

Interaction between Public Policy and Social Capital: Child-care Policy and Birth Rate

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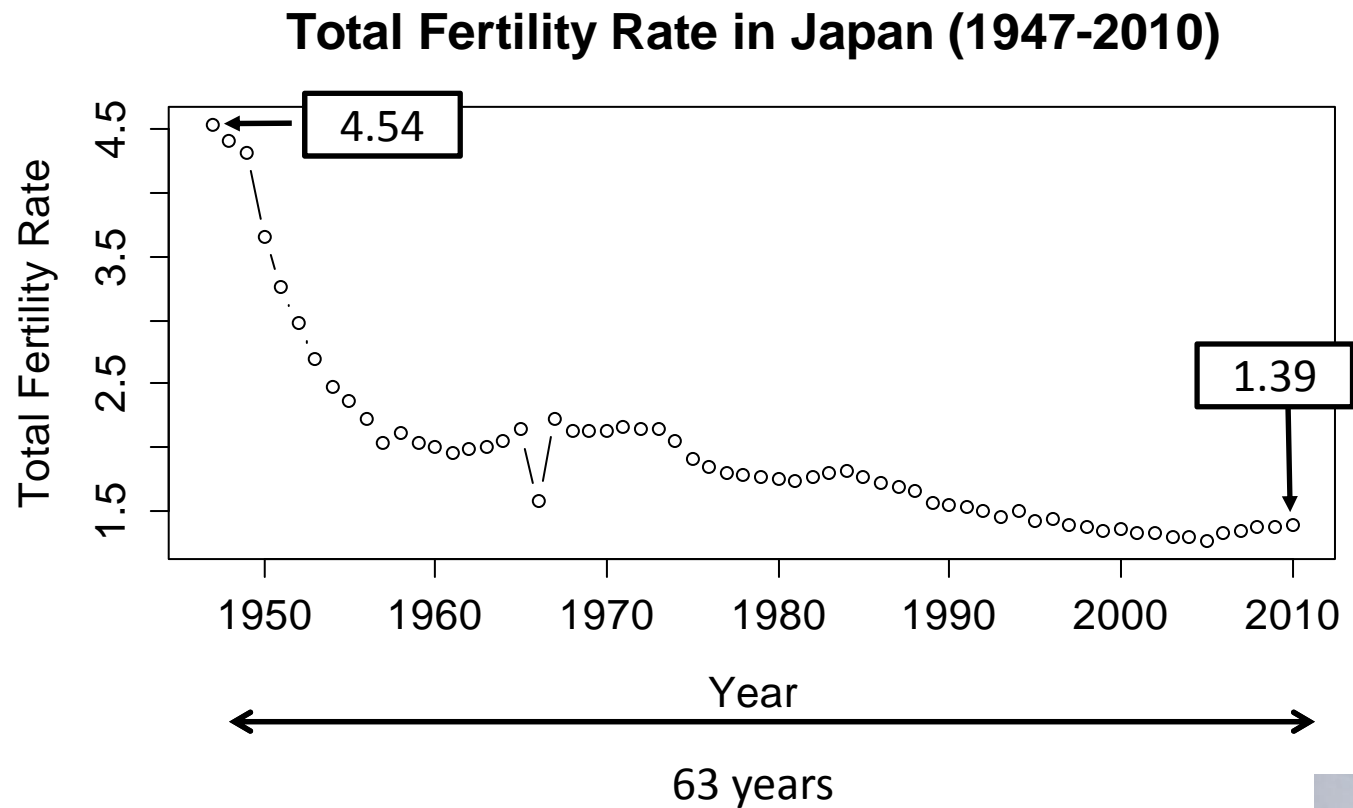
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RC45.D4: Social Capital: Current Research on Bases and Outcomes,
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Organization of the Presentation

