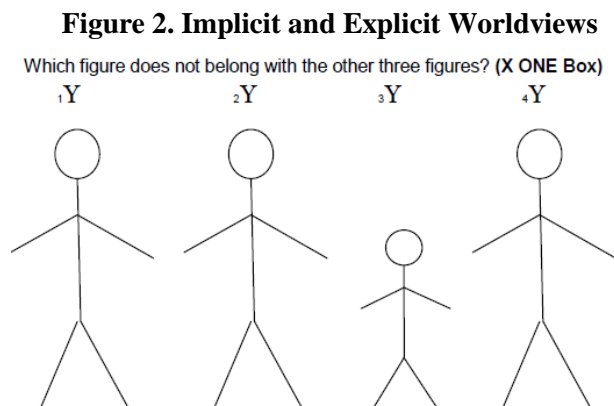
Figure 1. Levels of Culture
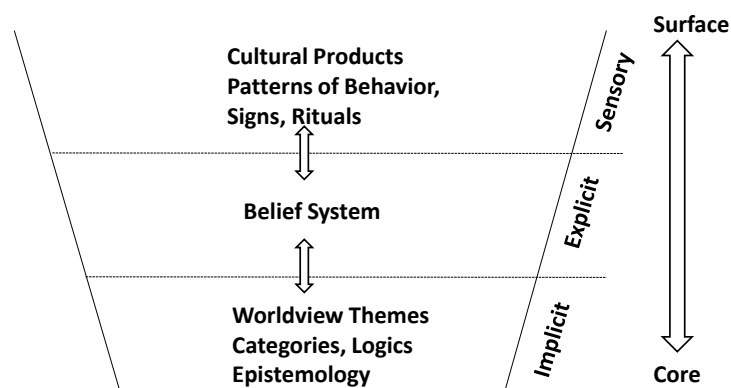
Source: Hiebert (2008; p33)

We measured this difference in the implicit worldview using the following question, "which figure does not belong with the other three figures?" (see Figure 2). A majority of people chose the third one in three countries because of its different size compared with the others. We consider it as evidence for them using algorithmic logic or categories. On the other hand, some people choose other choices, and they typically see a family of the father, the mother, and the child. We consider it as evidence for them using relational logic or relationships. Among the people who use relationships, there are some differences: people who see the first one or the forth one as being isolated are interpreted to have the worldview valuing family relations. The mechanism is that the respondents who chose one or four tend to view three figures in a row as a family unit: a unit of a father, a child and a mother, or a unit of a father, a mother and a child. Thus the first figure or the fourth one, who does not belong to these two family units, looks

alienated for these respondents. The way how people look three figures as one family unit (e.g., the order of the family members) can be different between cultures or regions. Those who selected the second one as their choice can be interpreted in several ways. It is likely that they see the third and the fourth figures as a unit of one parent and a child, and consider the first one as the other parent who is isolated from the family. In this interpretation, the second one is not a member of the core family of the parents and a child, and the first one is viewed as being left out from his/her own core family. One possibility of the second figure is the mother of the husband or the wife. As Table 1 shows, the majority of people across countries chose the third figure. On the other hand, relatively more people chose the third figure in the United States than in Japan and Korea. In this sense, the results are consistent with Nisbett's hypothesis. Comparatively, there is more variation in answers for this question in Korea.

Figure 2. Implicit and Explicit Worldviews

Which figure does not belong with the other three figures? (X ONE Box)

2.2. Confidence

In addition to the implicit worldview, we also analyze the effect of belief system and the confidence in spiritual and nonspiritual matters, which can affect the pattern of behavior (Figure 1). Spiritually directed confidence variables are based on the following questions: i) God and Gods exist ii) God is watching and sees all bad deeds iii) Life after death exist (iv) Heaven exists. Non-religious based worldview is constructed from the answer to the question "human beings evolved from other living things."[7] We constructed two variables that represent the direction of the degree of confidence toward spiritual and non-spiritual matters. For s*piritually directed confidence* we give a point of 1 if the answer to a spiritual question is "completely agree" or the answer to a non-spiritual question is "completely disagree", zero otherwise: then we add up all points. In the same way, *non-spiritually directed confidence* equals 1 if the answer to a non-spiritual question is "completely agree" and the answer to a spiritual question is "completely disagree", zero otherwise.

