

# Does Foreign Aid Work? Evidence from a Natural Experiment in International Relations

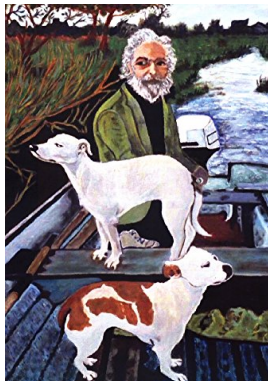
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Harvard University

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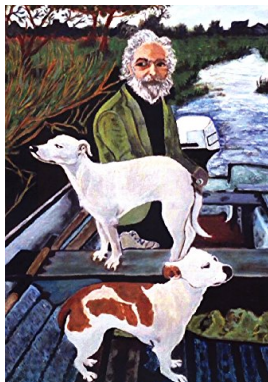
November 8, 2016

# Motivation



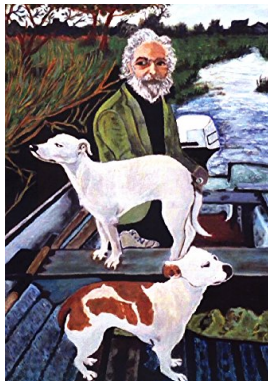
- Does foreign aid “work”?
- Sachs view: Foreign aid works
- Easterly view: Or it doesn't...
- Core empirical problem: Donors don't randomly give aid

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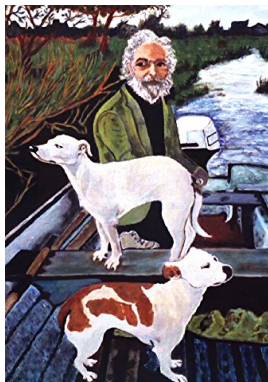
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## Our Contribution

- Exploit exogenous changes in donor preferences using the EU's Rotating Presidency
- Estimate effect of EU aid on policy-relevant outcomes in an IV setup
- Positive effects on growth, health, and governance
- Highlight the role of selection effects in aid-giving

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# Outline of Talk

- Theory
- Identification and Empirics
- Conclusion

# Why do donors give aid?

- Promote economic development
- Geopolitics and “international bribery”
- Economic interests
- Role of multilateral institutions

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# A Theory of Selection Effects

- If donors are development-seeking, we should see targeting of aid toward “hard” cases
- If donors are policy-seeking, then targeting toward “easy” cases
- Recipients tradeoff material benefits of aid with political costs of adjustment

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# Economic Hypotheses

## Economic Effects

Increases in foreign aid should cause positive changes in the economic environment.

- Growth<sup>1</sup>
- Health<sup>2</sup>
- Trade<sup>3</sup>

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<sup>1</sup> Burnside and Dollar (2000) vs Rajan and Subramanian (2008)

<sup>2</sup> Kosack and Tobin (2006)

<sup>3</sup> Baccini and Urpelainen (2012)

# Political Hypotheses

## Political Effects

Increases in foreign aid should cause positive changes in the political environment.

- Democracy<sup>4</sup>
- Human rights<sup>5</sup>
- State capacity<sup>6</sup>
- Gender<sup>7</sup>

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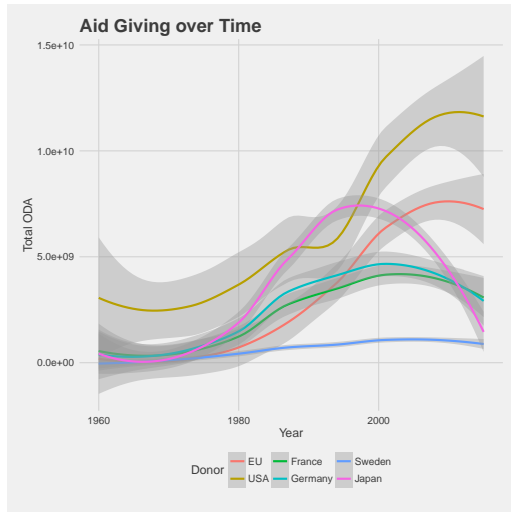
<sup>4</sup>Wright (2009) vs Knack (2004)

