Sampling and Sample Size

Section: Draw samples and use ordinary routines to calculate estimators

Exercise

Use a syntax file in stata to:

1. Simulate a population:
   Four villages. One village with 10 households, the next with 20 households and so on.
   set seed 12345
   so that populations in the class are equal
   A household's income is: village*100 + N(0,20)
   So that the mean household-income in village 1 is: 100 in village 2: 200 …
2. Draw random samples under various designs:

Design	Detail	Sample Size	Save under
SRS WOR		n=20	SRSWOR.dta
SRS WR		n=20	SRSWR.dta
SYS		n=20	SYS.dta
Stratified proportional	f=1/5	n=20	STRATPROP.dta
Stratified disproportional	n_h=5	n=20	STRATDISPROP.dta
Simple one stage cluster sampling = S1SCS	k=2	n=30-70	S1SCS.dta
Simple two stage cluster sampling = S2SCS	k=2 n_h=10	n=20	S2SCS.dta
PPS (probabilities proportional to size) **WR**	k=2 n_h =10	n=20	PPSWR.dta

f = Sample fraction
N_h = Population size in cluster or stratum h , n_h = Sample size from cluster or stratum h
k = Number of cluster or strata drawn

Please fill the following tables

Population N= **100**
Mean income = **301**
Std = **101**

	Ordinary routines				Survey routines		
	n	**Mean**	**SEM**	**CI**	**Mean**	**SEM**	**CI**
SRS WOR							
SRS WR							
SYS							
Strat Prop							
Strat Disprop							
S1SCS							
S2SCS							
2SPPS WR							

Hint
1) use commands:
clear, input, end, expand, gen, rnormal(0,20), tabstat
2) use commands:
sample or bsample or gsample (findit) and syssample (at guidoluechters.de)
ci