

Consumers' Evaluation of Japan's Resource Policies

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論 文 内 容 の 要 旨

Japan's economic growth has been low for about thirty years since the beginning of the 1990s when the bubble economy burst. In the coming age of a declining birthrate and an aging population when the quantity of labor force is expected to decrease, Japan needs to improve its factor productivity for its sustainable growth. In the previous study, the author insisted on the urgency to utilize physical capital (produced capital and natural capital) to turn its efficiency positive and on the need for investments in education and training to improve the efficiency of human capital. The policies to improve productivity and economic growth are multifold and typically discussed from the supply-side of the economy. Nevertheless, the author focused on the demand-side, believing that the policies should be welcomed by consumers to make the real improvement of the economy. A policy to improve productivity should accompany consumers' quality of life and happiness.

With the background above, the author selected consumers' evaluation of policies of three resources, energy, technology, and human resource, as the theme of the Thesis. They all relate to the "inclusive wealth" that consists of social values of natural capital, produced capital, and human capital. To measure the consumers' evaluation of policies from the demand side, the author conducted internet surveys and analyzed the responses with various econometric methods.

This thesis consists of five chapters. Chapter 1 gives the background of the study and emphasizes the need to determine the consumers' acceptance of government policies.

Chapter 2 is of energy policy. It presents the results of both discrete choice experiments and choice probability experiments to determine citizens' willingness to pay (WTP) for residential electricity produced by solar, wind, and nuclear power, and by natural gas, to evaluate the three energy-mix scenarios presented by the Government of Japan. Besides, the author measures the effects of positive or negative information about nuclear energy, and the author finds out that the information affects the citizens' recognition of the energy resources. The results indicate that, on average, consumers in Japan had negative WTP for electricity produced by nuclear power, petroleum, and coal, regardless of the information they read. They showed the highest WTP to the highest renewable energy scenario among the presented scenarios, but the level of WTP for such energy-mix change was far less than the actual cost of the change.

Chapter 3 is of policies for new technologies. It intends to predict a future with driverless

vehicles. Using choice experiments, the author first elicits potential consumers' willingness to pay (WTP) for autonomous driving systems in Japan and determine that their WTP is insufficient for the merchandising of highly autonomous vehicles (AVs). Second, compared with a previous US study, we discuss two expected social dilemmas. One dilemma is that respondents in both countries tend not to purchase items that they think are moral. The other social dilemma is that respondents may not agree to government regulations on AVs, although the regulations match their morality. The author observed it solely in the US. In Japan, however, the author did not observe the second dilemma because such regulations do not affect their behavior. We then estimated the factors influencing these dilemmas, and credibility to AVs was found to be a critical factor.

Chapter 4 concerns the fact that due to macroeconomic factors, young people in Japan are increasingly opting not to participate in the labor force. The government has tried specific career education programs to encourage the youth to find suitable jobs. The author explored the effects of career policies in school settings by identifying graduates' earning capacity (annual income) through an online survey followed by quantitative analysis of the results. The author reports the evaluation of career policies by respondents, and then measure the effects of these policies on both labor participation and income. Although the specific program we focused on did not show apparent effects, career education policies in general, and daily activities in elementary and middle schools affect graduates' incomes. We also identify other key attributes in school-age that would later increase their post-graduate income.

Chapter 5 summarizes the findings and conclude as follows. On natural resource policies, the Japanese Government's energy-mix scenarios do not reflect consumers' preferences. The majority of consumers have a higher willingness to pay for the renewable-energy oriented scenario. On adopting new technologies such as autonomous driving vehicles, besides subsidizing the technology, the Government and the makers of the AVs better recognize that consumers' morality alters their purchasing behavior. Government regulations for reflecting the morality of the public may not be disturbed in Japan; nevertheless, they may not work in the US. On human resource policies, the effects of providing specific career education are not apparent yet. We determined that the government policies that let students enjoy their daily classroom activities in elementary and junior-high education, rather than specific career education, help students appreciate their future jobs.