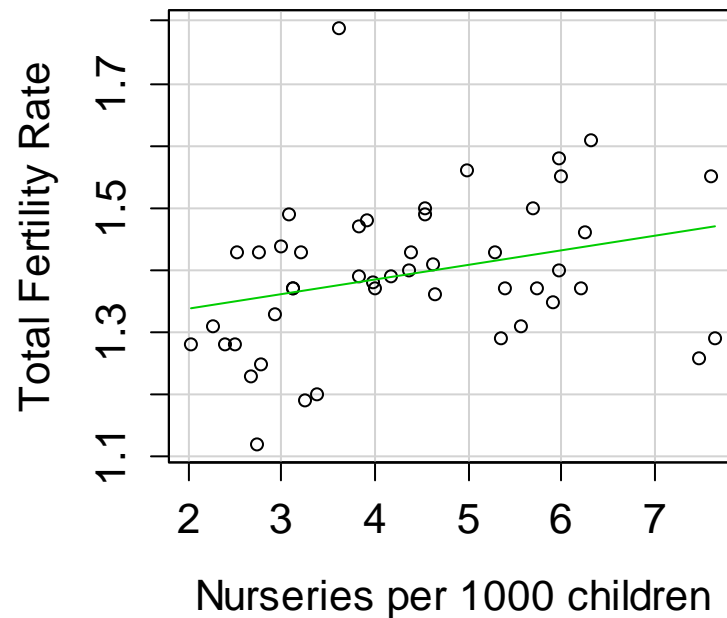
- Puzzle: Effects of policy and social capital on fertility rate
- Possible answer: Only one of them, both, or interact
- Data and methods
- Findings: Policy and social capital interact with each other
- Conclusions

Problem: Decline in Fertility Rate

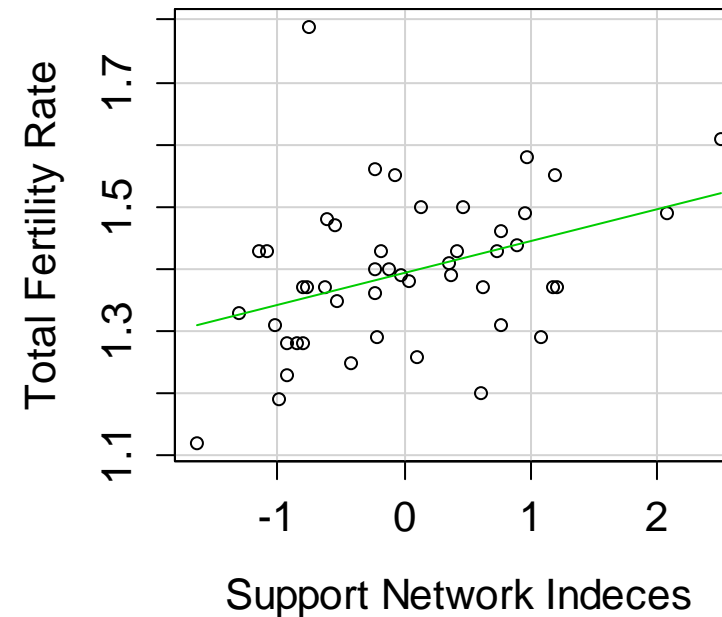


Policy, Social Capital, and Birth Rate (Macro-level correlations)

Policy and Birth Rate
($r = 0.379$)



Social Capital and Birth Rate
($r = 0.192$)



Note: Unit is a prefecture. There are 47 prefectures in Japan.

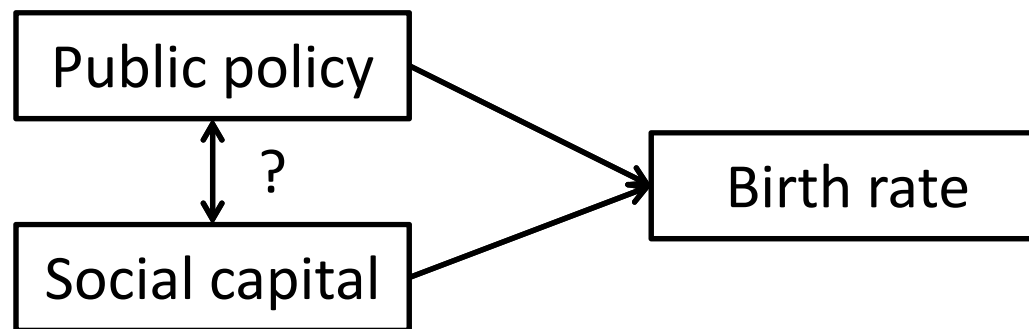


A Puzzle: Policy or Social Capital?

