

Problem Set Instructions
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 ECON 253: Introduction to Econometrics

Here are instructions I expect you to follow when completing problem sets.

1. When you copy and paste Stata output into a Word document for your write up, make sure it displays correctly. When you copy and paste, it will initially look terrible. Like this:

```
reghdfe ihs_lights treated_0_30 if id_1!=16 & id_1!=21, absorb(i.id i.year ) vce(cluster id_4)
(MWFE estimator converged in 3 iterations)
```

```
HDFE Linear regression          Number of obs  = 16,258,197
Absorbing 2 HDFE groups        F( 1, 1395) =   7.26
Statistics robust to heteroskedasticity    Prob > F    =  0.0071
                                R-squared     =  0.5083
                                Adj R-squared  =  0.4894
                                Within R-sq.   =  0.0010
Number of clusters (id_4) =    1,396    Root MSE    =  0.5104
```

**Never leave your
output looking like this
in your write up.**

(Std. Err. adjusted for 1,396 clusters in id_4)

```
-----+-----
            |      Robust
ihs_lights |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-----+-----
treated_0_30 | .0568926   .0211187    2.69  0.007   .0154648   .0983204
   _cons | .2131649   .0088141   24.18  0.000   .1958746   .2304553
-----+-----
```

You need to make this look presentable by changing the font to `Courier New` and changing the size. `Courier New` is a large font, so 8 point and 9 point are still easy to read and totally acceptable. Here is what it looks like when you do this:

```
reghdfe ihs_lights treated_0_30 if id_1!=16 & id_1!=21, absorb(i.id i.year ) vce(cluster id_4)
(MWFE estimator converged in 3 iterations)
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```
HDFE Linear regression          Number of obs  = 16,258,197
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Number of clusters (id_4) =    1,396    Root MSE    =  0.5104
```

**It should
look like
this.**

(Std. Err. adjusted for 1,396 clusters in id_4)

```
-----+-----
            |      Robust
ihs_lights |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-----+-----
treated_0_30 | .0568926   .0211187    2.69  0.007   .0154648   .0983204
```

2. Much of the fun when doing econometrics is thinking hard about relationships between forces in the economy and society. It is also important to do this, as our measures can be misleading if we don't situate them properly in the socio-political context of the analysis. When I ask you to use social science logic and your intuition in the problem sets I am pushing you to do this. Take these questions seriously. It is just as important to practice this as it is to practice the technical skills of coding in Stata and developing knowledge of the statistical and mathematical structures of econometrics.
3. Be thorough and write in complete sentences. When asked to explain, be concise and to the point but take as much space as you need to make your idea clear. It is your responsibility to make it clear to me what your explanation is. This is good practice if you want to do econometrics later in a professional or graduate school setting.
4. Always ensure that you are answering all the parts of a question I ask.

Here is some broad advice for approaching the problem sets successfully in this class.

1. If your group is worried that you are doing something wrong or something doesn't seem right with your results, stop and try to fix it by troubleshooting the problem as best as you can. Do not just plow ahead. Come to me in office hours with questions when you run into sticking points.
2. Start with plenty of time to get stuck and work through issues that come up.
3. Consulting outside sources effectively is a major skill when learning how to code. I am endlessly Googling how to tell Stata what I want it to do for me. I am hoping to cultivate confidence in doing this in this class to an extent. If I do not provide you syntax for a command or step-by-step instructions for how implement a task in Stata, do not assume I forgot or I will provide it to you in office hours. When I do this, it is an intentional push for you to puzzle through how to get Stata to do what you want. Remember you can consult outside sources as much as you want.
4. Consult the Stata User's Manual and message boards as much as you find necessary. The Stata User's Manual can be found [here](#) and figuring out how to use it is a valuable skill if you want to use these methods in the future.
5. Don't be hesitant with Stata. Don't be afraid of putting in the wrong code and getting an error message. If you aren't sure if something will work, try it and see! You can always type in `clear` and erase mistakes from your results field if they bother you.
6. Have fun! I've avoided basing these problem sets around the classic (and in my view tired) examples that most econometrics classes focus on. Instead, I've designed these problem sets around real, almost all recent, papers that have been published by authors operating at the top of their game. While I've simplified the analysis and datasets for educational purposes, you are still getting your hands dirty (perhaps for the first time in your educations) with original quantitative research that is truly on the frontier of the discipline.