

I think that when

$$\bar{y} - b_1\bar{z}_1 - \dots - b_p\bar{z}_p = 0$$

the model with intercept is no different with the model without intercept the form of which is as the following:

$$y = b_1z_1 + \dots + b_pz_p + e$$

So when averaging over  $z_p$  there won't be any effect of  $b_p$  neither, and marginality still holds.

What's wrong with my analysis?

Thank you so much.

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