- Child-care policies (by municipal governments)
 - Equal availability for all citizens
 - Fiscal disparity among municipalities
- Social capital (personal support network)
 - Complement to the shortage of policies
 - Unequal availability among individuals

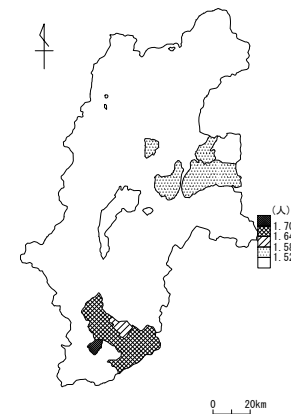
Possible Answers

1. Either of policy or social capital is effective for raising fertility rate.
2. Both of them are effective.
3. They interact each other (policies complement social capital, and vice versa).



Data

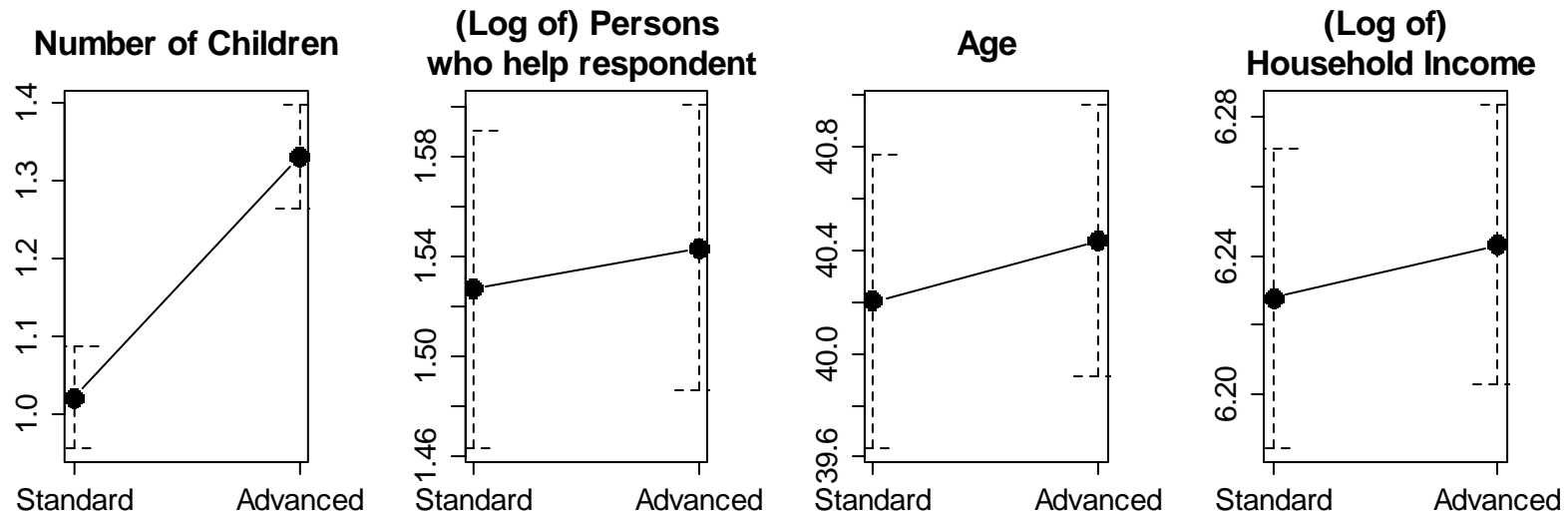
- Questionnaire Survey on Experimental Design
 - Population: Nagano prefecture
 - Purposively selected 2 municipalities which have advanced child-care policies.
 - For the contrast group, randomly selected 6 municipalities (= Standard municipalities).
 - Randomly select the same number of individuals from each group (600+600=1200).
 - Reliable responses were 631 (52.6%).
 - Mail survey conducted in 2010.



Variables and Methods

- Dependent Variable: Number of children
- Independent Variables:
 - Policy: Advanced municipality dummy
 - Social capital: Number of relatives, acquaintances, etc. who help respondent's child-care usually (log transformed)
- Control Variables:
 - Age
 - Household income (log transformed)
- Method
 - Poisson GLM (generalized linear model) with interaction between policy and social capital

Descriptive Statistics



Note: Error bars represent standard errors.

- The mean of children in Advanced municipalities is significantly larger than Standard municipalities.
- None of other variables has significant difference.