<sup>5</sup>Carnegie and Marinov (Forthcoming) vs Bueno de Mesquita and Smith (2009)

<sup>6</sup>Goldsmith 2001

<sup>7</sup>Beath et al (2013)

# EU as a Major Aid Donor



# EU Rotating Presidency as a Natural Experiment

- Member state governments hold the Rotating Presidency
- President has an enhanced ability to shape budget
- Rotating President prefers to give aid to its clients
- Alphabetical rotation  $\implies$  *plausibly exogenous variation in aid*

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# Data

- Cross-sectional time series for up to 123 recipient countries over 51 years
- Dependent variables:
  - Economic: Growth rate, Log(Life expectancy), Log(Infant mortality), Trade (% of GDP)
  - Political: Polity 2, State Capacity Index, CIRI Empowerment Index, V-DEM Gender Index, V-DEM Political Liberties Index
- Independent variable:  $\text{Log}(ODA)_t - 1$  disbursed by EU
- Instrument: Log bilateral aid to recipient  $r$  from donor  $d$  who holds the Presidency in  $t - 2$
- Controls  $t - 2$ : GDP per Capita, Population, Polity, Log(EU ODA)

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# Instrumental Variables Strategy

$$\text{Log}(ODA)_{r,t-1} = \lambda * \text{Rotating Presidency}_{t-2} + \gamma * \mathbf{X}_{r,t-2} + \epsilon_{r,t-1}$$

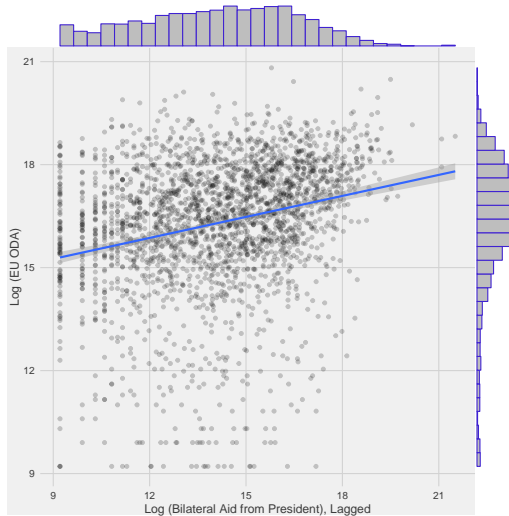
$$\text{Outcome}_{r,t} = \beta * \widehat{\text{Log}(ODA)}_{r,t-1} + \gamma * \mathbf{X}_{r,t-2} + \eta_{r,t}$$

## Identification Assumptions

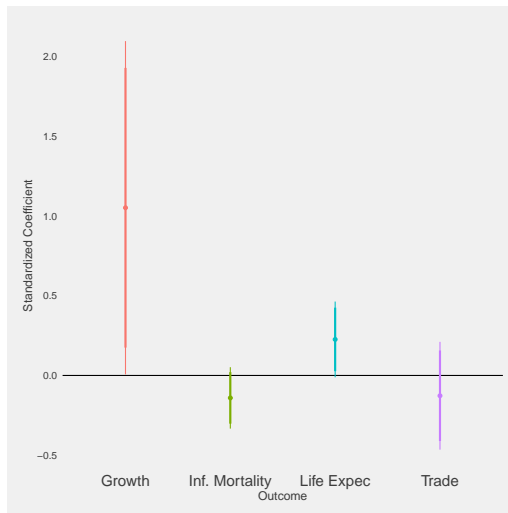
- 1 Exogeneity
- 2 Exclusion
- 3 Relevance
- 4 Monotonicity



