Instrument:

Khomba & Trew, Malawi 2022

① Ethnic affinity: proportion of the pop in a district that is co-ethnic with sitting president

- Relevance: $Cov(Aid, EA) \neq 0$
- Exogeneity: $Cov(EA, \varepsilon) = 0$

Issue: If poorest district vote along ethnic line

② Political switching: proportion of members of parliament in a district that defect from political party with which they won the parliamentary seat to the party of the ruling president. (Dummy)

aid distributed towards electorally-strategic regions and away from regions dominated by opposition.

District with limited electoral support to president can be favoured with aid flows.

Conclusion: Only Museveni since 1986,

Elections: 2001, 2006, 2011 (68%), 2016 (61%), 2021 (59%). ~ almost like DHS.

① and ② won't work, but give hint.

But aid diverted to regions with strong political significance (swing or contested area)

However some findings point to a conditional / ambiguous relationship.

To do: check aid flow with incumbent electoral success.

Compare Δ aid flow by regions, Δ % voting

$$t\text{-stat} = \frac{\beta}{SE(\beta)}, \quad SE(\beta) = \frac{\sigma_\varepsilon^2}{n\ Var(X)}$$

$H_0: \beta = 0$, want to reject this $\Rightarrow |t\text{-stat}| > t_\alpha \Rightarrow SE(\beta)$ small $\Rightarrow Var(X)$ high.

Michaelowa, Bürkler (2016)

$$NER_{it} = \alpha + \beta_1 L.NER_{it} + \beta_2 \text{Educaid per capita}_{it} + \beta_3 \text{educexp} + \beta_4 PTR + \beta_5 \text{young pop.} + \ldots$$

($NER_{it} - NER_{it-1}$)

cause

endogeneous.

③ Regress using dep var: growth / change rate of enrolment and use a log-transformed aid to capture proportional effects, mitigating endogeneity concern

Using level of education (eg: enrolment rate) may bias results if initial levels contain improvements or endogeneity persists

$\Delta NER_{it} = f(\log aid_{t-1}, X_{it}, \mu_i, \lambda_t, \ldots)$

$\Rightarrow$ reduce simultaneity bias $\Rightarrow$ interpret coef as elasticity

$\Rightarrow \Delta$: avoid dependence on lagged dependent var $\Rightarrow$ reduces bias

! No unit FE because NER_{t-1} embodies country-specific characteristics (eg: culture, institutions, history)

④ Regress on lagged aid

- Aid persistent $Cov(A_t, A_{t-1}) \neq 0$ (relevance)
- $Cov(\mu_i, y_{it}, A_{t-1}) = 0$ (exclusion) questionnable

(5) Instrument: combination of political ties and population.

Boone (1996), Burnside & Dollar (2000; 2004), Rajan & Subramanian (2008)

(6) Bartik - instrument

Z = share of aid received by origin country at time t ($\alpha(t)$) × growth rate of total aid received by the destination. ($\frac{\Delta aid_t}{aid_{t-1}}$)

- Relevance:
- Exogeneity: average growth rate across all donor countries will not exhibit correlation with the random term Initial aid share exogenous.

Look at paper [illegible], country dvd,