Correlation Coefficient Matrix

	Children	SC	Age	Income
Children	1	.207**	<i>.400**</i>	<i>.097</i>
Social capital	-.029	1	<i>.084</i>	<i>.088</i>
Age	.428**	-.115*	1	<i>-.063</i>
Income	.120*	.160**	.031	1

Note: Numbers in bold are for **Advanced** municipalities, while those in italic are for *Standard* municipalities.

* < .05, ** < .01.

- Children and Social capital are significantly correlated in *Standard* municipalities, but not significant in **Advanced** municipalities

Poisson GLM

	No Interaction			With Interaction		
	Coef.	S.E.		Coef.	S.E.	
Policy	0.226	0.079	**	0.479	0.150	**
Social capital	0.085	0.038	*	0.173	0.058	**
Policy * Social capital				-0.154	0.077	*
Age	0.049	0.005	***	0.049	0.005	***
Income	0.147	0.147	*	0.150	0.059	*
Constant	-3.106	0.430	***	-3.247	0.437	***
AIC	1494.0			1492.0		

Note: Dependent variable is Children. N = 547.

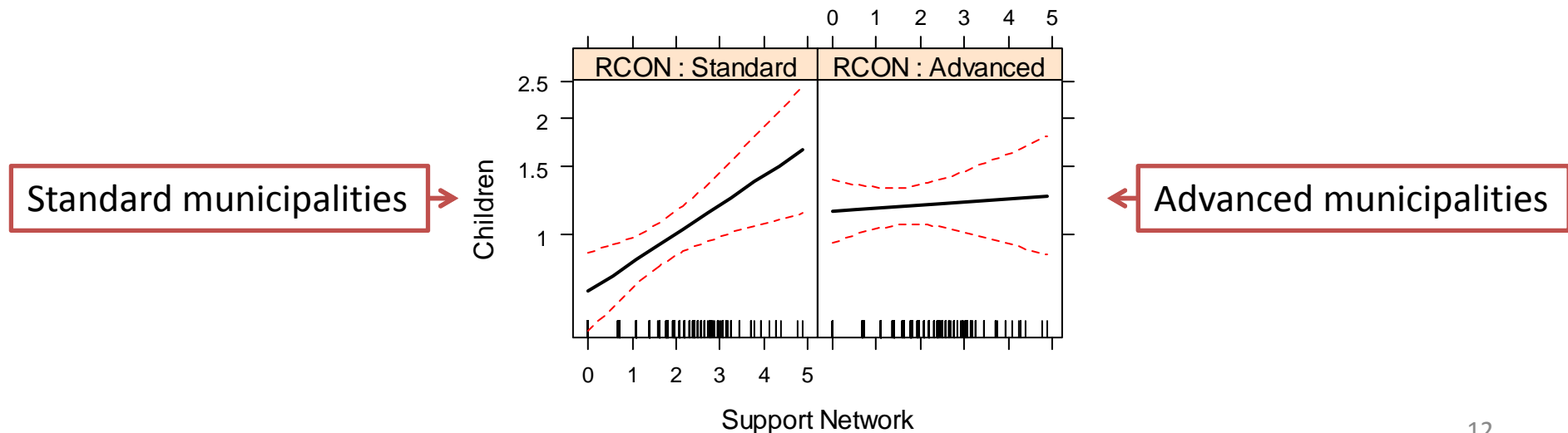
“Policy” means Advanced municipalities dummy.

* < .05, ** < .01, *** < .001.

Negative interaction!

Findings

- Steep slope in Standard municipalities
 - Social capital (support network) is valuable for child-rearing.
- Gentle slope in Advanced municipalities
 - Social capital is not always necessary.



Conclusions

- Social capital complements public policy.
 - It could overcome the inequality of life chance caused by a fiscal deficiency of the municipal government.
- **Another puzzle: Public policy has spoiled social capital?**
 - Public policy should cultivate the civil society (?)
 - Which came first, the chicken or the egg?

Sampling Design

Advanced Municipalities		Standard Municipalities	
Municipality	Responses	Municipality	Responses
Iida city	157	Shiojiri city	52
		Saku city	49
		Komoro city	48
Shimojo village	164	Chowa town	51
		Kogi village	53
		Aoki village	57
Total responses	321		310
Sample size	600		600
Response rate	53.6%		51.7%

Note: All respondents are 20 - 54 years old.