We found some interesting country differences in *the degree of confidence*[8] regarding spiritual questions. As shown in the Table 1, Korean and American people have relatively strong confidence in the spiritual worldviews (Korea=2.44; Japan=1.11; US=2.93). But if we consider the direction of the confidence in religious matters, the mean values of non-spiritual directed confidence of Americans is very low. This suggests that Americans' high confidence is more likely to be spiritual directed, while Koreans have strong confidence in both spiritual and nonspiritual matters.

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[7] The score range for (non)spiritual questions in the Korean survey is 0 to 100. For better comparison, each question of (non) spiritual question is recoded on a scale range from 1 to 5. The estimation is conducted with the recoded variables.

[8] The degree of confidence is measured as a binary indicator that equals 1 if the answer to a (non) spiritual question is either completely agree or completely disagree, zero otherwise. For the estimation, spiritual and nonspiritual directed confidence variables are used to measure the degree and direction of the confidence in religious matters.

Table 1. Descriptive Statistics

	Korea		Japan		US	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Degree of Donation						
To parents	2.569	(0.584)	2.604	(0.613)	2.554	(0.620)
To children	2.425	(0.710)	2.554	(0.706)	2.539	(0.633)
To others	1.827	(0.643)	1.757	(0.699)	2.078	(0.701)
Relational Worldviews						
Alienated (1)	0.101	(0.302)	0.081	(0.272)	0.010	(0.100)
Alienated (2)	0.023	(0.151)	0.004	(0.062)	0.001	(0.024)
Alienated (3)	0.787	(0.409)	0.887	(0.316)	0.955	(0.207)
Alienated (4)	0.088	(0.284)	0.028	(0.166)	0.034	(0.182)
Religion-related confidence, Behavioral Traits						
Buddhist_devoted	0.010	(0.100)	0.006	(0.078)	0.001	(0.024)
Christian_devoted	0.110	(0.314)	0.004	(0.065)	0.147	(0.354)
The Degree of Confidence	2.440	(2.060)	1.112	(1.479)	2.930	(1.885)
Spiritual Directed Confidence	1.268	(1.774)	0.490	(1.004)	2.467	(1.990)
Non-spiritual Directed Confidence	1.171	(1.661)	0.622	(1.113)	0.463	(1.052)
Impatience	0.022	(0.020)	0.046	(0.368)	0.075	(0.108)
Demographic Variables						
Age	45.01	(14.410)	51.98	(12.662)	51.67	(15.916)
lnincome_percapita	6.944	(0.709)	5.099	(0.667)	3.339	(0.795)
Female(=1)	0.508	(0.500)	0.520	(0.500)	0.539	(0.499)
Years of education	13.013	(2.699)	11.367	(1.301)	14.275	(2.434)
Having child(ren) (=1)	0.557	(0.497)	0.812	(0.391)	0.715	(0.451)

3. **Data and Econometric Method**

The data used for the analyses in this study are based on the questionnaire survey entitled "Preference and Life Satisfaction Survey" which has been conducted as part of Osaka University 21st Century Center of Excellence Program. This survey was conducted first in Japan on February 2004 using a random sample drawn from 6,000 individuals by a placement method and it then has been conducted annually. The same questionnaire survey was conducted in Korea in 2012 with 1009 individuals and in the US in 2012 with 3653 individuals. In this study we use 2012 data for three countries and the same variables are used for the analysis.

Using the answers to the following question: how much of your own family income per month would you be willing to give to your i) parents ii) child iii) others to help out if they had only one-third (for others, one-fifth) as much family income per person to live on as you do?, we created three ordinal variables from the five answer (1 for 0%; 2 for up to 2%; 3 for more than 2%).[9] The similar trends in the degree of donations to parents, child, and others are observed across countries (Table 1). Approximately 80-90% of people are willing to provide a financial support to their parents and the child in all three countries. Charitable donation for others is less strict in the US: around one half of the respondents answer that they could give more than 2% of their household income for others in need.

