

● **ARTICLE** (REFEREED)

Data Analysis of the AsiaBarometer Survey: Attempts at Preliminary and Exploratory Data Analysis

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KEYWORDS

data analysis (データ分析)
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facet theory (ファセット理論)

アジア・バロメーター調査のデータ分析
——予備的データ分析と探索的データ分析
真鍋一史

1. Introduction

The purpose of this paper is to illustrate the utility of preliminary and exploratory data analysis of cross-national survey using the example of the AsiaBarometer survey¹⁾.

The AsiaBarometer is a large scale multi-national questionnaire survey conducted at regular intervals (every year from 2003) within the Asia region. This paper analyzes the data from the 1st AsiaBarometer survey which was conducted from June to September 2003 in ten countries (regions): Japan, South Korea, Malaysia, Thailand, China, Sri Lanka, India, Vietnam, Uzbekistan and Myanmar.

The AsiaBarometer survey contains question items that measure the respondents' beliefs, attitudes and behaviors in various aspects of everyday life, as well as items intended to measure their values related to freedom, human rights and democracy, and their political behaviors.

In this data analysis, we deal with the following four groups of question items: (1) question items on “public utility connectivity,” (2) question items on “well-being”, (3) question items on “social trust”, and (4) question items on “political attitudes and behaviors.”

1) Professor Takashi Inoguchi, who is an initiator and has developed this survey, says the following about the AsiaBarometer: The AsiaBarometer is a public opinion survey conducted at regular intervals that covers the entire Asian region. First conducted in 2003, it is to be implemented for 10 years. Public opinion surveys focus on the everyday lives of ordinary people. How do ordinary people live out their everyday lives? How do they feel about various aspects about their lives? What kinds of hopes do they have about various aspects of their everyday lives? It has the fundamental characteristics of what is referred to as a “general social survey.” But it doesn't stop there. It goes on to ask groups of questions on such topics as the nature of the relationship people have with their larger society (for example, their family, neighborhood, workplace, government, company, police, and military), how they evaluate their relationship to society, and what kinds of hopes they have for their relationship with society. It also asks questions about values and norms that are less relevant to ordinary people, regarding such topics as freedom, human rights, competition, regulations, individualism, and democracy and related political attitudes. (Todai International Symposium AsiaBarometer, May 6, 2003, University of Tokyo, p.3)

2. Preliminary Data Analysis

Preliminary data analysis is a process of preparing data that must be performed before determining the type of data analysis to be conducted. We would like to limit this discussion of preliminary data analysis to item analysis.

Item analysis is a method of selecting the items to be examined by determining which question items to use and which to eliminate. Items biased toward one end of the distribution and items that have an extremely small “standard deviation” are generally excluded from the analysis. This technique was originally used to improve the reliability and validity of the measure and the test, but it also enables the researcher to try to assess the cross-cultural/national equivalence of the question items. For example, researchers working on a comparative survey must focus on the percentage of “I don’t know” responses and determine whether that percentage differs by culture/nation. The percentage, or frequency distribution, of such responses is an indicator of the variability between cultures/nations. A higher percentage indicates a lower degree of equivalence (Frijda and Johoda, 1966; Smith, 1988). Thus, if this index is high in some cultures/nations and low in others, the question is likely to have included an “emic” (as opposed to “etic”) concept.

Materials to facilitate an item analysis of the AsiaBarometer Survey have already been prepared. The survey summary and analysis of responses to each question for 10 of the countries surveyed were recorded in the AsiaBarometer Sourcebook (Inoguchi et al. eds. 2005). Using these materials, we determined whether the response distribution for each country was single-modal or multi-modal, a distinction which enabled us to check for similarities and differences between the response patterns in each nation. We were able to confirm from the materials that there were no problems that could potentially hinder the following data analysis.

3. Exploratory Data Analysis

(1) Analysis of public utility connectivity (water, electricity, piped gas)

While striving to ascertain the individual circumstances of each nation with regard to public utility connectivity, this analysis also aims to construct a theory of public utility development based on that information. The former goal reflects an interest in the “individual circumstances” of the country, while the latter reflects an interest in “generalization, laws, and theory.” We are not sure if any general theory about public utility development exists. However, setting up a question that looks at whether that development is unidimensional or

multidimensional in Asia is extremely important.

So what methods of data analysis are appropriate for this kind of research question? Here we will use the Partial Order Scalogram Analysis (POSA), a Facet Analysis method developed by L. Guttman (Levy ed. 1994; Manabe 2001). Although it is a type of multidimensional scaling, POSA is capable of doing more than simply determining whether the responses to questions comprise a partial scale. It can also classify households in each Asian country surveyed by positioning them within a theoretical response pattern.

Before proceeding with a POSA approach, the simple-tabulation (= marginal frequency distribution) of the question items must be examined.

These results (Table 1) indicate the following.

Q1 Which of the following public utilities does your household have the use of?
(Show card) (MA)

- 1 The public water supply
- 2 Electricity
- 3 Piped gas

Table 1 Public Utility Connectivity (%)

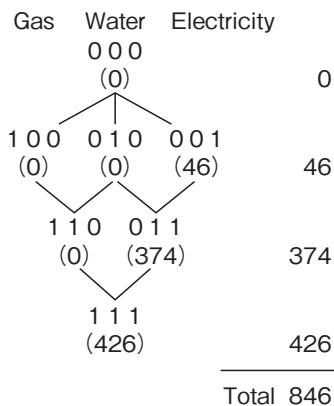
	N	Water	Electricity	Gas	None of them	DK/NA
Total	8,086	86.6	96.1	39.3	3.5	0
Japan	857	93.3	100.0	51.0	0	0
South Korea	800	99.6	99.6	66.9	0	0
Malaysia	800	97.3	100.0	0	0	0
Thailand	800	89.8	99.1	0	0.1	0
China	800	99.5	100.0	58.6	0	0
Sri Lanka	800	88.1	97.8	50.4	0.9	0
India	822	93.7	99.8	66.4	0.1	0
Vietnam	807	81.8	99.9	0.1	0	0
Uzbekistan	800	99.0	100.0	98.6	0	0
Myanmar	800	22.9	64.1	0	33.9	0.3

- A comparison of all the countries studied showed that the rates of connectivity to all utilities, electricity, water, and piped gas, were lowest in Myanmar (64.1%, 22.9%, and 0.0%, respectively).
- A comparison of connectivity to electricity, water, and piped gas showed that in all countries, connectivity rates to electricity were highest, followed by water. By comparison, the rates of connectivity to piped gas were lowest everywhere except Uzbekistan (98.6%).
- A comparison of each country's connectivity to each public utility revealed only small differences in the rates of connectivity to electricity, except in Myanmar. Rates of connectivity to water were fairly low in Vietnam, Sri Lanka, and Thailand as compared to the other countries studied —again, excluding in Myanmar. Finally, while rates of connectivity to piped gas were at about the 60% level in South Korea and India, the 50% level in Japan, China, and Sri Lanka, and the 0% level in Malaysia, Thailand, Vietnam, and Myanmar, the rate of access in Uzbekistan was as high as 98.6%. (Because of the “home ownership policies” adopted by the former communist bloc countries, many people in the cities moved to multi-family housing complexes with piped gas service. The high rate of piped gas connectivity in Uzbekistan is believed to be a reflection of this, given that the survey was conducted in urban areas.)

