# expandcl — Duplicate clustered observations

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### **Description**

expandcl duplicates clusters of observations and generates a new variable that identifies the clusters uniquely.

expandcl replaces each cluster in the dataset with n copies of the cluster, where n is equal to the required expression rounded to the nearest integer. The expression is required to be constant within cluster. If the expression is less than 1 or equal to missing, it is interpreted as if it were 1, and the cluster is retained but not duplicated.

#### **Quick start**

Duplicate each set of observations on clusters identified by cvar 3 times, and store new cluster identifier in newcv

```
expandcl 3, cluster(cvar) generate(newcv)
```

Duplicate each cluster of observations the number of times stored in v expandcl v, cluster(cvar) generate(newcv)

#### Menu

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### **Syntax**

```
expandcl [=]exp [if] [in], cluster(varlist) generate(newvar)
```

## **Options**

cluster (varlist) is required and specifies the variables that identify the clusters before expanding the

generate (newvar) is required and stores unique identifiers for the duplicated clusters in newvar. newvar will identify the clusters by using consecutive integers starting from 1.

### Remarks and examples

### Example 1

We will show how expandel works by using a small dataset with five clusters. In this dataset, cl identifies the clusters, x contains a unique value for each observation, and n identifies how many copies we want of each cluster.

- . use https://www.stata-press.com/data/r19/expclxmpl
- . list, sepby(cl)

	cl	х	n
1.	10	1	-1
2.	10	2	-1
3.	20	3	0
4.	20	4	
5.	30	5	1
6.	30	6	1
7.	40	7	2.7
8.	40	8	2.7
9.	50	9	3
10.	50	10	3
11.	60	11	
12.	60	12	

- . expandcl n, generate(newcl) cluster(cl)
- (2 missing counts ignored; observations not deleted)
- (2 noninteger counts rounded to integer)
- (2 negative counts ignored; observations not deleted)
- (2 zero counts ignored; observations not deleted)
- (8 observations created)
- . sort newcl cl x

#### . list, sepby(newcl)

	cl	х	n	newcl
1.	10	1	-1	1
2.	10	2	-1	1
3.	20	3	0	2
4.	20	4		2
5.	30	5	1	3
6.	30	6	1	3
7.	40	7	2.7	4
8.	40	8	2.7	4
9.	40	7	2.7	5
10.	40	8	2.7	5
11.	40	7	2.7	6
12.	40	8	2.7	6
13.	50	9	3	7
14.	50	10	3	7
15.	50	9	3	8
16.	50	10	3	
17.	50	9	3	9
18.	50	10	3	
19.	60	11		10
20.	60	12		10

The first three clusters were not replicated because n was less than or equal to 1. n is 2.7 in the fourth cluster, so expandc1 created two replications (2.7 was rounded to 3) of this cluster, bringing the total number of clusters of this type to 3. expandc1 created two replications of cluster 50 because n is 3. Finally, expandel did not replicate the last cluster because n was missing.

#### Also see

- [D] **expand** Duplicate observations
- [R] **bsample** Sampling with replacement

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