4. **Estimation Results**

Table 2-(1) indicate the estimation results about altruistic behaviors using ordered probit regressions. The first three columns show the results of Korean people. The estimation results suggest that logic/relation-based worldview be associated with individual decision to give one's own household income to their family and others in Korea. Those who think that the first figure looks isolated from the other three figures are less likely to give their income to others under financially difficult situation. This can be because they value the relationship with their own family, which

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[9] The reason why we categorized the degree of donations to parents, child and others into three: 0%, up to 2% and more than 2% is that we found the non-linear trend at the threshold level of 2%.

makes them place less emphasis on helping others. In contrast, those who selected the second one are less likely to care about their own family. They are less likely to contribute to family needs. As explained in Section 2.1, those who chose the second figure may have some isolation issue themselves. Their worldview on the broken relationship between family members can reflect less willingness to provide a financial support to the family members.

In case of Japan, only fourth choice has statistically significant effect on donation behavior of the respondents: those who thought that the fourth figure does not belong with the other three figures are more likely to give their income to their children. We interpret this result to mean that a sound bond between a husband and a wife leads to more altruism toward children when the respondent uses the relational logic rather than the western logic. As for Americans, no significant effect of relational logic worldviews was found in our analysis.

Table 2. Estimation Results

Model: Ordered Probit	(1) Dependent Variable : Donate % of household income to parents, children and others									(2) Dependent : Alienated 3 (=1)		
	Korea			Japan			US			Korea	Japan	US
	Parents	Child	Others	Parents	Child	Others	Parents	Child	Others			
Relational Worldviews												
Alienated (1)	-0.0854	0.1106	-0.3072**	0.0421	-0.0754	-0.0722	0.4435	0.2638	0.0576			
	(0.130)	(0.127)	(0.125)	(0.091)	(0.088)	(0.082)	(0.331)	(0.299)	(0.264)			
Alienated (2)	-0.5249**	-0.5245**	-0.4001	0.2837	-0.1949	0.1090	4.3933	4.4637	-5.5905			
	(0.242)	(0.237)	(0.253)	(0.439)	(0.381)	(0.361)	(226.811)	(225.283)	(166.707)			
Alienated (4)	0.0689	-0.0987	-0.0961	0.1713	0.3501**	0.0435	0.0915	0.0035	-0.2033			
	(0.142)	(0.133)	(0.132)	(0.154)	(0.162)	(0.133)	(0.168)	(0.163)	(0.154)			
Religion-related confidence, Behavioral Traits												
Buddhist_devoted	0.3607	0.1350	0.0744	-0.0730	0.2214	0.5814**	4.6228	4.4791	5.3871	-0.7771*	-0.0102	
	(0.418)	(0.385)	(0.367)	(0.313)	(0.336)	(0.285)	(226.811)	(225.283)	(170.731)	(0.402)	(0.408)	
Christian_devoted	0.0673	0.0791	0.5224***	0.0418	-0.1558	0.6536*	0.0050	-0.0406	0.0293	-0.0589	-0.2789	0.1749
	(0.145)	(0.139)	(0.133)	(0.406)	(0.381)	(0.355)	(0.092)	(0.091)	(0.086)	(0.167)	(0.459)	(0.171)