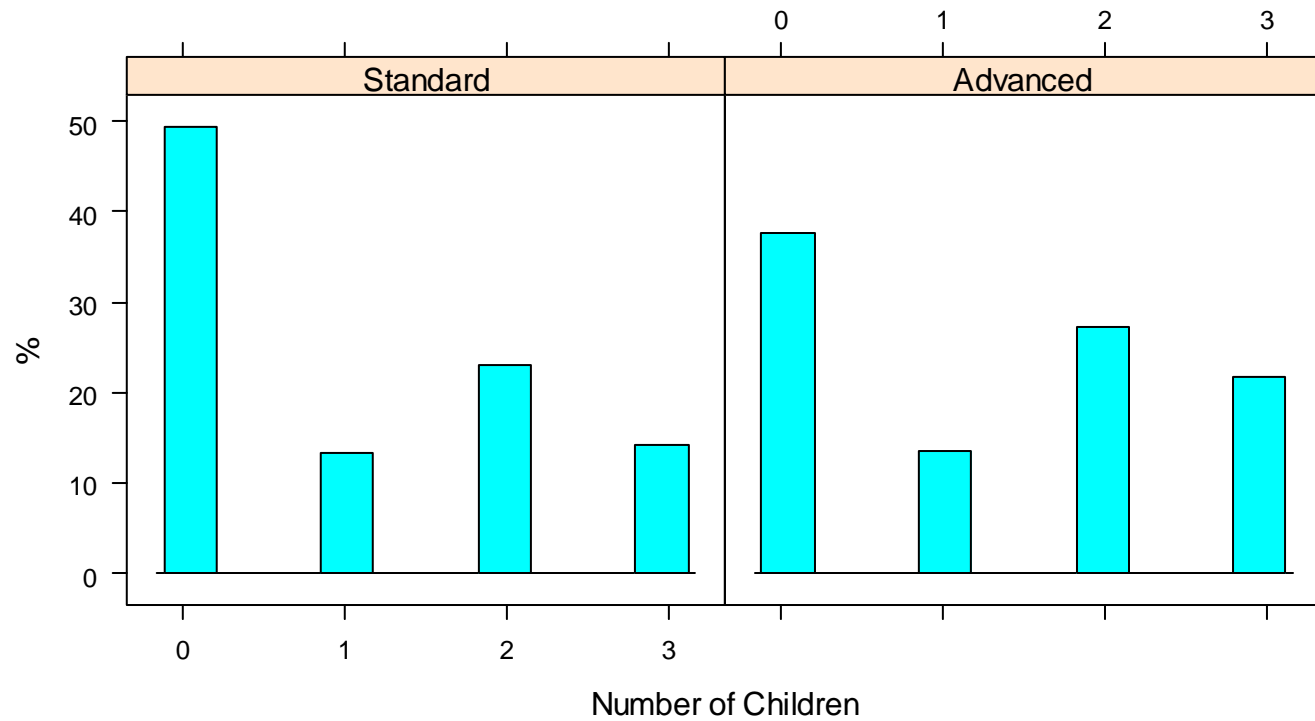
Mail survey conducted on November to December 2010.

