STATA Syntax. Dofile

```
/* Country dummies */

tab country1, gen(importer_)

tab country0, gen(exporter_)

/*Time dummies*/

tab year, gen(year_)

/*Country-time dummies*/

tab gdp_d, gen(importeryear_)

tab gdp_o, gen(exporteryear_)

/*Pair dummies*/

egen pairid = group(country0 country1)

tab pairid, gen(pair_)

xtset pairid year
```

Logarithm form of major variables

```
gen LOGTRADE=ln(flow)

gen LOGDIS=ln( distw)

gen LOGPOPO=ln( pop_o)

gen LOGPOP1=ln( pop_d)

gen LOGAREA0=ln(area_o)

gen LOGAREA0=ln(area_d)

gen loggdpc0=ln(gdpcap_o)

gen loggdpc1=ln(gdpcap_d)
```

Where, inflow=trade flow from exporter to inporter, distw=distance between countries' capital, pop_o =population of exporting countries, pop_d= population of importer countries, areo_o =areal size of exporter countries, area_d=areal size of importer countries, gdpcap_o=GDP per capita of exporter countries and gdpcap_d= GDP per capita of importer countries.

/*to create dummy variable*/

```
tabulate colony, generate(COL)
```

tabulate comlang_off , generate(LAN)

tabulate gatt_o , generate(WTO0)

tabulate gatt_d , generate(WTO12)

tabulate comcol , generate(COMCOL2)

tabulate accesstosea , generate(SEA)

tabulate fta_wto, generate(RTA)

tabulate comcur, generate(curr)

where, COL=colonial relationship, LAN=common language, WTO0=WTO membership (exporter country), WTO12=WTO membership (importer country), COMCOL2=common colony, SEA=access to sea and RTA=regional trade agreements.

Lagged values of time varying explanatory variables

gen llagloggdpc0=loggdpc0[_n-1]

gen llagloggdpc1=loggdpc1[_n-1]

gen llaglogpop0=logpop0[_n-1]

gen llaglogpop1=logpop1[_n-1]

/*principal component analysis*/

physical_communication infrastructure index

pca intrntusers100prsn qualityinf qualityair qualityroad tel

estat kmo

predict pc1 pc2, score

where, pc1=physical_communication1, pc2=physical_communication2

gen physical_communication4=physical_communication1+4 (to make values positive)

gen physical_communication24=physical_communication2+4

gen logphysical_communication1=ln(physical_communication4)

gen logphysical_communication2=ln(logphysical_communication24)

gen loghardfinal=logphysical_communication2*logphysical_communication1

entry cost index

pca entry_cost_o entry_proc_o entry_time_o

estat kmo

predict pc1, score

where, pc1=ccc

gen ccc1=ccc+4

gen logccc1=ln(ccc1)

lnccc1=entry cost

border_transport efficiency index

documenttoexport documenttoimport timetoimport timetoexportdays

estat kmo

predict pc1, score

gen border_transport4=pc1+4

gen logsoft=ln(border_transport4)

logsoft=border_transport index

econ_institutions index

pca vanew rlnew ccnew genew rqnew stabnew economicfreedomsummaryindex

where, vanew=voice and accountability, rlnew= rule of law, ccnew= control of corruption, genew=government effectiveness, rqnew= regulatory quality, stabnew= absence violence and political instability and economicfreedomsummaryindex= economic freedom

estat kmo

predict pc1, score

where, pc1=pc1inseconfinal

gen inseconfinal4=pc1inseconfinal+4

gen loginseconfinal=ln(inseconfinal4)

loginsecnfinal=institutional quality index

/*regression heckman*/

heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 loginseconfinal year_15

year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 loginseconfinal logccc1 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep

heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 loginseconfinal logsoft loghardfinal year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 loginseconfinal logsoft loghardfinal logccc1 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep

heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 logsoft year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 logsoft logaventry year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep

heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 loghardfinal year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 loghardfinal logccc1 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep

/*regression IV*/

ivregress liml LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 WTO122 WTO02 LOGAREA1 LOGAREA0 COL2 LAN2 SEA2 RTA2 (loghardfinal=govvfrac checkandbalance civilliberty llaglogpop1 llaglogpop0 llagloggdpc1 llagloggdpc0), vce(robust)

ivregress liml LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 WTO122 WTO02 LOGAREA1 LOGAREA0 COL2 LAN2 SEA2 RTA2 (logsoft=govvfrac checkandbalance civilliberty llaglogpop1 llaglogpop0 llagloggdpc1 llagloggdpc0), vce(robust)

ivregress liml LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 WTO122 WTO02 LOGAREA1 LOGAREA0 COL2 LAN2 SEA2 RTA2 (loginseconfinal=leg2new leg3new llagloggdpc0 llagloggdpc1 llaglogpop0 llaglogpop1), vce(robust)

/*simulation*/

margins, at ((asobserved) loginseconfinal) at (loginseconfinal =2.26)

margins, at ((asobserved) loghardfinal) at (loghardfinal =3.7)

margins, at ((asobserved) logsoft) at (logsoft =2.34)

Note: for Africa regional trade we did same after we excluded other countries from sample.

