Statistics/Data analysis

```
cap program drop didplot_base
program didplot_base

foreach var in `1' {
   local lab: variable label `var'
 *indicate the treatment variable to use
 local treat fa_use



 *run the difference in differences regression
if "`treat'"=="t"{
  qui reg `1' c.`treat'##ib(2013).taxyear i.taxyear /*lmn_cap_lab*/ /*lmn_cap_lab*/ lm
> n_rainfall lmn_revenue i.busprov_geo_num_imp  i.imp_mic_sic7_3d i.size_ctype_adj
  est store reg1
 coefplot reg1, keep(1.`treat'#*) vertical baselevels omitted rename( 1.`treat'#2011.t
> axyear="-2"  1.`treat'#2012.taxyear="-1"  1.`treat'#2013.taxyear="0" 1.`treat'#2014.
> taxyear="1" 1.`treat'#2015.taxyear="2" 1.`treat'#2016.taxyear="3" 1.`treat'#2017.tax
> year="4" ) ciopts(lcolor("118 152 160")) yline(0, lcolor("106 208 200") lpattern(das
> h)) xline(3, lcolor("236 196 77")) graphregion(fcolor(white)) fcolor(white) lcolor(w
> hite) xscale(lcolor("0 51 102")) yscale(lcolor("0 51 102")) xlabel(, labcolor("0 51
> 102") noticks) ylabel(, labcolor("0 51 102") noticks nogrid) title("`lab'") saving (
> "$saveaddress_grahs\\`1' did", replace)
}
else{
 xtset n_fid taxyear
 sort n_fid taxyear
 qui reg `1' c.`treat'##ib(2012).taxyear i.taxyear /*lmn_cap_lab lmn_cap_lab*/ lmn_rai
> nfall lmn_revenue i.busprov_geo_num_imp  i.imp_mic_sic7_3d i.size_ctype_adj
 est store reg1

 coefplot reg1, keep(*.taxyear#c.`treat') vertical baselevels omitted rename(2011.taxy
> ear#c.`treat'="-1"  2012.taxyear#c.`treat'="0"  2013.taxyear#c.`treat'="1" 2014.taxy
> ear#c.`treat'="2" 2015.taxyear#c.`treat'="3" 2016.taxyear#c.`treat'="4" 2017.taxyear
> #c.`treat'="5" ) ciopts(lcolor("gs1")) yline(0, lcolor("gs10") lpattern(dash)) /*xli
> ne(3, lcolor("gs1"))*/ graphregion(fcolor(white)) fcolor(white) lcolor(white) xscale
> (lcolor("gs1")) yscale(lcolor("gs1")) xlabel(, labcolor("gs1") noticks) ylabel(, lab
> color("gs1") noticks nogrid) title("`lab'") saving ("$saveaddress_grahs\\`1' did", r
> eplace) scheme(plotplain)



}

}

end


cap program drop didplot_cluster
program didplot_cluster

foreach var in `1' {
   local lab: variable label `var'
 *indicate the treatment variable to use
 local treat fa_use



 *run the difference in differences regression
if "`treat'"=="t"{
     qui reg `1' c.`treat'##ib(2013).taxyear i.taxyear lmn_cap_lab lmn_rainfall lmn_re
> venue i.busprov_geo_num_imp  i.imp_mic_sic7_3d i.size_ctype_adj , cluster(n_fid)
   est store reg1
 coefplot reg1, keep(1.`treat'#*) vertical baselevels omitted rename( 1.`treat'#2011.t
> axyear="-1"  1.`treat'#2012.taxyear="0"  1.`treat'#2013.taxyear="1" 1.`treat'#2014.t
> axyear="2" 1.`treat'#2015.taxyear="3" 1.`treat'#2016.taxyear="4" 1.`treat'#2017.taxy
> ear="5" ) ciopts(lcolor("118 152 160")) yline(0, lcolor("106 208 200") lpattern(dash
> )) xline(3, lcolor("236 196 77")) graphregion(fcolor(white)) fcolor(white) lcolor(wh
> ite) xscale(lcolor("0 51 102")) yscale(lcolor("0 51 102")) xlabel(, labcolor("0 51 1
```