Based on the results of this simple-tabulation, we will proceed to the POSA approach. The specific order of this process is as follows:

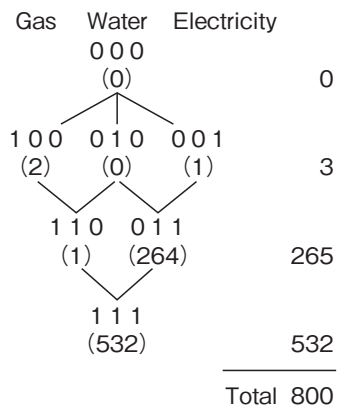
- ① First, for each of the response categories (1) Water, (2) Electricity, and (3) Piped gas, we assigned the value 1 to responses marked with a check, and assigned the value 0 to responses not marked.
- ② Assigning the value 1 to “Yes” responses and 0 to “No” response regarding the household's use of each of the three public utilities yielded a response pattern that can be expressed as a three-digit figure in the binary system (notation).
- ③ Next we drew a theoretical grid, beginning with the households that indicated that they do not use any of the three public utilities, then moving to households that use one of the utilities, followed by households that use two of the utilities, and then finally proceeding to households that use all of the utilities.
- ④ We calculated the frequency of appearance (real number) of each response pattern in this theoretical grid.

Figure 1 POSA of Public Utility Connectivity



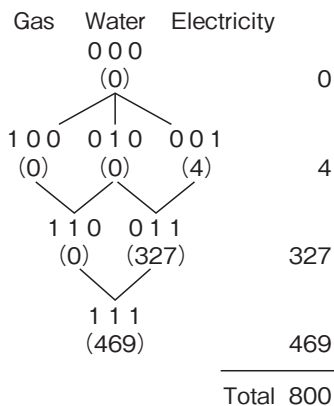
():Frequencies
 Reproducibility=846/857=98.7%
 Another pattern:101(11)

①Japan



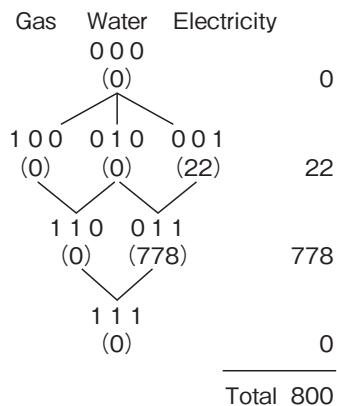
():Frequencies
 Reproducibility=800/800=100%

②South Korea



():Frequencies
 Reproducibility=800/800=100%

③China



():Frequencies
 Reproducibility=800/800=100%

④Malaysia

Gas	Water	Electricity	
	0 0 0		
	(1)		1
1 0 0	0 1 0	0 0 1	
(0)	(6)	(81)	87
1 1 0	0 1 1		
(0)	(712)		712
1 1 1			
(0)			0
			Total 800

():Frequencies
 Reproducibility=800/800=100%

⑤Thailand

Gas	Water	Electricity	
	0 0 0		
	(0)		0
1 0 0	0 1 0	0 0 1	
(0)	(1)	(146)	147
1 1 0	0 1 1		
(0)	(659)		659
1 1 1			
(0)			0
			Total 806

():Frequencies
 Reproducibility=806/807=99.9%
 Another pattern:101(1)

⑥Vietnam

Gas	Water	Electricity	
	0 0 0		
	(273)		273
1 0 0	0 1 0	0 0 1	
(0)	(14)	(344)	358
1 1 0	0 1 1		
(0)	(169)		169
1 1 1			
(0)			0
			Total 800

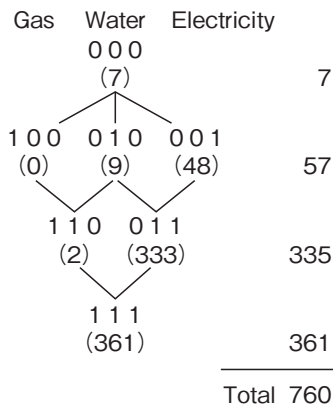
():Frequencies
 Reproducibility=800/800=100%

⑦Myanmar

Gas	Water	Electricity	
	0 0 0		
	(1)		1
1 0 0	0 1 0	0 0 1	
(0)	(1)	(27)	28
1 1 0	0 1 1		
(0)	(247)		247
1 1 1			
(522)			522
			Total 798

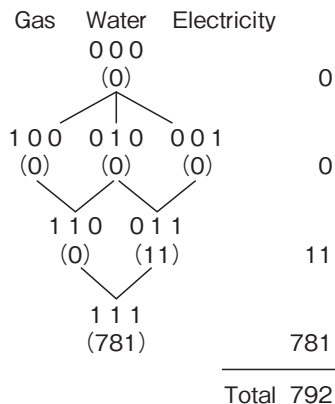
():Frequencies
 Reproducibility=798/822=97.1%
 Another pattern:101(24)

⑧India



():Frequencies
 Reproducibility=760/800=95%
 Another pattern:101(40)

⑨Sri Lanka



():Frequencies
 Reproducibility=792/800=99%
 Another pattern:101(8)

⑩Uzbekistan

Following this process, we were able to diagram the response patterns for the three utilities and their frequency, as shown in Figure 1 ① – ② . For example, the survey was conducted among 857 households in Japan, but the theoretical grid only contains 846 households (11 cases had a 101 pattern, which falls outside of the theoretical grid). This makes the ratio (coefficient of reproducibility) 846/857, or 98.7%. An examination of Figure 1 ① – ⑩ shows

that an order of expanding connectivity to electricity, water, and piped gas is the main path in terms of frequencies, and is far distant from the other paths. This suggests that these items comprise a “unidimensional scale” across countries. Thus, on the one hand, the conditions of each country with regard to public utility connectivity are highlighted, as is seen in the case of Uzbekistan, while on the other, a generalizable proposition that rises above the individual circumstances of each country —that utility connectivity occurs in a particular order, from electricity, to water, and then gas— can also be derived. To reiterate, these two aspects are extremely important in the analysis of data from cross-national/cultural surveys. Careful attention must be paid to the unique circumstances of each country/culture as well as to the generalizable propositions that can be derived from studying them, and efforts must be made to develop relationships between the two.