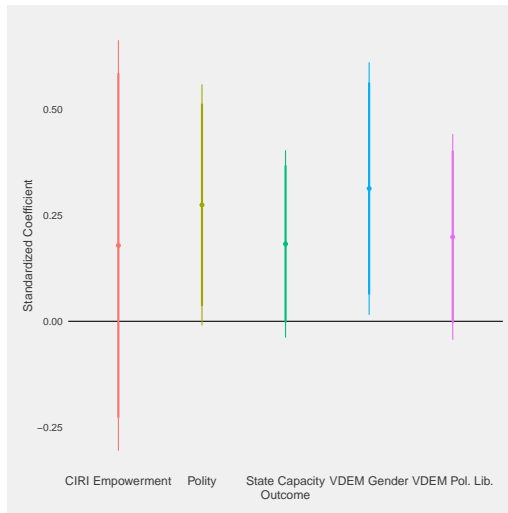
# First Stage



# Causal Effect of Aid on Economic Indicators



# Causal Effect of Aid on Political Indicators



# Conclusion

- Does foreign aid work?
- **Takeway:** EU aid does positively impact
  - Growth
  - Health
  - Governance
- Contributes to mounting evidence on positive causal effect of aid from multilaterals<sup>8</sup>
- Contrasts with evidence from US<sup>9</sup>
- Need to ask **what type** of aid works

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<sup>8</sup> Carnegie and Marinov (Forthcoming), Galiani et al (2016)

<sup>9</sup> Nunn and Qian (2014), Ahmed (2016)

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# The End

Thanks for your feedback!

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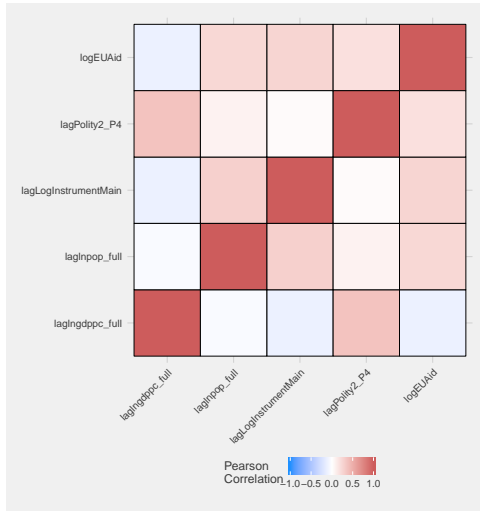
## Data Description

- **State capacity:** Bayesian latent variable analysis of extractive, coercive, and administrative capacity (Hanson and Sigman 2013). Higher values indicate more state capacity.
- **CIRI Empowerment Index:** “Foreign Movement, Domestic Movement, Freedom of Speech, Freedom of Assembly & Association, Workers Rights, Electoral Self- Determination, and Freedom of Religion indicators.” Higher values indicate more empowerment. (Cingranelli, Richards, and Clay 2013)
- **CIRI Worker Rights:** “A score of 0 indicates that workers rights were severely restricted; a score of 1 indicates that workers rights were somewhat restricted; and a score of 2 indicates that workers rights were fully protected during the year in question.” (Cingranelli, Richards, and Clay 2013)

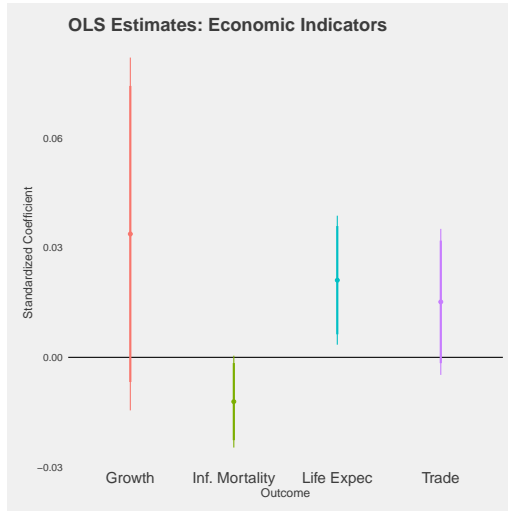
# Summary Statistics on Covariates

Statistic	N	Mean	St. Dev.	Min	Max
Log (EU Aid)	2,539	16.297	1.917	9.210	20.820
Log (Instrument), lagged	2,539	14.116	2.407	9.210	21.512
Log (Real GDP per Capita), lagged	2,539	6.984	1.094	3.972	10.073
Log (Population), lagged	2,539	16.079	1.495	12.506	21.004
Polity 2, lagged	2,539	0.159	6.727	-10	10