SpiritualDirected Confidence	0.0475*	0.0515**	0.0320	0.0189	-0.0208	0.0571**	0.0186	-0.0183	0.0553***	4.0743*	0.0940	-0.0657
	(0.027)	(0.026)	(0.025)	(0.026)	(0.025)	(0.023)	(0.018)	(0.018)	(0.016)	(2.326)	(0.088)	(0.515)
Non-SpiritualDirected Confidence	0.0174	0.0322	-0.0982***	-0.0196	-0.0333	-0.0808***	0.0211	-0.0236	-0.0865***	-0.0035	-0.0109	-0.0443
	(0.028)	(0.026)	(0.026)	(0.023)	(0.023)	(0.021)	(0.031)	(0.030)	(0.029)	(0.031)	(0.033)	(0.033)
Impatience	-3.7125*	-2.3786	-4.5647**	-0.0201	-0.0364	0.0787	-0.3175	0.0768	-0.3965	-0.0285	0.0197	0.0424
	(1.989)	(1.905)	(1.870)	(0.068)	(0.068)	(0.062)	(0.272)	(0.274)	(0.259)	(0.029)	(0.031)	(0.066)
Demographic Variables												
Aged 30-39	-0.1571	-0.0133	-0.0902	0.2318	-0.1230	-0.3129**	-0.2292*	-0.1864	-0.2726**	-0.2261	-0.1012	0.4541
	(0.143)	(0.132)	(0.126)	(0.143)	(0.143)	(0.125)	(0.125)	(0.128)	(0.117)	(0.160)	(0.207)	(0.453)
Aged 40-49	-0.1239	0.0245	-0.0922	0.1273	-0.3057**	-0.4325***	-0.1005	-0.2321*	-0.3084***	-0.3576*	-0.2120	-0.6725**
	(0.176)	(0.165)	(0.158)	(0.138)	(0.138)	(0.121)	(0.119)	(0.120)	(0.110)	(0.196)	(0.200)	(0.307)
Aged 50-59	-0.3255**	-0.0432	0.0098	0.2882**	-0.1515	-0.3028**	-0.0509	-0.2076*	-0.3384***	-0.1061	-0.1577	-0.5996*
	(0.157)	(0.147)	(0.142)	(0.141)	(0.141)	(0.123)	(0.117)	(0.119)	(0.108)	(0.180)	(0.203)	(0.308)
Aged 60-69	-0.3508**	-0.1927	-0.1264	0.4735***	-0.2116	-0.2056	0.0305	-0.2817**	-0.1616	0.0109	-0.0851	-0.3253
	(0.166)	(0.156)	(0.153)	(0.144)	(0.143)	(0.125)	(0.124)	(0.124)	(0.114)	(0.195)	(0.207)	(0.324)
Aged 70 and more	-0.2907	0.0689	0.2493	0.4219***	-0.1421	0.0136	0.0119	-0.3452***	-0.1206	0.2818	0.0735	-0.2659
	(0.222)	(0.216)	(0.207)	(0.161)	(0.160)	(0.140)	(0.134)	(0.133)	(0.123)	(0.281)	(0.231)	(0.336)
lnincome_percapita	0.0437	0.0419	0.1064*	0.1094***	0.0047	-0.0056	0.0480	0.0365	-0.0085	-0.1032	-0.0173	-0.0338
	(0.060)	(0.057)	(0.056)	(0.038)	(0.038)	(0.035)	(0.040)	(0.040)	(0.037)	(0.074)	(0.051)	(0.078)
Female(=1)	-0.0859	-0.0016	-0.0313	-0.1812***	-0.1849***	0.0168	-0.0652	-0.0343	-0.0794	-0.1067	0.0043	-0.1262
	(0.084)	(0.080)	(0.078)	(0.051)	(0.051)	(0.046)	(0.061)	(0.061)	(0.057)	(0.097)	(0.067)	(0.117)
Years of education	0.0292	0.0057	0.0787***	0.1193***	0.0561***	0.0549***	0.0272**	0.0068	0.0244**	0.0674***	0.0356	-0.0566**
	(0.019)	(0.018)	(0.018)	(0.021)	(0.021)	(0.021)	(0.013)	(0.013)	(0.012)	(0.023)	(0.027)	(0.023)
Having child(ren) (=1)	-0.1456	-0.0641	0.1066	-0.4152***	0.1400**	-0.1685***	-0.1150	-0.0006	0.0292	0.1088	-0.2148**	-0.4223**
	(0.100)	(0.096)	(0.093)	(0.077)	(0.070)	(0.064)	(0.075)	(0.074)	(0.069)	(0.116)	(0.099)	(0.166)
cut1	-1.3919***	-0.8261*	1.0917**	0.2244	-0.7057**	-0.0944	-1.0843***	-1.5082***	-0.6870***	0.7317	1.1822***	3.5507***
	(0.474)	(0.451)	(0.442)	(0.313)	(0.311)	(0.278)	(0.236)	(0.235)	(0.217)	(0.577)	(0.418)	(0.512)
cut2	0.0253	0.1801	2.8208***	1.3006***	-0.0180	1.2315***	0.1007	-0.3617	0.7115***			
	(0.473)	(0.450)	(0.448)	(0.313)	(0.310)	(0.279)	(0.234)	(0.232)	(0.217)			
Observations	987	987	987	2,616	2,620	2,617	1,672	1,668	1,653	987	2,656	1,717