(2) Examination of the Correlation Matrix

The common approach to data analysis in cross-national/cultural surveys is to start with a comparison of the “simple-tabulation of each variable (question item)” and then move on to a comparison of the “relationship patterns between variables (question items).” This is conducive to the application of various types of multivariate analysis. However, it also requires that preparatory work be done in advance. In a sense, the preparatory work of seeking out the orientation of the analysis can also be called “exploratory data analysis.” In questionnaire survey data analysis, researchers first look at the overall structure and relationships between the data, and then focus on a particular aspect of the data to try to conduct a deeper level of analysis. In this study, we will begin by examining the “correlation matrix,” which shows the structure of the relationships between variables (question items).

A. Well-Being

There are 17 question items on well-being contained in Q4 (1 item), Q5a-o (15 items), and Q6 (1 item).

Using the ideas of Facet Design also developed by L. Guttman (Levy ed. 1994; Manabe 2001), we have characterized the items in Q4 as general, affective, attitude, in Q5a-o as specific, affective, attitude, and in Q6 as general, cognitive, attitude. Classifying the items in this way leads to the following results (Table 2):

(Ask all respondents) (Show card)

Q4 All things considered, would you say that you are happy these days? (SA)

- | | |
|---|---------------------------|
| 1 | Very happy |
| 2 | Pretty happy |
| 3 | Neither happy nor unhappy |
| 4 | Not too happy |
| 5 | Very unhappy |

(Ask all respondents) (Show card)

Q5 Please tell me how satisfied or dissatisfied you are with the following aspects of your life. (SA for each)

		Very satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Very dissatisfied
a	Housing →	1	2	3	4	5
b	Friendships →	1	2	3	4	5
c	Marriage [if married] →	1	2	3	4	5
d	Standard of living →	1	2	3	4	5
e	Household income →	1	2	3	4	5
f	Health →	1	2	3	4	5
g	Education →	1	2	3	4	5
h	Job →	1	2	3	4	5
i	Neighbors →	1	2	3	4	5
j	Public safety →	1	2	3	4	5
k	The condition of the environment →	1	2	3	4	5
l	Social welfare system →	1	2	3	4	5
m	The democratic system →	1	2	3	4	5
n	Family life →	1	2	3	4	5
o	Leisure →	1	2	3	4	5

(Ask all respondents) (Show card)

Q6 How would you describe your standard of living? (SA)

- | | |
|---|-----------------|
| 1 | High |
| 2 | Relatively high |
| 3 | Average |
| 4 | Relatively low |
| 5 | Low |

Table2 Interrelations between “Happy These Days” and Satisfaction, and Standard of Living Items

— Pearson Correlation Coefficients —

	Japan	South Korea	China	Malaysia	Thailand	Vietnam	Myanmar	India	Sri Lanka	Uzbekistan
Q5 Degree of Satisfaction a. Housing	0.330	0.310	0.325	0.314	0.279	0.204	0.305	0.341	0.353	0.290
Q5 Degree of Satisfaction b. Friendship	0.362	0.279	0.202	0.288	0.177	0.196	0.115	0.170	0.231	0.192
Q5 Degree of Satisfaction c. Marriage (if Married)	0.555	0.442	0.376	0.196	0.143	0.410	0.129	0.166	0.188	0.286
Q5 Degree of Satisfaction d. Standard of Living	0.446	0.390	0.409	0.221	0.337	0.210	0.239	0.325	0.312	0.415
Q5 Degree of Satisfaction e. Household Income	0.393	0.360	0.397	0.246	0.285	0.203	0.248	0.370	0.350	0.421
Q5 Degree of Satisfaction f. Health	0.351	0.298	0.240	0.165	0.223	0.112	0.063	0.265	0.231	0.244
Q5 Degree of Satisfaction g. Education	0.342	0.258	0.235	0.181	0.133	0.188	0.128	0.206	0.195	0.157
Q5 Degree of Satisfaction h. Job	0.341	0.243	0.290	0.210	0.187	0.155	0.227	0.304	0.338	0.285
Q5 Degree of Satisfaction i. Neighbors	0.283	0.202	0.136	0.199	0.161	0.122	0.100	0.117	0.099	0.146
Q5 Degree of Satisfaction j. Public Safety	0.216	0.097	0.144	0.147	0.119	0.084	0.223	0.164	0.130	0.071
Q5 Degree of Satisfaction k. The Condition of the Environment	0.231	0.182	0.175	0.268	0.180	0.044	0.100	0.208	0.178	0.107
Q5 Degree of Satisfaction l. Social Welfare System	0.191	0.122	0.200	0.196	0.084	0.044	—	0.245	0.070	0.249
Q5 Degree of Satisfaction m. The Democratic System	0.199	0.131	0.155	0.164	0.078	—	—	0.253	0.111	0.174
Q5 Degree of Satisfaction n. Family Life	0.530	0.322	0.409	0.199	0.253	0.331	0.201	0.205	0.188	0.352
Q5 Degree of Satisfaction o. Leisure	0.356	0.248	0.263	0.147	0.169	0.185	0.217	0.167	0.137	0.224
Q6 Standard of Living Compared to Others	0.381	0.301	0.300	0.150	0.284	0.193	0.244	0.269	0.370	0.438

- An examination of the size of the correlation coefficient shows that correlations between the affective attitude items (Q4: “happiness” and Q5: “satisfaction” in various areas of life) are larger than the correlation between the affective attitude item (Q4: “happiness”) and cognitive attitude item (Q6: self assessment of standard of living),
- When the size of the correlation coefficient between the “happiness” item (Q4) and the “satisfaction” items (Q5a-o) is examined, the following two patterns emerge:

① Some countries have a high correlation between happiness and the sense of satisfaction on “subjective items” like satisfaction with marriage and family life: Japan, South Korea, China, and Vietnam.

② Some countries have a high correlation between happiness and the sense of satisfaction on “objective items” like housing and standard of living: Malaysia, Thailand, Myanmar, India, Sri Lanka, and Uzbekistan.

