

Permutation tests using membership == 1, 4

August 2, 2018

04:46

Seiro Ito

	tee	traditional	large	large	grace	cow	total
1:	1	222	247		221	240	930
2:	2	153	237		214	231	835
3:	3	142	229		208	214	793
4:	4	138	213		193	203	747

Attrited			
survey	0	1	
1 2003	216		
2 1967	110		
3 2002	88		
4 2003	0		

1	2	3
100	34	82

Mgroup	Mstatus	
	gErosion	gRejection
continued	0	0
drop outs	0	140
forced drop outs	80	0
new group	0	0
replacements	0	0

Warning in reshapeWide(data, idvar = idvar, timevar = timevar, varying = varying, : there

	MstatusFromRos	traditional	large	large	grace	cow	ExitBeforeAssigned	total
1:	gErosion	0	0		0	0	80	80
2:	gRejection	0	0		0	0	140	140
3:	iRejection	54	12		22	72	0	160
4:	iReplacement	39	8		11	57	0	115
5:	newGroup	166	96		96	50	0	408
6:	oldMember	226	348		338	308	0	1220

[1] 1600

Attrited.ros			
Attrited	0	1	<NA>
0	1296	0	114
1	0	84	106
<NA>	618	125	0

[1] 1600

Attrited.sc			
Attrited	0	1	<NA>
0	748	230	1050
1	0	70	245

MstatusFromS	MstatusFromRos	
	gErosion	gRejection
gErosion	0	0
gRejection	0	98
iRejection	0	0
iReplacement	0	0
newGroup	0	0
oldMember	0	0
<NA>	80	42

1	2
1903	220

[1] 1600

Attrited	Attrited.ass			
	0	1	<NA>	
0	883	95	1050	
1	0	70	245	
<NA>	289	51	0	

[1] 1600

Attrited	Attrited.lv			
	0	1	<NA>	
0	1172	95	1050	
1	0	121	245	

0	1
1083	1600

There are 220 observations added after original 1600 but are classified as group rejecters. There are 80 whose villages are washed away and 140 whose rejected the assigned arms which are traditional, large, large grace, NA rejected by 59, 22, 17, 42 individuals, respectively. There are 26, 7, 13, 45 individuals who individually rejected traditional, large, large grace, cow, respectively. Among attrited HHs, when were they lost?

1	2	3
93	30	67

Reasons for attrition and relation to flood damage.

FloodInRd1	Mstatus					
	gErosion	gRejection	iRejection	oldMember	<NA>	
0	0	0	11	16	1	
1	0	0	8	17	17	
<NA>	80	26	12	20	158	

AssignOriginal	Mstatus					
	gErosion	gRejection	iRejection	oldMember	<NA>	
traditional	0	0	8	4	8	
large	0	0	1	16	3	
large grace	0	0	4	13	3	
cow	0	0	18	20	5	
<NA>	80	26	0	0	157	

Use coin package's independence_test: Approximate permutation tests by randomly resampling 9999 times.

TABLE 1: PERMUTATION TEST RESULTS OF ATTRITION

variables	NonAttrited	Attrited	p-value.lower	p-value.mid	p-value.upper
HeadLiterate	0.116	0.105	0.569	0.612	0.654
HeadAge	38.453	38.493	0.955	0.957	0.959
HHsize	4.179	4.206	0.777	0.798	0.819
AssignOriginal	0.799	0.945	0.000	0.000	0.001
FloodInRd1	0.474	0.600	0.035	0.041	0.048
HAssetAmount	1627.380	995.868	0.384	0.385	0.385
PAssetAmount	1175.625	861.570	0.123	0.123	0.123
TotalImputedValue	6883.619	3981.612	0.032	0.032	0.032
n	2317	366	(rate: 0.136)		

TABLE 2: PERMUTATION TEST RESULTS OF ATTRITION, ORIGINAL 1600 HHs

variables	NonAttrited	Attrited	p-value.lower	p-value.mid	p-value.upper
HeadLiterate	0.121	0.107	0.605	0.671	0.736
HeadAge	38.613	38.702	0.934	0.936	0.938
HHsize	4.216	4.060	0.335	0.344	0.353
AssignOriginal	0.810	0.937	0.000	0.000	0.001
FloodInRd1	0.479	0.481	0.882	0.941	1.000
HAssetAmount	844.566	711.538	0.286	0.288	0.289
PAssetAmount	1259.661	856.538	0.211	0.211	0.211
TotalImputedValue	7054.427	2677.885	0.029	0.029	0.029
n	1410	190	(rate: 0.119)		

Source: Estimated with GUK administrative and survey data.

Notes: 1. R's package coin is used for baseline group mean covariates to conduct approximate permutation tests. Number of repetition is set to 9999. Number of groups is 72. Step-down method is used to adjust for multiple testing of a multi-factor grouping variable. Attrited and Nonattrited columns show means of each group. For AssignOriginal, proportions of non-traditional arm are given.

2. ***, **, * indicate statistical significance at 1%, 5%, 10%, respectively. Standard errors are clustered at group (village) level.

TABLE 3: PERMUTATION TEST RESULTS OF REJECTION

variables	NonRejected	Rejected	p-value.lower	p-value.mid	p-value.upper
HeadLiterate	0.117	0.106	0.500	0.531	0.562
HeadAge	38.470	38.401	0.905	0.906	0.907
HHsize	4.215	4.043	0.029	0.030	0.031
AssignOriginal	0.809	0.851	0.000	0.000	0.000
FloodInRd1	0.470	0.540	0.077	0.084	0.091
HAssetAmount	1675.301	1125.577	0.535	0.535	0.535
PAssetAmount	1160.175	1096.500	0.705	0.705	0.705
TotalImputedValue	7008.462	4991.442	0.038	0.038	0.038
n	2057	626	(rate: 0.233)		

TABLE 4: PERMUTATION TEST RESULTS OF REJECTION, ORIGINAL 1600 HHs

variables	NonRejected	Rejected	p-value.lower	p-value.mid	p-value.upper
HeadLiterate	0.124	0.094	0.246	0.277	0.308
HeadAge	38.643	38.433	0.808	0.810	0.811
HHsize	4.256	3.831	0.000	0.000	0.000
AssignOriginal	0.826	0.820	0.000	0.000	0.000
FloodInRd1	0.470	0.560	0.107	0.118	0.130
HAssetAmount	842.980	783.516	0.541	0.543	0.544
PAssetAmount	1264.955	979.341	0.301	0.302	0.302
TotalImputedValue	6915.745	5862.637	0.499	0.499	0.499
n	1300	300	(rate: 0.188)		

Source: Estimated with GUK administrative and survey data.

Notes: 1. R's package coin is used for baseline group mean covariates to conduct approximate permutation tests. Number of repetition is set to 9999. Number of groups is 72. Step-down method is used to adjust for multiple testing of a multi-factor grouping variable. Rejection is either group-rejection or individual-rejection. Rejected and Nonrejected columns show means of each group. For AssignOriginal, proportions of non-traditional arm are given.

2. ***, **, * indicate statistical significance at 1%, 5%, 10%, respectively. Standard errors are clustered at group (village) level.