# Correlation Matrix of Covariates

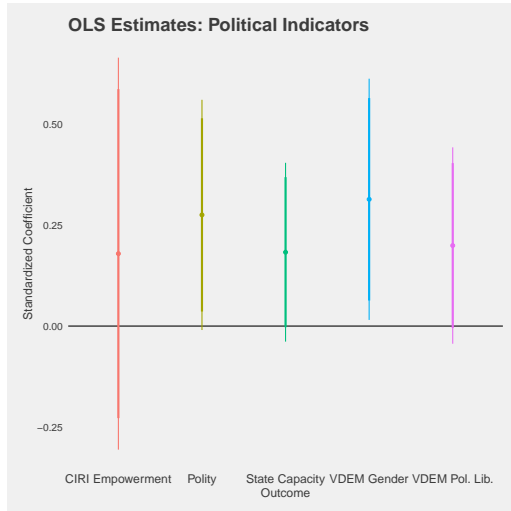


# OLS Results: Economic Indicators





# OLS Results: Political Indicators



# First Stage: Regression

	Log (EU ODA), t-1	
	(1)	(2)
Log (Presidency Aid), t-2	0.10** (0.02)	0.07** (0.02)
Country Fixed Effects	✓	✓
Year Fixed Effects	✓	✓
Time Varying Covariates		✓
N	2,699	2,538
R <sup>2</sup>	0.68	0.69

† p < .1; \* p < .05; \*\* p < .01

## 2SLS Table: Economic

	Log (GDP Per Capita)	GDP Growth Rate	Log (Life Expectancy)	Log (Infant Mortality)	Trade (Pct. GDP)
	(1)	(2)	(3)	(4)	(5)
Log (EU ODA), t-1	-0.003 (0.14)	7.70* (3.91)	0.06* (0.03)	-0.03 (0.07)	-5.93 (8.04)
Country Fixed Effects	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓
Time Varying Covariates	✓	✓	✓	✓	✓
Observations	2,420	2,289	2,422	2,383	2,296
R-squared	0.94	-0.64	0.86	0.97	0.82

Notes: \*\*p < .01; \*p < .05; †p < .1  
Standard errors clustered by country and year.

## 2SLS Table: Political

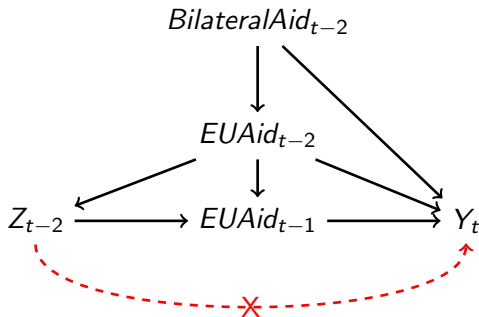
	Polity 2 (1)	State Capacity (2)	CIRI Empowerment (3)	CIRI Workers Rights (4)	VDEM Gender Index (5)	VDEM Political Liberties (6)
Log (EU ODA), t-1	2.06 <sup>†</sup> (1.09)	0.18 (0.11)	0.75 (1.03)	0.25 (0.32)	0.07* (0.03)	0.07 (0.04)
Country Fixed Effects	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓
Time Varying Covariates	✓	✓	✓	✓	✓	✓
Observations	2,426	2,427	1,826	1,830	2,179	2,408
R-squared	0.70	0.80	0.81	0.44	0.83	0.82

Notes:

\*\*p &lt; .01; \*p &lt; .05; †p &lt; .1

Standard errors clustered by country and year.

# Nonparametric Identification with DAGs



# Caveats

- Hard to disentangle mechanisms with macro-data
- EU might be atypical
- Plausibility of SUTVA: budgeting constraint complicates this