Boston College
Econometric Methods
Term Paper Tips

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1. Build up regression results... show the building impact of correcting for omitted variable bias

    a. learn to use **eststo** and **esttab** in Stata to create good looking tables

    b. especially important if you have a favorite coefficient model

2. It's OK to leave statistically insignificant variables in the model... but statistically significant and wrong sign? Uh Ohhh! ... Don't ignore and drop... figure out the problem/story.

3. Pay attention to possible heteroskedasticity … run with and without robust standard errors (use the **robust** option in Stata, or run **rreg**)… and discuss: does this really matter?

4. Explore multicollinearity... correlations and VIFs (*Variance Influence Factors*) (use **corr** for correlations in Stata; run **vif** right after your regression to get the VIFs… remember that $VIF = \dfrac{1}{1 - R_j^2} \Leftrightarrow R_j^2 = 1 - \dfrac{1}{VIF}$

5. Robust robust robust: try different functional forms... and ln's and nth order effects (quadratic, third order etc)

6. Don't be afraid to pile on the dummies, especially with a favorite coefficient model

    a. not to necessarily create your final model, but rather to test for robustness

    b. use intercept and slope dummies to explore functional forms

    c. take advantage of the Stata wildcards (*****) to simplify your life

7. Run Chow tests... is it OK to combine data sets/time periods?... generate all of the interactions and run the F test

8. Test test test ... F-tests are your friend

9. If you have a coefficient fetish, run the standardized regression so at least the coefficient estimates are comparable (use the **beta** option in Stata)

10. Use dummies if you have ordinal RHS data (use percentiles groups if you have too many levels)

11. Don't forget **logit** and **probit** if you have a binary dependent variable... (e.g. probability models)

12. Correct for serial correlation if you have time series analysis

    a. indicate time variable with, say, **tsset** year … then run prais: **prais** y x1 x2 … or Cochrane Orcut: **corc** y x1 x2 …(or is it **prais** y x1 x2, **corc**)

13. And I should mention instrumental variables, but that's a different course

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And in your writeups:

1.   Two paragraphs, minimum, for each piece in literature review ... and copy and paste juicy tables and charts

2.   Talk about your data... cross tabs generally tell much of the story... don't rush to the regs

3.   Tables charts tables charts ...

4.   Don't forget that on the statistical side, it's not just about statistical significance of your parameter estimates. Remember that RMSE, R2, adj R2, and F stats all tell you something about how well your model is performing.

5.   Discuss economic significance as well as statistical significance... (elasticities at the means?)

6.   There was some theory behind your approach, wasn't there?

7.   And don't forget to discuss the point you are trying to make!

8.   You can't spend enough time talking about your data.

Remember: It's a journey: it's all about building to a final econometric model... not just presenting that one model.