Explanation of coats analysis

**Note:** We mention tenure here because the literature seems to agree that tenure—not age—affects wages. In reality if we miss out then we are biasing our estimates but honestly it might not matter as the whole point of this analysis is simple to adjust for tenure/age of the workforce in the average wage.

Basically the Coats analysis concentrates on office clerks and their wages (nominal and real) in the late 19th/ early 20th century. It aims at being comparable to the work of Seltzer and Heller but in particular the former who has similar data. As part of his argument Seltzer said that it was not enough to look at wages for clerks on average as over time—especially during recessions and world wars—the tenure of the staffing pool changes. This changes the average and gives a false impression that the rate of compensation for labour is being depressed (or increased). As such, using his very similar data, Seltzer estimated a regression model for his data:

So basically he regressed salary onto tenure (measured in time at firm), dummies for each year, and an interaction term between the year dummies and tenure. This is not a fixed effect model. We can recreate a comparable model—and that would address some of the reviewers’ questions. Then all Seltzer did was plot the relationship between average salaries (or their logs) condition on tenure. Basically he just estimated a whole bunch of interactions with tenure and years dummies. We can actually do this as well.

However I think we can do something similar but with fixed effects.

Where u is the dummy for individual effects. As with Seltzer the presence of a lot of interactions ought not to affect our estimates since what we are doing is just to show the average wages adjusted for these different factors. Since fixed effect models include a dummy; I am not sure if we need to totally redone the SE. That being said apparently we might want to do so if we encounter heteroscedasticity.