Why **Hausman-Taylor estimator**

The fixed effects model, however, does not allow time-invariant variables such as educeduc or blackblack. Since the problem of the random effects model is endogeneity, one can use instrumental variables methods when time-invariant regressors must be in the model. The **Hausman-Taylor estimator** uses instrumental variables in a random effects model; it assumes four categories of regressors: time-varying exogenous, time-varying endogenous, time-invariant exogenous, and time-invariant endogenous. The number of time-varying variables must be at least equal to the number of time-invariant ones. In our wagewage model, suppose experexper, tenuretenure and unionunion are time-varying exogenous, southsouth is time-varying endogenous, blackblack is time-invariant exogenous, and educeduc is time-invariant endogenous