Descriptive Statistics

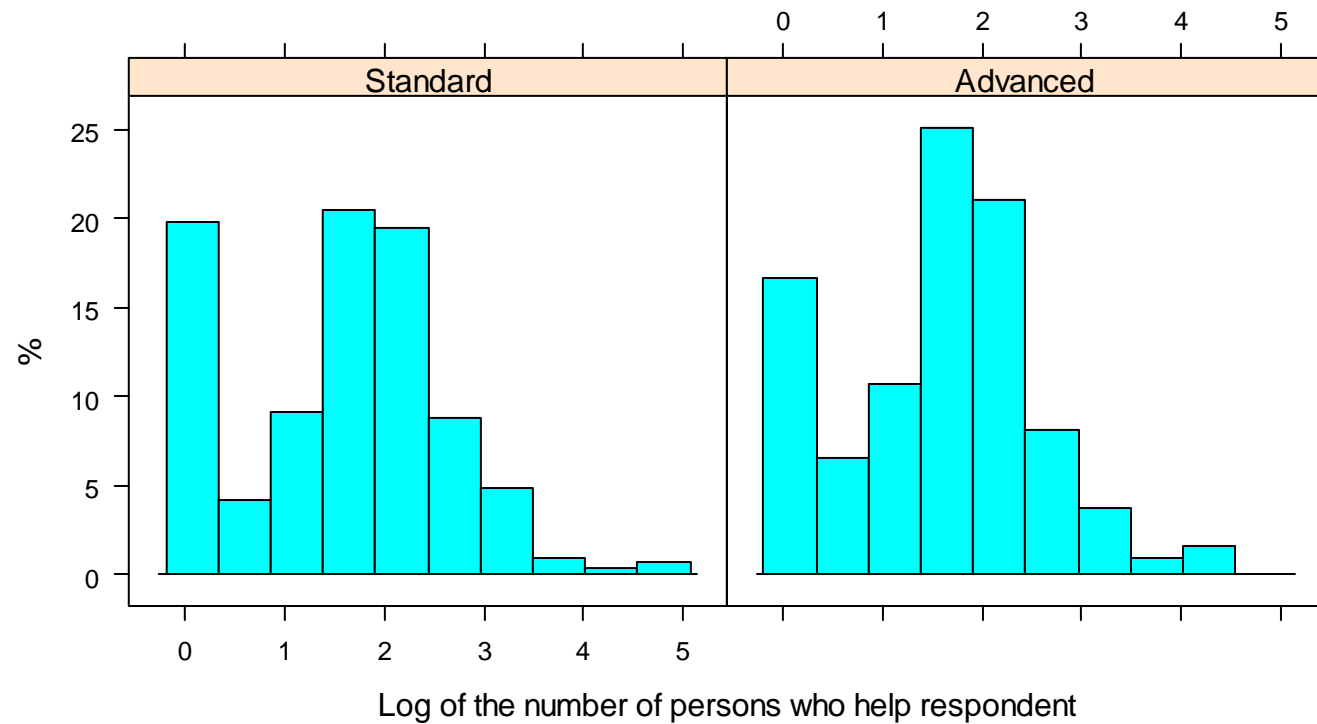
Variables	Values	Advanced municipalities		Standard Municipalities		Diff.
		Mean	N	Mean	N	
Number of children	0 - 3	1.329	319	1.023	308	**
Number of persons who help respondent	0 - 130	6.834	319	7.128	273	
(Log of above)	0 - 4.88	1.543	301	1.527	273	
Age	20 - 54	40.43	319	40.20	308	
Household income	0 - 2000	628.4	299	612.4	283	
(Log of above)	0 - 7.60	6.243	299	6.228	283	

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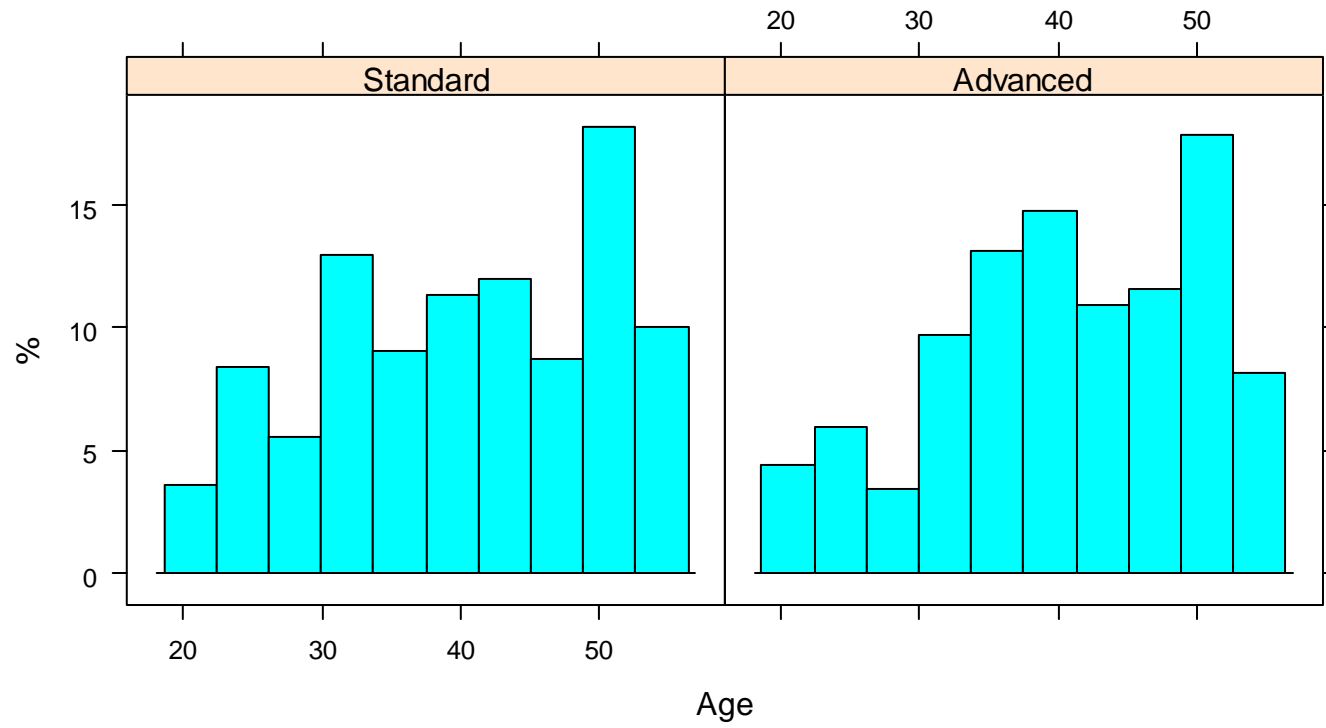
Number of Children



