## S2: Supplementary Document (SII)

## Slope Index of Inequality (SII)

Age adjusted generalized linear models (log-binomial regression) were used to model SII adjusted for age, stratified by gender and survey years. SII was modelled by identity link function. S3-Supplementary Figures 1a and 1b give the results of Slope Index of Inequalities (SII) as well as their trends over study years in men and women. SII indicates Risk Difference (RD) between SEP extremities. P<0.05 means a marked more (RD>0) or less (RD<0) risk of being obese for those at the top SEP than their counterparts at the bottom. A significant p value for trends means a noticed narrowed or widened gap between the top and the bottom SEP in obesity risk over time on an absolute scale.

The results from Supplementary Figure 1a show that, In Scotland, men at the highest SEP were found with less percentage of obese individuals when compared to their counterparts in the lowest SEP level. The SII for male was only significant when measured by education but not by occupational class, household income or SEP score. The results from Supplementary Figure 1b suggest a significant reduction in obesity in absolute numbers for Scottish women at top level SEP compared to their counterparts at the bottom in all survey years by all four SEP markers. There was no significant trend emerged for SII over the study years for either genders which means the socioeconomic inequalities in obesity was not changed on the absolute scale for both genders over the study survey period.