This suggests that there are countries in which people’s sense of happiness is determined more by subjective factors, and countries in which people’s sense of happiness is determined more by objective factors. While the many factors involved here preclude the solution of the problem with a simple model, it is possible to pose at least one hypothesis: as societies become more affluent, the sense of satisfaction tends to be determined by subjective factors more than objective factors. However, this change does not always occur in a linear mode, as it is significantly impacted by cultural factors in each society.

Thus, even a first step method of data analysis, an examination of the size of the correlation coefficients, can yield important suggestions for an analysis of “the structure of well-being and its defining factors.” Of course, psychological, sociological, and political theories about well-being can also be developed based on this analysis.

B. Trust

The 21 question items examined in the analysis of trust are comprised of three items on “interpersonal trust” (Q9, Q10, and Q11) and 18 items on “institutional trust” (Q21a-r). The items regarding interpersonal trust ask “Generally, do you think people can be trusted or do you think that you can’t be too careful in dealing with people?” (Q9), “Do you think that people generally try to be helpful or do you think that they mostly look out for themselves?” (Q10), and “If you saw somebody on the street looking lost, would you stop to help?” (Q11). The items regarding institutional trust ask if the respondent trusts 18 institutions, systems, and organizations, such as “the central government,” “your local government,” “the army,” “the

legal system,” “the police,” and “parliament.” The former three items can be further categorized as follows: Q9 is general, affective, attitude, Q10 is general, cognitive, attitude, and Q11 is specific, behavioral, attitude.

Based on the classification of these items, an examination of the size and sign of the correlation coefficients suggests the following (Table 3):

(Ask all respondents) (Show card)

Q9 Generally, do you think people can be trusted or do you think that you can't be too careful in dealing with people (that it pays to be wary of people)? (SA)

1	Most people can be trusted
2	Can't be too careful in dealing with people
3	Don't know

(Ask all respondents) (Show card)

Q10 Do you think that people generally try to be helpful or do you think that they mostly look out for themselves? (SA)

1	People generally try to be helpful
2	People mostly look out for themselves
3	Don't know

(Ask all respondents) (Show card)

Q11 If you saw somebody on the street looking lost, would you stop to help? (SA)

1	I would always stop to help
2	I would help if nobody else did
3	It is highly likely that I wouldn't stop to help
4	Don't know

(Ask all respondents) (Show card)
 Q21 Please indicate to what extent you trust the following institutions to operate in the best interests of society.
 If you don't know what to reply or have no particular opinion, please say so. (SA for each institution)

	Trust a lot	Trust to a degree	Don't really trust	Don't trust at all	DK
a The central government	→ 1	2	3	4	5
b Your local government	→ 1	2	3	4	5
c The army	→ 1	2	3	4	5
d The legal system	→ 1	2	3	4	5
e The police	→ 1	2	3	4	5
f Parliament	→ 1	2	3	4	5
g The public education system	→ 1	2	3	4	5
h The public health system	→ 1	2	3	4	5
i Large domestic companies	→ 1	2	3	4	5
j Multinational companies	→ 1	2	3	4	5
k Trade unions/labor unions	→ 1	2	3	4	5
l The media	→ 1	2	3	4	5
m Non-governmental organizations (e.g. environmental, social advocacy groups or other non-profit organizations)	→ 1	2	3	4	5
n Religious organizations	→ 1	2	3	4	5
o The United Nations	→ 1	2	3	4	5
p The World Trade Organization	→ 1	2	3	4	5
q The World Bank	→ 1	2	3	4	5
r The International Monetary Fund	→ 1	2	3	4	5

Table3 Interrelations between “People Can Be Trusted Generally” and Other Trust Items
— Pearson Correlation Coefficients —

	Japan	South Korea	China	Malaysia	Thailand	Vietnam	Myanmar	India	Sri Lanka	Uzbekistan
Q10 Are people generally try to be helpful	0.226	0.370	0.259	0.217	0.358	0.183	0.372	0.184	0.414	0.369
Q11 Would you stop to help if you saw somebody on the street looking lost	0.086	0.223	0.237	0.122	0.073	0.086	0.125	0.027	0.088	0.161
Q21 How much you trust the institutions a. The Central Government	0.111	0.020	0.184	0.061	0.010	—	—	0.016	0.052	0.025
Q21 How much you trust the institutions b. Your Local Governmen	0.155	0.041	0.153	0.057	-0.061	—	—	0.010	0.031	0.064
Q21 How much you trust the institutions c. The Army	0.006	0.158	0.130	0.013	0.079	—	—	0.018	0.097	0.003
Q21 How much you trust the institutions d. The Legal System	0.126	0.069	0.101	0.084	0.015	—	—	0.019	0.154	0.018
Q21 How much you trust the institutions e. The Police	0.108	0.069	0.123	0.029	0.081	—	—	0.029	0.108	0.027
Q21 How much you trust the institutions f. Parliament	0.027	0.019	0.180	0.049	-0.004	—	—	-0.011	0.027	-0.032
Q21 How much you trust the institutions g. The Public Education System	0.087	0.017	0.047	-0.006	-0.020	0.011	—	0.047	0.071	0.117
Q21 How much you trust the institutions h. The Public Health System	0.089	-0.008	0.054	0.027	-0.030	0.007	—	0.058	-0.028	0.108
Q21 How much you trust the institutions i. Large Domestic Companies	-0.012	-0.021	0.082	0.033	-0.056	0.030	0.031	0.009	-0.039	0.082
Q21 How much you trust the institutions j. Multinational Companies	-0.030	0.026	0.050	0.031	-0.019	-0.067	0.029	-0.017	-0.010	0.073
Q21 How much you trust the institutions k. Trade Unions/Labor Unions	0.055	0.066	0.087	0.055	0.011	-0.065	-0.008	0.008	-0.033	0.111
Q21 How much you trust the institutions l. The Media	0.074	0.067	0.031	0.070	0.019	-0.100	-0.047	-0.020	0.013	0.053
Q21 How much you trust the institutions m. Non-governmental Organizations	0.128	0.016	0.022	0.090	-0.008	-0.055	0.031	0.030	-0.065	0.074
Q21 How much you trust the institutions n. Religious Organizations	0.034	0.029	0.074	0.005	0.021	-0.013	-0.132	0.068	-0.055	0.077
Q21 How much you trust the institutions o. The United Nations	0.069	0.057	0.067	0.122	-0.039	-0.057	0.114	0.008	-0.036	0.075
Q21 How much you trust the institutions p. The World Trade Organization	0.032	0.036	0.070	0.095	-0.038	-0.084	0.047	0.013	-0.025	0.034
Q21 How much you trust the institutions q. The World Bank	0.081	0.069	0.082	0.104	-0.057	-0.032	0.074	0.018	0.002	0.014
Q21 How much you trust the institutions r. International Monetary Fund	0.078	0.072	0.036	0.102	-0.049	-0.021	-0.007	-0.019	0.000	0.043

- Regarding items on interpersonal trust: While there is either a very or fairly high correlation between Q9 (general, affective, attitude) and Q10 (general, cognitive, attitude) except in Vietnam and India, the correlation between Q9 (general, affective, attitude) and Q11 (specific, behavioral, attitude) extremely low except in South Korea and China (where the correlation is at the 0.2% level).