If you need any further explanation, do not hesitate to request.

STATA Syntax we used for revision

1. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 loghardxxxxy year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 logccc1 LAN2 SEA2 RTA2 COMCUR2 loghardxxxxy year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep
   Where, loghardxxxxy is logarithm form of standardized physical and communication infrastructure indicator.
2. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 logborderxxx year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 logccc1 LAN2 SEA2 RTA2 COMCUR2 logborderxxx year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep
   Where, logborderxxx is the logarithm form of border and transport efficiency indicator.
3. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 loginsxxxx year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 logccc1 LAN2 SEA2 RTA2 COMCUR2 loginsxxxx year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep
   Where, loginsxxxx is the logarithm form of institutional quality indicator.
4. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 logborderxxx logtxnorm1 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 logccc1 LAN2 SEA2 RTA2 COMCUR2 logborderxxx logtxnorm1 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep
   /* simulation*//
5. margins, at ((asobserved) loghardxxxxy) at (loghardxxxxy = -.436789)
   margins, at ((asobserved) logborderxxx) at (logborderxxx =0)
   margins, at ((asobserved) loginsxxxx) at (loginsxxxx =0)
6. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 loghardxxxxy logtxnorm1 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1

LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 logccc1 LAN2 SEA2 RTA2 COMCUR2 loghardxxxxy logtxnorm1 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep

7. ivregress 2sls LOGTRADE llagloggdpc0 llagloggdpc1 llaglogpop0 llaglogpop1 MR1DIS MRREL COMCOL22 WTO122 WTO02 LOGAREA1 LOGAREA0 COL2 LAN2 SEA2 RTA2 COMCUR2 (loghardxxxxy = av4), vce(robust)
   Where, av4 is average of transformed gov. fractionalization, check and balance and civil liberty (checkbalanorm*civil*govvfra).
8. ivregress 2sls LOGTRADE llagloggdpc0 llagloggdpc1 llaglogpop0 llaglogpop1 MR1DIS MRREL COMCOL22 WTO122 WTO02 LOGAREA1 LOGAREA0 COL2 LAN2 SEA2 RTA2 COMCUR2 (loginsxxxx = leg3new), vce(robust)
9. ivregress 2sls LOGTRADE llagloggdpc0 llagloggdpc1 llaglogpop0 llaglogpop1 MR1DIS MRREL COMCOL22 WTO122 WTO02 LOGAREA1 LOGAREA0 COL2 LAN2 SEA2 RTA2 COMCUR2 (logborderxxx =govvfrac), vce(robust)

/*disaggregation//

10. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 RTA2 SEA2 COMCUR2 logair year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2, select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 RTA2 SEA2 COMCUR2 logair year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 logccc1) twostep
    Where, logair is logarithm form of airways transport
11. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 loginsxxxx year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 loginsxxxx logccc1 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep
    Where, logtel is natural logarithm form of telecommunication inf.

12. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 loginsxxxx year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 loginsxxxx logccc1 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep
    Where, logmob-natural logarithm form mobile subscriptions.
13. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 RTA2 SEA2 COMCUR2 logroad2 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2, select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 RTA2 SEA2 COMCUR2 logroad2 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 logccc1) twostep
    where, logroad s logarithm form of road infrastructure

14. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 RTA2 SEA2 COMCUR2 lograil year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2, select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 RTA2 SEA2 COMCUR2 lograil year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 logccc1) twostep
    Where, lograil logarithm form of is railway

15. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 averagedocument averageime COMCUR2 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2, select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 logccc1 LAN2 SEA2 RTA2 averagedocument averageime COMCUR2 year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep

    /*marginal effects to GDP per capita*/
    Where, insxxxxgdpc= loginsxxxx * loggdppc
    Borderxxxgdpc= logborderxxx* loggdppc
    Hardxxxxygdpc= loghardxxxxy*loggdppc
16. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 loginsxxxx logborderxxx loghardxxxxy year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 logccc1 LAN2 SEA2 RTA2 COMCUR2 loginsxxxx logborderxxx loghardxxxxy year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep
17. heckman LOGTRADE loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 LAN2 SEA2 RTA2 COMCUR2 loginsxxxx logborderxxx loghardxxxxy insxxxxgdpc borderxxxgdpc hardxxxxygdpc year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2 , select(loggdpc0 loggdpc1 LOGPOPO LOGPOP1 MR1DIS MRREL COMCOL22 COL2 WTO122 WTO02 LOGAREA1 LOGAREA0 logccc1 LAN2 SEA2 RTA2 COMCUR2 loginsxxxx logborderxxx loghardxxxxy insxxxxgdpc borderxxxgdpc hardxxxxygdpc year_15 year_14 year_13 year_12 year_11 year_10 year_9 year_8 year_7 year_6 year_5 year_4 year_3 year_2) twostep