

PROPOSAL: POLITICAL COALITION FORMATION

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<http://www.econ.yale.edu/faculty1/weese.htm>

Note: This research will take place in Tokyo, during the months of June and July, at the National Graduate Institute for Policy Studies. The student is responsible for making all necessary travel and lodging arrangements, though the Department of Economics will be able to provide up to \$500 to defray these expenses. It may be possible to combine this project with an International Summer Award

(<http://www.yale.edu/yalecollege/international/funding/isa/index.html>).

No knowledge of Japanese is required, but students with good reading skills could undertake more data-intensive (and less mathematical) tasks.

Intuition suggests that there are substantial efficiencies of scale in the production of public goods: compare, for example, the facilities and staff that might be required for 10 middle schools with 30 students each, versus one middle school with 300 students. There is very little good evidence, however, to support this intuition. Most existing studies of efficiencies of scale use a very indirect method, attempting to estimate how efficiently a given service is being provided based on how much is being spent on providing it, via strong assumptions about the preferences of individual voters. This project is focused on analyzing a set of quantitative but subjective estimates produced by the Japanese national government, which show substantial efficiencies of scale across a wide variety of public services. Because these estimates are based on expert opinion, they are only credible if they can be checked against actual behavior. In a recent set of municipal mergers in Japan, municipalities were offered certain defined financial incentives to participate in mergers. Some municipalities chose to do so, while others chose to remain independent. These choices were made democratically, and a large amount of voting data is available. The immediate objective of this project is to use this voting data to verify that the Japanese government estimates of efficiencies of scale are close to the true efficiencies of scale. The larger objective is to better understand why a given service, such as police, may sometimes be provided at the municipal level and sometimes at a higher level of government (e.g., state troopers).

The specific tasks required for this analysis are largely technical. One potential task, for example, is programming an estimator to analyze the voting behavior of municipalities during the municipal mergers. Some understanding of econometrics might be helpful here, but the essential skill is knowledge of a programming language (such as C), and the ability to implement an algorithm given a detailed mathematical description. A student with a good knowledge of linear algebra and an interest in quadratic programming could work with the large mixed-integer quadratic program that compares the actual behavior of municipalities with what would be expected to happen given the presence of more or less substantial efficiencies of scale. Someone with no knowledge of programming, but a very strong mathematical intuition, might instead be able to work on a formal model of how jurisdiction boundaries should be drawn, given economies of scale. A student with Japanese language skills could also opt to work on, for example, data collection at the National Diet Library, if they had a preference for less technical tasks.