- The correlation between “interpersonal trust” and “institutional trust” is very low in all countries. However, a more detailed analysis shows that the countries can be categorized into three types: ① countries that do not have a negative correlation, ② countries with a small number of negative correlations (two or fewer), and ③ countries with a large number of negative correlations. China falls into type ①, while Japan, South Korea, Malaysia and Uzbekistan fall into type ②, and Thailand, Vietnam, Myanmar, India, and Sri Lanka fall into type ③.

The former conclusion suggests only that the validity and reliability of Q11 in particular needs to be further examined, while the latter conclusion suggests that there is a theorization orientation. Phenomena that reflect deviations from “interpersonal trust” and “institutional trust” are similarly evident in every country, but there are also differences between countries in the size of that deviation. Here again we are able to do two things simultaneously: to establish a generalizable proposition on the one hand, and to explain the unique circumstances of each country on the other.

C. Voting Frequency (National / Local Elections), Duty to Vote, Political Cynicism, National Pride

This section examines a correlation matrix for each country showing the relationship between each of the following question items (Table 4 ① – ⑩):

- Q24a Voting frequency in national elections (specific, behavioral, involvement)
- Q24b Voting frequency in local elections (specific, behavioral, involvement)
- Q25a Duty to vote (general, cognitive, attitude)
- Q25b-g Political cynicism (general, cognitive, attitude)
- Q15 ② National pride (general, affective, attitude)

(Ask all respondents) (Show card)

Q24 How often do you vote in each of the following elections? Please answer for each type of election. (SA for each election type)

		Every time	Most of the time	Sometimes	Rarely	Never voted (even though I have the right to vote)	Don't have the right to vote
a	National elections →	1	2	3	4	5	6
b	Local elections →	1	2	3	4	5	6

(Ask all respondents) (Show card)

Q25 I am going to read out some statements about society and politics. Please indicate how much you agree or disagree with each statement. (SA for each statement)

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
a	Citizens have a duty to vote in elections →	1	2	3	4	5	6
b	There is widespread corruption among those who govern the country →	1	2	3	4	5	6
c	Generally speaking, people like me don't have the power to influence government policy or actions →	1	2	3	4	5	6
d	Politics and government are so complicated that sometimes I don't understand what's happening →	1	2	3	4	5	6
e	Since so many people vote in elections, it really doesn't matter whether I vote or not →	1	2	3	4	5	6
f	Generally speaking, the people who are elected to the [NATIONAL PARLIAMENT] stop thinking about the public once they're elected →	1	2	3	4	5	6
g	Government officials pay little attention to what citizens like me think →	1	2	3	4	5	6

(Ask all respondents) (Show card)

Q15-2 How proud are you of being [JAPANESE] ? (SA)

1	Very proud
2	Somewhat proud
3	Not really proud
4	Not proud at all
5	Don't know

Table4

1 Jap

Q24	Freq Elect Elect
Q24	Freq Elect Elect
Q25	a. Ci Vote
Q25	b. Th Corru Who
Q25	c. pe Have Influe Or A
Q25	d. Po Are S Some Unde Happ
Q25	e. Si Vote Does Vote
Q25	f. Th Are b Natio Thinl
Q25	g. Go Little Citiz
Q15-2	How Natio

An analysis of these correlation matrices can be approached by looking at several different aspects of the data. First, the following two aspects can be identified:

- ① Aspects that lead to a formal theory
- ② Aspects that lead to a substantive theory

The aspects that lead to a formal theory are related to Guttman's Facet Theory (Levy ed.

le4 Interrelations among Voting Frequency, Duty to Vote, Political Cynicism and National Pride Items

— Pearson Correlation Coefficients —

Japan

	Q24 Frequency of Votes in Elections a. National Elections	Q24 Frequency of Votes in Elections b. Local Elections	Q25 a. Citizens Have A Duty To Vote in Elections	Q25 b. There is Widespread Corruption Among Those Who Govern The Country	Q25 c. People Like Me Don't Have The Power To Influence Government Policy Or Actions	Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	Q25 e. Since So Many People Vote in Elections, it Really Doesn't Matter Whether I Vote Or Not	Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	Q25 g. Government Officials Pay Little Attention To What Citizens Like Me Think	Q25 h. How Proud Of Being Your Nationality
Frequency of Votes in Elections a. National Elections	—									
Frequency of Votes in Elections b. Local Elections	.928**	—								
a. Citizens Have A Duty To Vote in Elections	.515**	.508**	—							
b. There is Widespread Corruption Among Those Who Govern The Country	-.013	-.006	.041	—						
c. people Like Me Don't Have The Power To Influence Government Policy Or Actions	-.103**	-.102**	-.108**	.233**	—					
d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	-.058	-.030	-.002	.174**	.382**	—				
e. Since So Many People Vote in Elections, it Really Doesn't Matter Whether I Vote Or Not	-.443**	-.441**	-.427**	.093**	.381**	.235**	—			
f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	-.056	-.059	.018	.477**	.245**	.231**	.180**	—		
g. Government Officials Pay Little Attention To What Citizens Like Me Think	-.013	-.027	.049	.463**	.242**	.228**	.114**	.752**	—	
h. How Proud of Being Your Nationality	.160**	.166**	.165**	-.086*	-.108**	-.021	-.119**	-.078*	-.113**	—

1994; Manabe 2001). For example, the 15 correlation coefficients expressing the correlations between the six items in Q25b-g are all positive in 10 countries, except for few exceptions. This suggests that a generalizable proposition regarding political cynicism, called “The First Law,” can be made.