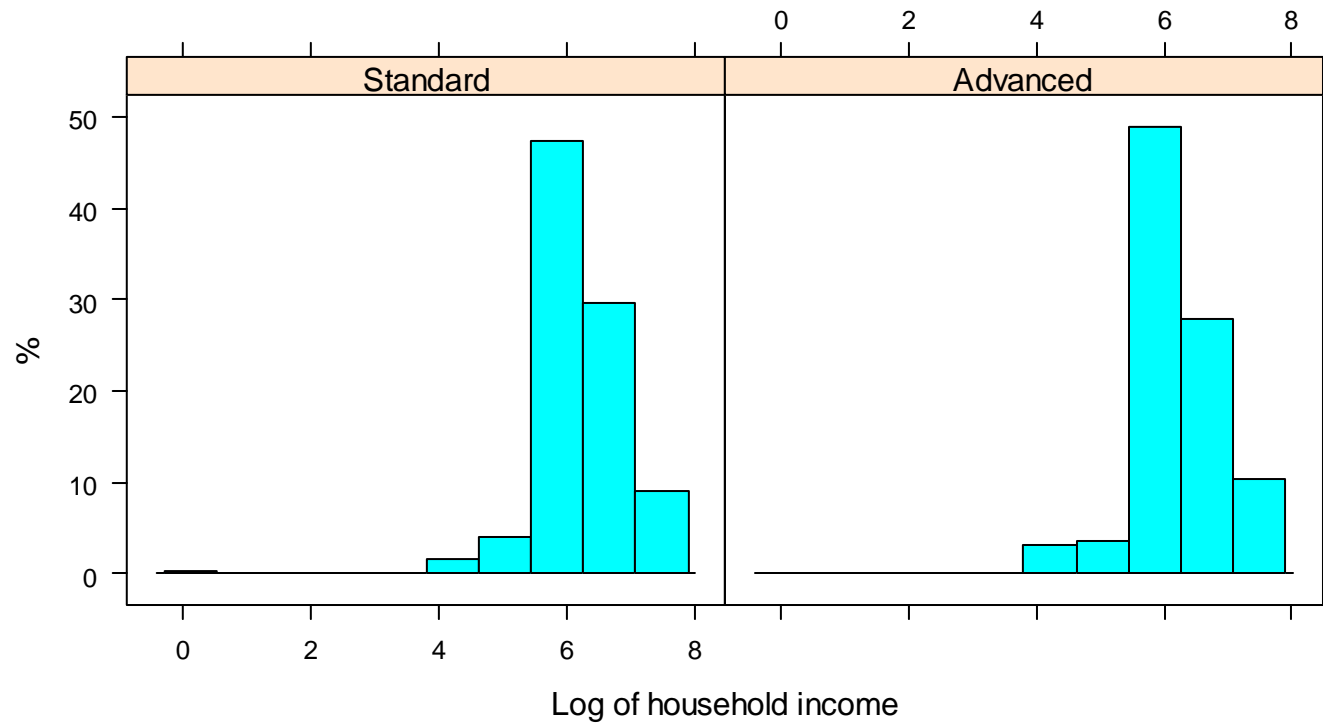
Social Capital (Support Network)



