Errata and Updates for the 8th Edition of the ACTEX Manual for Exam MAS-II

(Last updated 09/20/2023)

Page 33 **Solution of Question 1.22.**

Change the solution to:

The sample data gives estimates of the moments of N. Since $0.75 = E(N)$ and $1.494 = E(N^2)$, then $Var(N) = 1.494 - (0.75)^2 = 0.9315$. Therefore, the minimum number of claims needed is

$$n_0 = \left(\frac{1.96}{0.05}\right)^2 \left(\frac{\sigma_N^2}{\mu_N} + \frac{\sigma_X^2}{\mu_X^2}\right) = \left(\frac{1.96}{0.05}\right)^2 \left(\frac{0.9315}{0.75} + \frac{6,750,000}{1,500^2}\right) = 6,518.4$$

and the minimum number of insureds needed is $6518.4/0.75 = 8691.2$.

Page 97 **Question 5.8.**

Change (v) to:

The variance of the individual insured claim probabilities is 0.01.

Page 219 **Footnote iv.**

Change Section 3.1 to Section 3.2.

Page 255 **Line 12.**

Change TREAT_] to TREAT_J.

Page 261 **Solution of Question 11.13.**

Change the solution to:

The dataset is similar to the rat pup dataset in Chapter 11 "Two-level Models for Clustered Data". In the rat pup dataset, the Level 1 Model is the rat pup level and the Level 2 Model is the litter level. Here the Level 1 Model is the apple level and the Level 2 Model is the tree level. Both datasets have 3 treatment levels. In terms of fixed effects, the rat pup dataset has treatment indicators, sex indicator, and litter size while in this questions we have treatment indicators, color indicator, and tree diameter. Hence, Statement I is true. Both TREAT_J and TREAT_K are indicators. Assume that the intercept is β_0. The terms including the intercept and

the treatment effects are $\beta_0 + \beta_1 \cdot \text{TREAT\_J} + \beta_2 \cdot \text{TREAT\_K}$, which is β_0 for the Control treatment (TREAT_J = TREAT_K = 0), $\beta_0+\beta_1$ for Brand J treatment (TREAT_K = 0), and $\beta_0 + \beta_2$ for Brand K (TREAT_J =0) treatment. Therefore, there is no issue of intrinsic aliasing in Statement II (**Linear Mixed Models**, Section 2.9.3). Statement II is not true. For testing the fixed effects associated with treatment, the hypothesis is the same as Hypothesis 3.6 in p. 238. Hence, Statement III is also true. (Answer: E)

Page 347 **Solution to Example 14.8 (continued)**

Change the last formula to:

$$\begin{aligned} Var(Y_{ti}) &= Var(u_{0i}) + Var(\epsilon_{ti}) \approx \hat{\sigma}^2_{in} + \hat{\sigma}^2 \\ &= (35.83696)^2 + (23.21432)^2 = 539. \end{aligned}$$

Page 815 **Question 28.34.**

Change the choice options to:

A. -0.6
B. -0.3
C. 0.0
D. 0.3
E. 0.6

Page 826 **Solution to Question 28.9.**

Change the final answer from C to B.

Page 835 **Solution to Question 28.34.**

Change **(Answer: C)** to **(Answer: D)**