The First Law suggests that as long as the direction of the range of the question items is the

Table4 Interrelations among Voting Frequency, Duty to Vote, Political Cynicism and National Pride Items
— Pearson Correlation Coefficients —
2 South Korea

	Q24 Frequency of Elections a. National Elections	Q24 Frequency of Elections b. Local Elections	Q25 a. Citizens Have Duty To Vote in Elections	Q25 b. There is Widespread Corruption Among Those Who Govern The Country	Q25 c. People Like Me Don't Have The Power To Influence Government Policy Or Actions	Q25 d. Politics And Government Are So Complicated Sometimes I Don't Understand What's Happening	Q25 e. Since So Many People Vote In Elections, it Really Doesn't Matter Whether I Vote Or Not	Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	Q25 g. Government Officials Pay Attention To Citizens Like Me Think	Q15-2 How Proud Of Being Your Nationality
Q24 Frequency of Votes in Elections a. National Elections	—									
Q24 Frequency of Votes in Elections b. Local Elections	.837**	—								
Q25 a. Citizens Have A Duty To Vote In Elections	.335**	.336**	—							
Q25 b. There is Widespread Corruption Among Those Who Govern The Country	.078*	.072*	.292**	—						
Q25 c. people Like Me Don't Have The Power To Influence Government Policy Or Actions	.054	.056	.069	.179**	—					
Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	.019	.028	.161**	.198**	.265**	—				
Q25 e. Since So Many People Vote In Elections, it Really Doesn't Matter Whether I Vote Or Not	-.190**	-.171**	-.128**	.015	.123**	.214**	—			
Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	-.081*	-.077*	.098**	.346**	.155**	.168**	.115**	—		
Q25 g. Government Officials Pay Attention To Those Citizens Like Me Think	-.042	-.081*	.127**	.326**	.127**	.257**	.084*	.548**	—	
Q15-2 How Proud of Being Your Nationality	.101**	.107**	.166**	.049	-.035	.008	-.001	-.012	-.012	—

*p < .05 **p < .01

Table4 Interrelations among Voting Frequency, Duty to Vote, Political Cynicism and National Pride Items
— Pearson Correlation Coefficients —
3 China

	Q24 Frequency of Votes in National Elections	Q24 Frequency of Votes in Local Elections	Q25 a. Citizens Have A Duty To Vote In Elections	Q25 b. There is Widespread Corruption Among Those Who Govern The Country	Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	Q25 d. Politics And Government Are So Complicated Sometimes I Don't Understand What's Happening	Q25 e. Since So Many People Really Doesn't Matter Whether I Vote Or Not	Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	Q25 g. Government Officials Pay Little Attention To What Citizens Like Me Think	Q15-2 How Proud of Being Chinese Nationality
Q24 Frequency of Votes in Elections a. National Elections	—									
Q24 Frequency of Votes in Elections b. Local Elections	.567**	—								
Q25 a. Citizens Have A Duty To Vote In Elections	.094**	.157**	—							
Q25 b. There is Widespread Corruption Among Those Who Govern The Country	-.137**	-.121**	.029	—						
Q25 c. People Like Me Don't Have The Power To Influence Government Policy Or Actions	-.066	-.116**	-.012	.313**	—					
Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	-.116**	-.097*	.007	.250**	.445**	—				
Q25 e. Since So Many People Vote In Elections, it Really Doesn't Matter Whether I Vote Or Not	.010	-.079*	-.112**	.126*	.225**	.284**	—			
Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	-.116**	-.129**	-.124**	.305**	.268**	.264**	.373**	—		
Q25 g. Government Officials Pay Little Attention To What Citizens Like Me Think	-.072*	-.153**	-.107**	.343**	.415**	.334**	.382**	.606**	—	
Q15-2 How Proud of Being Your Nationality	.163**	.169**	.077*	-.135**	-.185**	-.040	-.021	-.148**	-.168**	—

*p < .05 **p < .01

Table4 Interrelations among Voting Frequency, Duty to Vote, Political Cynicism and National Pride Items
— Pearson Correlation Coefficients —
4 Malaysia

	Q24 Frequency of Votes in Elections a. National Elections	Q24 Frequency of Votes in Elections b. Local Elections	Q25 a. Citizens Have A Duty To Vote In Elections	Q25 b. There is Widespread Corruption Among Those Who Govern The Country	Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	Q25 e. Since So Many People Really Doesn't Matter Whether I Vote Or Not	Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	Q25 g. Government Officials Pay Attention To What Citizens Like Me Think	Q15-2 How Proud of Being Malaysian Nationality
Q24 Frequency of Votes in Elections a. National Elections	—									
Q24 Frequency of Votes in Elections b. Local Elections	.752**	—								
Q25 a. Citizens Have A Duty To Vote In Elections	.237**	.224**	—							
Q25 b. There is Widespread Corruption Among Those Who Govern The Country	-.033	-.110**	.062	—						
Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	-.002	.034	.023	.324**	—					
Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	-.058	-.081*	.042	.145**	.350**	—				
Q25 e. Since So Many People Vote in Elections, it Really Doesn't Matter Whether I Vote Or Not	-.215**	-.285**	-.232**	.038	.113**	.054	—			
Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	-.111**	-.116**	-.037	.197**	.215**	.203**	.228**	—		
Q25 g. Government Officials Pay Attention To What Citizens Like Me Think	.002	-.030	.004	.244**	.263**	.246**	.159**	.305**	—	
Q15-2 How Proud of Being Your Nationality	.043	-.019	.207**	.113**	-.059	-.058	-.120**	-.115**	-.030	—

*p < .05 **p < .01

Table4 Interrelations among Voting Frequency, Duty to Vote, Political Cynicism and National Pride Items
— Pearson Correlation Coefficients —
5 Thailand

	Q24 Frequency of Votes in Elections a. National Elections	Q24 Frequency of Votes in Elections b. Local Elections	Q25 a. Citizens Have A Duty To Vote In Elections	Q25 b. There is Widespread Corruption Among Those Who Govern The Country	Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	Q25 e. Since So Many People Elect Them, it Really Doesn't Matter Whether I Vote Or Not	Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	Q25 g. Government Officials Pay Attention To What Citizens Like Me Think	Q15-2 How Proud of Being Thai Nationality
Q24 Frequency of Votes in Elections a. National Elections	—									
Q24 Frequency of Votes in Elections b. Local Elections	.786**	—								
Q25 a. Citizens Have A Duty To Vote In Elections	.134**	.093**	—							
Q25 b. There is Widespread Corruption Among Those Who Govern The Country	.034	.013	.058	—						
Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	.011	-.017	.139**	.334**	—					
Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	.057	.046	.092**	.326**	.363**	—				
Q25 e. Since So Many People Vote in Elections, it Really Doesn't Matter Whether I Vote Or Not	-.065	-.028	-.190**	-.049	.086*	-.019	—			
Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	.008	.021	-.003	.245**	.272**	.192**	.150**	—		
Q25 g. Government Officials Pay Attention To What Citizens Like Me Think	-.005	.042	-.010	.285**	.306**	.314**	.183**	.477**	—	
Q15-2 How Proud of Being Your Nationality	.116**	.120**	.046	-.006	.088*	.043	.065	.057	.037	—