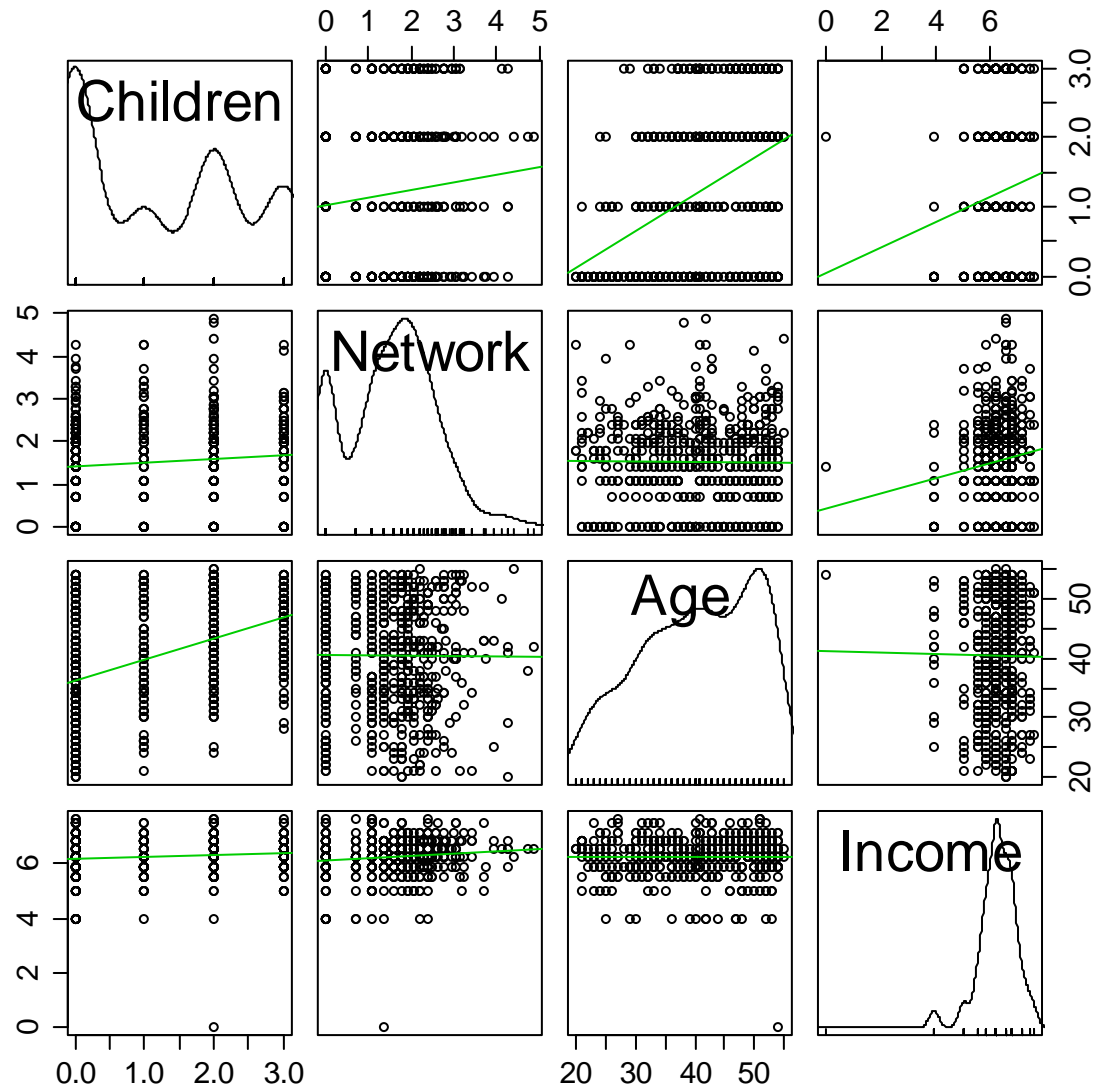
Age



Household Income



Scatterplot Matrix



Policies by Advanced Municipalities

Iida city

- Promotions for immigrants from outside the city
 - For company employees
 - For prospective entrepreneur
 - For intending farmer
- Internet web site with information on child-rearing inside the city

Shimojo village

- Promotions for immigrants from outside
 - Especially for young people
 - Rental houses at a moderate rent
 - A low nursery fee
- Fruit
 - Total fertility rate has reached to 2.12 (year 2003-2005)

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Regression Analysis (Poisson GLM)

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