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The Effects of Democratic Participation in Development Program on Happiness: Does Procedural Utility Matter?

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Introduction

- Many researchers use income or consumption as the standard by which to measure well-being (or poverty), and thus the impact of poverty reduction actions is typically evaluated from the perspective of income or consumption. Few scholars have used happiness in conjunction with anti-poverty program analysis.
- The project that we evaluate encouraged farmers to participate in democratic discussions of the anti-poverty initiatives that would be undertaken in the village. The nature of this program allows us to focus on “procedural utility” as a mechanism by which the construction of this program influenced farmer well-being.

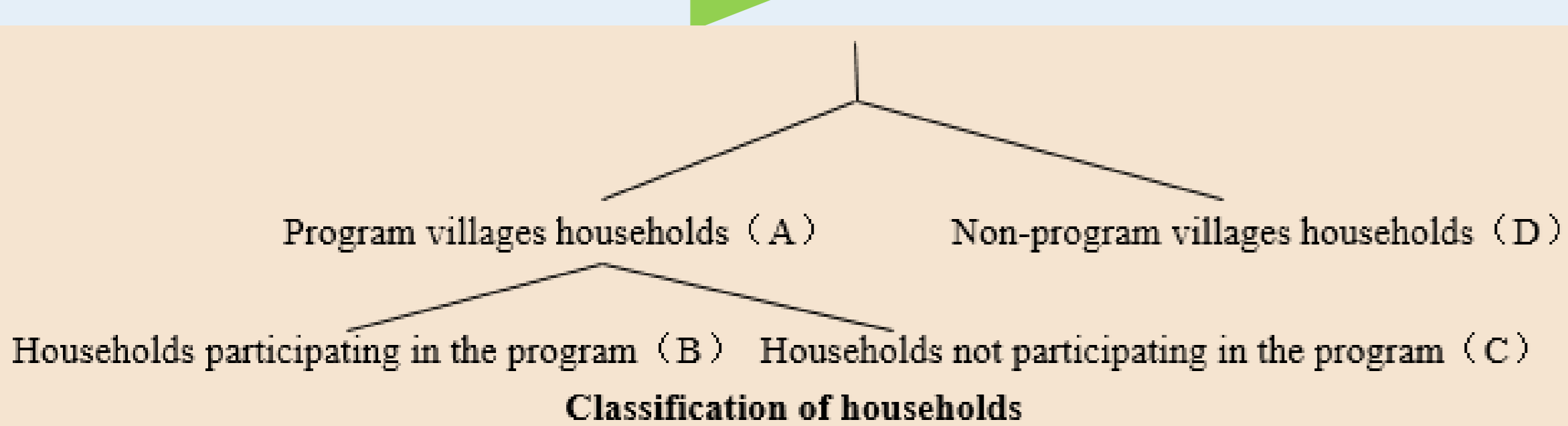
Objectives

- Evaluate to what extent do participatory poverty reduction programs improve the happiness of people in poor communities.
- Explore how much is the procedural utility is generated by the program participation process itself.
- Test if the program is pro-poor, meaning that does the program increase the happiness of the poor more than the average increase in happiness?

Data

Data comes from unique author-conducted surveys: a 2010 baseline survey, and also a 2013 final evaluation survey. After cleaning the data, we obtained a balanced panel dataset of 2,482 rural households in 88 villages; the baseline period (2010) and the final period (2013) both include 1,241 rural households, among which 923 rural households are from program villages and 318 are from the control villages. Of these, 702 households participated in the program, which accounts for 76.06% of the households surveyed in the program villages.

Method



(A1-A0)-(D1-D0): the total impact of the project on households' happiness. (B1-B0)-(C1-C0): the impact of program participation process on happiness.

The method of propensity score matching difference-in-difference estimates the average processing effect of items on the overall happiness of rural households with the following formulas:

$$ATT_{MatchingDID} = \frac{1}{N^P} \sum_{i \in I^p \cap S} [(H_{it}^p - H_{0t}^p) - \sum_{j \in I^d \cap S} w(i, j)(H_{1j}^d - H_{0j}^d)]$$

$$w(i, j) = G\left(\frac{P_j - P_i}{x}\right) / \sum_{k \in I^d} G\left(\frac{P_k - P_i}{x}\right)$$

Discussion

- Results estimated so far reveal that the participatory community poverty reduction program significantly improved rural household happiness.
- we also find that the impact of the program on the happiness of households in the program village participating in the program process (not only affected by the program results, but also by the participation process itself) was 0.144 higher than that of those in the program village not participating in the program process (only affected by the program results). This estimate implies that participation in the program itself can lead to an increase in happiness.
- In addition, the effect of participatory community poverty reduction program on the happiness of the poor rural households is much greater than that of the non-poor, that is, we find evidence that the program is “pro-poor”.