*p < .05 **p < .01

Table4 Interrelations among Voting Frequency, Duty to Vote, Political Cynicism and National Pride Items
— Pearson Correlation Coefficients —
6 Vietnam

	Q24 Frequency of Votes in Elections a. National Elections	Q24 Frequency of Votes in Elections b. Local Elections	Q25 a. Citizens Have A Duty To Vote In Elections	Q25 b. There is Widespread Corruption Among Those Who Govern The Country	Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	Q25 d. Politics And Government Are So Complicated Sometimes I Don't Understand What's Happening	Q25 e. Since So Many People Elect Them I Really Don't Really Think They Really Matter Whether I Vote Or Not	Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	Q25 g. Government Officials Pay Attention To What Citizens Like Me Think	Q15-2 How Proud Of Being Vietnamese Nationality
Q24 Frequency of Votes in Elections a. National Elections	—									
Q24 Frequency of Votes in Elections b. Local Elections	—	—								
Q25 a. Citizens Have A Duty To Vote In Elections	.286**	—	—							
Q25 b. There is Widespread Corruption Among Those Who Govern The Country	—	—	—	—						
Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	.031	—	—	—	—					
Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	— .054	—	— .047	—	.329**	—				
Q25 e. Since So Many People Vote In Elections, it Really Doesn't Matter Whether I Vote Or Not	— .152**	—	— .175**	—	.245**	.258**	—			
Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	—	—	—	—	—	—	—	—		
Q25 g. Government Officials Pay Attention To What Citizens Like Me Think	—	—	—	—	—	—	—	—	—	
Q15-2 How Proud of Being Your Nationality	.145**	—	.173**	—	— .023	— .098**	— .118**	—	—	—

*p < .05 **p < .01

Table4 Interrelations among Voting Frequency, Duty to Vote, Political Cynicism and National Pride Items
8 India

	Q24 Frequency of Votes in Elections a. National Elections	Q24 Frequency of Votes in Elections b. Local Elections	Q25 a. Citizens Have A Duty To Vote In Elections	Q25 b. There is Widespread Corruption Among Those Who Govern The Country	Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	Q25 d. Politics And Government Are So Complicated Sometimes I Don't Understand What's Happening	Q25 e. Since So Many People Really Doesn't Matter Whether I Vote Or Not	Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	Q25 g. Government Officials Pay Little Attention To What Citizens Like Me Think	Q15-2 How Proud of Being Indian Nationality
Q24 Frequency of Votes in Elections a. National Elections	—									
Q24 Frequency of Votes in Elections b. Local Elections	.937**	—								
Q25 a. Citizens Have A Duty To Vote In Elections	.174**	.182**	—							
Q25 b. There is Widespread Corruption Among Those Who Govern The Country	.044	.055	.253**	—						
Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	.033	.044	.182**	.438**	—					
Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	.064	.069	.246**	.506**	.559**	—				
Q25 e. Since So Many People Vote in Elections, it Really Doesn't Matter Whether I Vote Or Not	-.230**	-.206**	-.133**	-.002	.077*	.052	—			
Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	.048	.054	.153**	.489**	.378**	.490**	.122**	—		
Q25 g. Government Officials Pay Little Attention To What Citizens Like Me Think	.014	.039	.132**	.405**	.284**	.422**	.114**	.614**	—	
Q15-2 How Proud of Being Your Nationality	.061	.041	.112**	.062	.138**	.087*	-.059	.059	.092**	—

p < .05 *p < .01

Table4 Interrelations among Voting Frequency, Duty to Vote, Political Cynicism and National Pride Items
— Pearson Correlation Coefficients —
9 Sri Lanka

	Q24 Frequency of Votes in Elections a. National Elections	Q24 Frequency of Votes in Elections b. Local Elections	Q25 a. Citizens Have A Duty To Vote In Elections	Q25 b. There is Widespread Corruption Among Those Who Govern The Country	Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	Q25 e. Since So Many People Really Doesn't Matter Whether I Vote Or Not	Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	Q25 g. Government Officials Pay Little Attention To What Citizens Like Me Think	Q15-2 How Proud of Being A Part of Nationality
Q24 Frequency of Votes in Elections a. National Elections	—									
Q24 Frequency of Votes in Elections b. Local Elections	.941**	—								
Q25 a. Citizens Have A Duty To Vote In Elections	.240**	.229**	—							
Q25 b. There is Widespread Corruption Among Those Who Govern The Country	.013	-.001	.134**	—						
Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	.086*	.049	.047	.096**	—					
Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	.022	.001	-.027	.158**	.417**	—				
Q25 e. Since So Many People Vote in Elections, it Really Doesn't Matter Whether I Vote Or Not	-.042	-.052	-.072*	.071*	.307**	.265**	—			
Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	.049	.028	.126**	.295**	.129**	.181**	.148**	—		
Q25 g. Government Officials Pay Little Attention To What Citizens Like Me Think	-.016	-.030	.035	.248**	.238**	.249**	.211**	.495**	—	
Q15-2 How Proud of Being Your Nationality	.080*	.074*	-.001	-.009	.112**	.132**	.017	-.001	.018	—

*p < .05 **p < .01

Table4 Interrelations among Voting Frequency, Duty to Vote, Political Cynicism and National Pride Items
— Pearson Correlation Coefficients —
10 Uzbekistan