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> 02") noticks) ylabel(, labcolor("0 51 102") noticks nogrid) title("`lab'") saving ("
> $saveaddress_grahs\\`1' did", replace)
}
else{
 xtset n_fid taxyear
 sort n_fid taxyear
 qui reg `1' c.`treat'##ib(2012).taxyear i.taxyear /*lmn_cap_lab*/ lmn_rainfall lmn_re
> venue i.busprov_geo_num_imp  i.imp_mic_sic7_3d i.size_ctype_adj , cluster(n_fid)
 est store reg1

 coefplot reg1, keep(*.taxyear#c.`treat') vertical baselevels omitted rename(2011.taxy
> ear#c.`treat'="-2"  2012.taxyear#c.`treat'="-1"  2013.taxyear#c.`treat'="0" 2014.tax
> year#c.`treat'="1" 2015.taxyear#c.`treat'="2" 2016.taxyear#c.`treat'="3" 2017.taxyea
> r#c.`treat'="4" ) ciopts(lcolor("gs1")) yline(0, lcolor("gs10") lpattern(dash)) /*xl
> ine(3, lcolor("gs1"))*/ graphregion(fcolor(white)) fcolor(white) lcolor(white) xscal
> e(lcolor("gs1")) yscale(lcolor("gs1")) xlabel(, labcolor("gs1") noticks) ylabel(, la
> bcolor("gs1") noticks nogrid) title("`lab'") saving ("$saveaddress_grahs\\`1' did",
> replace) scheme(plotplain)



}

}


end

cap program drop didplot_cluster_weight
program didplot_cluster_weight

foreach var in `1' {
   local lab: variable label `var'
 *indicate the treatment variable to use
 local treat fa_use

 if "`var'" =="l"{
     local weight_var = "lmn_employment"
 }
  if "`var'" =="k"{
     local weight_var = "lmn_k"
 }
   if "`var'" =="lrevenue"{
     local weight_var = "lmn_revenue"
 }

  if "`var'" =="lcap_lab"{
     local weight_var = "lmn_cap_lab"
 }

 if "`var'" == "lavg_wage_lw" | "`var'"== "ltotal_wage_lw" | "`var'" == "lawage" {
     local weight_var = "lmn_tot_3601"
 }
 else{
      local weight_var = "lmn_revenue"
 }



 *run the difference in differences regression
if "`treat'"=="t"{
  qui reg `1' c.`treat'##ib(201).taxyear i.taxyear lmn_cap_lab lmn_rainfall lmn_revenu
> e i.busprov_geo_num_imp  i.imp_mic_sic7_3d i.size_ctype_adj [pw=lmn_employment], clu
> ster(n_fid)
  est store reg1
 coefplot reg1, keep(1.`treat'#*) vertical baselevels omitted rename( 1.`treat'#2011.t
> axyear="-2"  1.`treat'#2012.taxyear="-1"  1.`treat'#2013.taxyear="0" 1.`treat'#2014.
> taxyear="1" 1.`treat'#2015.taxyear="2" 1.`treat'#2016.taxyear="3" 1.`treat'#2017.tax
> year="4" ) ciopts(lcolor("118 152 160")) yline(0, lcolor("106 208 200") lpattern(das
> h)) xline(3, lcolor("236 196 77")) graphregion(fcolor(white)) fcolor(white) lcolor(w
> hite) xscale(lcolor("0 51 102")) yscale(lcolor("0 51 102")) xlabel(, labcolor("0 51
> 102") noticks) ylabel(, labcolor("0 51 102") noticks nogrid) title("`lab'") saving (
```

```
> "$saveaddress_grahs\\`1' did", replace)
}
else{
 xtset n_fid taxyear
 sort n_fid taxyear
 qui reg `1' c.`treat'##ib(2012).taxyear i.taxyear /*lmn_cap_lab*/ lmn_rainfall lmn_re
> venue i.busprov_geo_num_imp  i.imp_mic_sic7_3d i.size_ctype_adj [pw=lmn_employment],
>  cluster(n_fid)
 est store reg1

 coefplot reg1, keep(*.taxyear#c.`treat') vertical baselevels omitted rename(2011.taxy
> ear#c.`treat'="-2"  2012.taxyear#c.`treat'="-1"  2013.taxyear#c.`treat'="0" 2014.tax
> year#c.`treat'="1" 2015.taxyear#c.`treat'="2" 2016.taxyear#c.`treat'="3" 2017.taxyea
> r#c.`treat'="4" ) ciopts(lcolor("gs1")) yline(0, lcolor("gs10") lpattern(dash)) /*xl
> ine(3, lcolor("gs1"))*/ graphregion(fcolor(white)) fcolor(white) lcolor(white) xscal
> e(lcolor("gs1")) yscale(lcolor("gs1")) xlabel(, labcolor("gs1") noticks) ylabel(, la
> bcolor("gs1") noticks nogrid) title("`lab'") saving ("$saveaddress_grahs\\`1' did",
> replace) scheme(plotplain)



}

}

end
```