Results

1. The overall impact of the program on rural villagers' happiness

Table 1 Descriptive statistics

Variable	Baseline period - 2010				Evaluation period - 2012			
	Non-program villages		Program villages		Non-program villages		Program villages	
	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
Happiness	5.635	2.102	6.407	2.076	6.033	2.270	7.640	1.965
Age	48.457	12.854	50.022	11.853	52.018	11.134	51.067	11.242
Gender	0.962	0.192	0.945	0.228	0.973	0.164	0.968	0.177
Education	5.519	3.421	5.923	3.376	5.620	3.303	6.243	3.101
Whether housing is dangerous	0.330	0.471	0.190	0.393	0.261	0.440	0.140	0.347
Number of labor force	2.440	1.256	2.463	1.322	2.401	1.426	2.436	1.381
Relative income status								
Medium	0.510	0.501	0.441	0.497	0.578	0.495	0.684	0.465
Low	0.333	0.473	0.345	0.475	0.343	0.475	0.160	0.367
Income level	7.507	1.117	7.917	1.140	8.379	1.056	8.427	1.065
Number of family land	4.371	4.159	4.094	4.472	4.626	4.252	4.442	5.645
Participation in Agricultural Training	0.227	0.420	0.265	0.441	0.257	0.438	0.346	0.476

Table 2 The results of balance test

Variable	Mean-Type A	Mean-Type D	DID	T test	P value
Happiness	6.036	6.371	0.335	2.840	0.0046***
Age	49.321	49.470	0.150	0.220	0.827
Gender	0.955	0.941	-0.013	1.070	0.285
Education	5.922	5.923	0.001	0.010	0.996
Whether housing is dangerous	0.187	0.198	0.011	0.470	0.640
Number of labor force	2.460	2.463	0.002	0.030	0.973
Relative income status-Medium	0.446	0.447	0.001	0.030	0.972
Relative income status-Low	0.348	0.342	-0.005	0.200	0.845
Income level	7.840	7.902	0.062	0.990	0.323
Number of family land	4.304	4.222	-0.081	0.340	0.733
Participation in Agricultural Training	0.257	0.265	0.008	0.310	0.756

Table 3 Estimated results—PSM-DID

Matching Method	DID	St. Dev.	T test	P value
Quadratic Kernel Function	1.229	0.168	7.30	0.000***
Tricube kernel	1.233	0.168	7.33	0.000***
Gauss Kernel Function	1.242	0.168	7.39	0.000***

2. Procedural utility

Table 4 The results of balance test

Variable	Mean-Type B	Mean-Type C	DID	T test	P value
Happiness	6.158	6.443	0.285	2.09	0.0373**
Age	49.443	49.167	-0.276	0.35	0.7264
Gender	0.936	0.942	0.005	0.34	0.7318
Education	5.906	5.905	-0.001	0	0.9972
Whether housing is dangerous	0.183	0.214	0.031	1.19	0.2336
Number of labor force	2.44	2.42	-0.02	0.23	0.8178
Relative income status-Medium	0.452	0.457	0.006	0.18	0.861
Relative income status-Low	0.336	0.336	0.001	0.02	0.9844
Income level	7.892	7.874	-0.017	0.22	0.8246
Number of family land (Mu)	4.317	4.183	-0.133	0.44	0.6575
Participation in Agricultural Training	0.261	0.285	0.024	0.82	0.4151

Table 5 Estimated results—PSM-DID

Matching Method	DID	标准误	T值	P值
Quadratic Kernel Function	0.144	0.082	1.76	0.079*
Tricube kernel	0.135	0.076	1.78	0.075*
Gauss Kernel Function	0.120	0.063	1.89	0.059*

3. “Pro-poor”

Table 6 “pro-poor” — PSM-DID

	DID	St. Dev.	T test	P value
Non-poor households				
Program villages VS. Non-program villages	1.052	0.244	4.30	0.000***
Participating in the process in the project village VS. Not participating in the process in the project village	0.202	0.261	0.77	0.439
Poor households				
Program villages VS. Non-program villages	2.151	0.438	4.91	0.000***
Participating in the process in the project village VS. Not participating in the process in the project village	0.450	0.245	1.84	0.066*

4. Adjustment Estimation Method-Bootstrap Method

	DID	St. Dev.	T test	P value
Total sample				
A vs. D	1.229	0.235	5.22	0.000***
B vs. C	0.144	0.080	1.80	0.072*
Non-poor households				
Program villages VS. Non-program villages	1.053	0.244	4.32	0.000***
Participating in the process in the project village VS. Not participating in the process in the project village	0.202	0.432	0.47	0.641
Poor households				
Program villages VS. Non-program villages	2.152	0.438	4.91	0.000***
Participating in the process in the project village VS. Not participating in the process in the project village	0.451	0.242	1.86	0.063*