

## Abstracts

### The Estimation of Prefectural Poverty Rates and the Elucidation of their Determinants

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The poverty rate is increasing due to the expansion of income inequality and the appearance of working poor, and poverty is a serious social issue in contemporary Japan. The regional disparities of poverty attract much interest in relation to regional revitalization, however, the actual situation of regional poverty has not been much studied. In this study, an empirical experiment on the estimation of prefectural poverty rates and the elucidation of their determinants has been carried out to clarify the effect of working factors on the regional poverty situation. The poverty rates of prefectures were evaluated by using the open data of government statistics, and the regional disparities of poverty were validated. A tendency of higher poverty rates in western Japan and lower poverty rates in eastern Japan was observed. The poverty rates increased in most prefectures from 1973 to 2013, and areas of high poverty rates moved to eastern Japan, with the exception of the prefectures with decreasing poverty rates from a viewpoint of economic geography. An analysis was executed by using a nonlinear regression method, the Support Vector Machine technique, to clarify determinants of disparities in regional poverty. The object variable used was prefectural poverty rates, and 33 kinds of socioeconomic indices were employed as explanatory variables. Seven determinants were found from this data mining approach, and it was found that three work-related determinants, the unemployment rate, the rate of young people not currently being employed, educated or trained, and the minimum wage, were the most important.

### The Impact of Increasing After-school Childcare on the Female Employment Rates

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In this paper, we consider the effect of the quantitative expansion of after-school childcare on the female employment rate. Using the aggregated data of municipalities in Tokyo every five years from 1985 to 2010, we estimate the effect of the availability of after-school childcare on female employment rates by age groups. In addition to the availability of after-school childcare, we control for the average regional characteristics (income, married rate and three-generation family ratio), fiscal expenditure, the youth population ratio and the availability of day-care centers. Our results show that the higher availability of after-school childcare raises female employment rates. This can especially be observed with women between 35 to 39 years old and 40 to 44 years old. Even if controlling for the availability of day-care centers, the availability of after-school childcare has the effect of increasing female employment rates. It suggests that the quantitative expansion of after-school childcare is effective in promoting female employment in the child rearing generation.