	Q24 Frequency of Votes in Elections a. National Elections	Q24 Frequency of Votes in Elections b. Local Elections	Q25 a. Citizens Have A Duty To Vote In Elections	Q25 b. There is Widespread Corruption Among Those Who Govern The Country	Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	Q25 e. Since So Many People Really Doesn't Matter Whether I Vote Or Not	Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	Q25 g. Government Officials Pay Little Attention To What Citizens Like Me Think	Q15-2 How Proud of Being Uzbek Nationality
Q24 Frequency of Votes in Elections a. National Elections	—									
Q24 Frequency of Votes in Elections b. Local Elections	.742**	—								
Q25 a. Citizens Have A Duty To Vote In Elections	.257**	.245**	—							
Q25 b. There is Widespread Corruption Among Those Who Govern The Country	-.111**	-.128**	-.018	—						
Q25 c. People Like Me Don't Have Enough Power To Influence Government Policy Or Actions	-.050	-.040	.022	.307**	—					
Q25 d. Politics And Government Are So Complicated That Sometimes I Don't Understand What's Happening	.069	.062	.018	.122**	.366**	—				
Q25 e. Since So Many People Vote in Elections, it Really Doesn't Matter Whether I Vote Or Not	-.172**	-.136**	-.152**	.069	.269**	.280**	—			
Q25 f. The Whole People Who Are Elected To The National Parliament Stop Thinking About The Public	-.115**	-.125**	-.160**	.270**	.279**	.234**	.305**	—		
Q25 g. Government Officials Pay Little Attention To What Citizens Like Me Think	-.101**	-.099**	-.125**	.293**	.319**	.260**	.255**	.691**	—	
Q15-2 How Proud of Being Your Nationality	.298**	.274**	.101**	-.224**	-.152**	-.003	-.037	-.140**	-.136**	—

*p < .05 **p < .01

same and the population observed is randomly selected, the relationship between question items on the same object (here, the “politics”) will be monotone, and the correlation coefficient will be positive, or possibly 0, but not negative. Of course, there are probably some people whose responses did not fulfill this rule, but the overall trend including those responses indicates that The First Law applies. This should be viewed as a “collective law” rather than an “individual law.” From this perspective, we can make the proposition that people's political cynicism is cumulative and structured.

Next, at least three types of analytical themes can be proposed regarding the aspects that lead to a substantive theory.

(a) Analysis of the relationship between “duty to vote” (Q25a), “frequency of voting in national elections” (Q24a) and “frequency of voting in local elections” (Q24b)

Generally, the stronger (weaker) the sense of duty to vote, the more likely the respondent is to vote (not vote) in elections. An examination of the size of the correlation coefficients in each country on this issue yields the following categorizations:

- Countries with extremely high correlations: Japan
- Countries with very high correlations: South Korea
- Countries with somewhat high correlations: Malaysia, Vietnam, Sri Lanka, Uzbekistan
- Countries with low correlations: China, Thailand, India

Any hypothetical proposition about general tendencies based on these results will not fit every country. Thus, analyzing the unique characteristics of each country is the next important challenge.

(b) Analysis of the correlation after adding Q25e (“Since so many people vote in elections, it really doesn't matter whether I vote or not”) to the analysis in section (a)

Likewise here, the stronger (weaker) the sense of duty to vote, the less (more) likely the respondent is to think that “it doesn't matter whether I vote” and to vote with greater (less) frequency. However, the correlations are not very high in any of the countries except Japan. The reasons for this would present an interesting study topic.

(c) Analysis of the relationship between “national pride” (Q12 ②), “voting frequency” (Q24a,b), “duty to vote” (Q25a), and “political cynicism” (Q25b-g)

One might expect “national pride” to have a positive correlation with “voting frequency” and “duty to vote,” and a negative correlation with “political cynicism.” However, the correlation coefficients reveal that this is true (or generally true) in some countries, but not in others. It is true in Japan, South Korea, China, Malaysia, and Uzbekistan, but not in Thailand, India, or Sri Lanka. In these latter countries, “national pride” and “political cynicism” constitute separate dimensions. That is, people feel “national pride” for reasons unrelated to the object “politics.” This suggests that studies on national identity would present an interesting study topic.

4. Conclusion

By focusing on the methodological advantages with the AsiaBarometer Survey based on its characteristics as a cross-national/cultural survey, this paper has attempted to conduct an exploratory data analysis of several items to establish a starting point for the data analysis process. Although it is, of course, important to recognize the rudimentary nature of these attempts, the progression from the early stages to the more advanced stages of data analysis is not a mechanical one. Thus, given the need in that process to develop an analytical “view,” the attempts at exploratory data analysis made here are absolutely necessary and can be used as a basis for planning the application of more sophisticated analytical techniques such as “factor analysis” on the one hand, and “multiple regression analysis” on the other.

Attempts at data analysis can also be made from another perspective. That is, data from the AsiaBarometer Survey can be used to examine hypotheses that have been deductively derived from theories developed in different disciplines, such as political science, sociology, and psychology. The AsiaBarometer Survey has a great deal of potential in this regard. If the survey data is publicly disclosed, researchers in various fields are likely to use the materials to examine various theoretical hypotheses.

References

- Inoguchi, T., Basáñez, M., Tanaka, A. and Dadabaev, T. (Eds.) (2005). *Values and Life Styles in Urban Asia*, Institute of Oriental Culture, The University of Tokyo, Japan.
- Frijda, N. and Jahoda, G. (1966). On the Scope and Methods and Cross-Cultural Research. *International Journal of Psychology*.
- Levy, S. (Ed.) (1994). *Louis Guttman on Theory and Methodology: Selected Writings*, Dartmouth, Aldershot, USA.

Manabe, K. (2001). *Facet Theory and Studies of Japanese Society*, Bier'sche Verlagsanstalt, Bonn, Germany.

Smith, T. W. (1988). *The Ups and Downs of Cross-National Survey Research*, *GSS Cross-National Report* No.8, National Opinion Research Center, University of Chicago (mimeo), USA.

アジア・バロメーター調査のデータ分析

——予備的データ分析と探索データ分析——

真鍋一史

本稿は、「質問紙調査法による大規模な国際比較調査」の1つである「アジア・バロメーター」の第1回調査（アジアの10か国を対象に実施された）を取りあげ、そのデータ分析を試みたものである。

「アジア・バロメーター調査」には、人びとの日常生活の諸側面についての信念・態度・行動から始めて、自由・人権・民主主義などをめぐる価値観、さらにはさまざまな政治的意見や行動などを捉えようとする質問諸項目が広く含まれている。

ここでは、①「パブリック・ユーティリティの普及状況」、②「ウェル・ビーイング」、③「信頼」、④「政治的態度と行動」、という4種類の質問諸項目について、データ分析を行なった。

今回のデータ分析が、いわば「手始めの試み」ともいうべきものであるところから、まず「予備的データ分析」から始めて、つぎに「探索的データ分析」として、① POSA のアイディアの応用、②「相関マトリックス」の検討、へと分析を進めていった。

以上のような「手始めの試み」をとおして、一方で各国ごとの違いが明らかになってくるとともに、他方でそのような各国ごとの違いを越えたいわば一般化可能な命題の定立が示唆されることになった。