

Assignment 5

1. In “Economic Shocks and Civil Conflict: An Instrumental Variables Approach”, Miguel, Satayanath, and Sargenti propose an instrumental variable approach for estimating the effect of economic growth on civil conflict. The data used in that paper can be found in the data file “conflict.dta” available on the course web site.

(i) Miguel et al. argue for including a time trend for each country in the sample. First, create dummy variables for each country in the sample using the code,

```
gen country01 = (ccode==404)
gen country02 = (ccode==420)
...
gen country41 = (ccode==625)
```

The list of country codes can be found by using the command,

```
table ccode
```

Second, create the country-specific time-trend variables using,

```
gen countrytm01 = country01 * (year - 1978)
gen countrytm02 = country02 * (year - 1978)
...
gen countrytm41 = country41 * (year - 1978)
```

Note that you can include the country time trends in a regression using `countrytm01-
countrytm41`.

(ii) Report the results of an OLS regression when civil conflict (`any_prio`) is the dependent variable and where economic growth in the current (`gdp_g`) and previous (`gdp_g_1`) period are the independent variables of interest. Control for log of GDP per capita in 1979 (`y0`), lagged

polity score (`polity21`), ethnolinguistic fractionalization (`ethfrac`), whether the country is oil-exporting (`oil`), log of population lagged (`lpop11`) and the log of mountainous terrain (`lmtnest`), as well as the country specific time trends. Interpret the results of the regression.

(iii) Miguel et al. suggest using growth in rainfall in the current and previous period as instruments for current and lagged growth. Are these good instruments for current and lagged growth? Why or why not?

(iv) Report the results of a first-stage regression where current (`GPCP_g`) and lagged (`GPCP_g_1`) rainfall are instruments for current and lagged growth. Interpret the results. Comment on whether rainfall and lagged rainfall are weak instruments.

(v) Report the results of an IV regression where civil conflict is the dependent variable, growth and lagged growth are endogenous variables, and control for the same variables as in (ii). Interpret the results of the regression. Interpret why the coefficients on the endogenous variables changes between the OLS and IV regression.

(vi) Check the robustness of the IV regression by dropping the country-specific time trends and instead control for a single time trend by including `year` as an independent variable. Are the results robust to this change? Given these results, would you change your opinion about the regression performed in (v)?