In all three countries, people with non-spiritually directed confidence are less likely to donate for others. As for spiritually directed confidence, in Japan and the US it has statistically significant positive effects on the individuals' decision to donate for others. But in Korea, those with stronger spiritually directed confidence are more likely to care about their own family than others. In addition, those who are deeply devoted to Christianity and/or Buddhist tend to give a part of their income for others in Korea and Japan.

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Table 2-(2) in the last three columns indicates the results about the determinants for the categories-based worldview. As explained in Section 2.1, we consider the respondents, who think the third figure does not belong with others, as people with the categories-based worldview. The dependent variable is constructed as a binary indicator which equals one if the third figure was chosen as the answer. The results show that across countries, those who have a child, those in their 40s and 50s, and the Buddhist with the deep devotion have a low probability to have the categories-based worldview. These people may become to give weight to a relation because those with a child and middle-aged people are in relation with someone other than themselves in their family and Buddhism regards the relationship very highly. As for the relationship between education and the logic-based worldview, Korea and the US have opposite results. In Korea, highly educated people tend to have the logic-based worldview, whereas in the United States, people with high education attainment tend to have relations-based worldview. One interpretation is that highly educated Easterners tend to learn more about Westerners and use categories to group people, while highly educated Westerners tend to learn more about Easterners.

5. Conclusion

In this study, we found that the implicit worldviews regarding categories versus relationships and degree of confidence in religious matters affect individual altruistic behavior towards their parents, children and non-family members, although the relevance and statistical significance differ by country. In Korea, the categories/relationships-based worldview that value the family relation is negatively correlated with the charitable donation for non-family members whereas the worldview that sees one figure isolated from a family unit negatively affect the financial support for the family members. Non-spiritually directed confidence is negatively related with the charitable donation in all countries, whereas spiritually directed confidence is positively related with the charitable donation in Japan and the US and the financial support for family members in Korea. Our overall estimation results suggest that the implicit worldviews, belief systems, and confidence are implicit but act as a set of rules that determine individual altruistic behavior, even after controlling for socioeconomic variables.

References

Akkemik, K.A., M. Bulut, M. Dittrich, K. Göksal, K. Leipold, and M. Ogaki, 2013. Worldviews and Intergenerational Altruism – A Comparison of Turkey and Germany, paper presented at the European Regional Science Association 2013 Congress.

Bhatt, V. and M. Ogaki, 2012. Tough Love and Intergenerational Altruism, International Economic Review 53, 791-814.

Fehr, E. and K.M. Schmidt, 1999. A Theory of Fairness, Competition and Cooperation, MIT Press, Boston.

Hall, E. T., 1983. Hidden differences: how to communicate with the Germans. Studies in International Communication. Stern, Hamburg.

Hiebert, P. G., 2008. Transforming worldviews: An anthropological understanding of how people change. Baker Academic, MI.

Horioka, C.Y., 2012. An International Comparison of Altruism and Bequest Motives: The Case of China, India, Japan, and the United States, paper presented at the Econometric Society Australasian Meeting in 2012.

Kubota, K., A. Kamesaka, M. Ogaki, and F. Ohtake, 2013. Cultures, Worldviews, and Intergenerational Altruism, paper presented at the European Regional Science Association 2013 Congress.

Nisbett, R.E., 2003. The Geography of Thought, Free Press, New York.