

## 620-374 Sampling

### Lab task week 3

Obtain the file lab3data.csv from the web site. It contains values of some variable for a population of size 100, split into 10 groups of size 10, with one group per column.

- Ignoring the groups, calculate  $\text{Var}(\hat{\mu}_{SRS})$  for  $n = 30$ ;
  - Treating the groups as strata, calculate  $\text{Var}(\hat{\mu}_{prop})$  for  $n = 30$ ;
  - Treating the groups as clusters, calculate  $\text{Var}(\hat{\mu}_{cl})$  for  $n = 3$ .
- Calculate  $\mu$  and by generating suitable random samples calculate the estimates  $\hat{\mu}_{SRS}$ ,  $\hat{\mu}_{prop}$  and  $\hat{\mu}_{cl}$ . Is their accuracy in accord with your variance calculations?