

原子力発電所の未来についてのグローバル分析 — 原子力発電所の未来は進歩か廃炉か？—

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March 11, 2011 is to be remembered as one of the most important days that have shaped people's perceptions about nuclear energy and its utilization. Three Miles Island and Chernobyl are two preceding events of the similar nature. Yet Fukushima seems to have most enduring impacts on how the world looks at nuclear power plants.

To review the literature on systematic empirical analysis, Kubota (2013) is singled out because it was the first systematic empirical analysis undertaken on the Fukushima accident utilizing the 2011 WIN/Gallup International End of the Year Survey in 29 countries. It analyzes how people see nuclear power plants after their accidents in Three Miles Island and Chernobyl, taking into account of those preceding studies of time-series data mostly in the United States. Its findings mostly corroborate those previous studies, i.e., that as time passes, people's memories fade.

It is our hunch that this finding needs to be revised in light of 1) Fukushima's devastation, 2) the fast changing energy market and 3) the permeation of people's ecological thinking about energy especially under the backdrop against the great depression of the world economy in 2008 and thereafter.

Our analysis focuses on four questions: 1) whether you favor or not nuclear power plants, before Fukushima and thereafter; 2) how high your anxiety about the possibility of nuclear power plants in your country; 3) whether preventive measures against nuclear power plants are adequately ensured in your country; 4) how resilient Japan will be after Fukushima?

Of those 29 countries surveyed, we focus on G7 (US, France, Germany, Japan) and G20 (Russia, China, India, South Korea, Saudi Arabia, Pakistan) countries. Of respondents' attributes surveyed, we focus on gender, age, monthly household income, education, employment status, religion, settlement type.

Two statistical methods, i.e., principal component analysis with varimax rotation and logit regression analysis are used.

Although our analysis is still in the mid-stage, we attempt to place statistical analysis in the history and context of human utilization of energy resources.

Preliminary analysis includes the following five factor analysis dimensions of the whole questionnaire:

1. knowledge of earthquake vs ignorance
2. nuclear energy utilization vs termination
3. apprehension about nuclear power plants
4. knowledge through TV and radio
5. confidence in your country's economic resilience

Logit regression analysis is in the mid-stage. But it is sufficient here to note that the whole endeavor here is to formulate that people's responses are related to people's responses to other questions and respondents' attributes and that through such analysis we infer from such equations a certain set of significant correlations therebetween, to find out where people's cognition and emotion vibrate.

It is our hope that our analysis will help understand that statistics was born of centuries-long human endeavor of deeply and sharply analyzing human behavior and its outcomes.