

# Handle with care: Is foreign aid less effective in fragile states?

Ines A. Ferreira

School of International Development, University of East Anglia (UEA)

[ines.afonso.rferreira@gmail.com](mailto:ines.afonso.rferreira@gmail.com)

# Overview

- Motivation
- Preview of the results
- Overview of the literature
- Definition and measure of state fragility
- Empirical strategy, data and methods
- Results
- Conclusions and implications

# Motivation

“(…) The latest estimates suggest that by 2030, **half of the world’s poor** will live in countries that are fragile.

(…) Because state fragility doesn’t just condemn people to poverty; **it impacts upon the world**, driving mass migration, providing safe havens for piracy and trafficking, and enabling terrorist training camps to thrive.”

Commission on State Fragility, Growth and Development (2018), *Escaping the Fragility Trap*, IGC, London.

“By 2030, **well over 60% of the global poor** will be in fragile contexts. (…) Vulnerability stems from a multitude of factors often including endemic poverty, **weak government capacity, poor public service delivery**, and economic exclusion and marginalisation. **Political instability, recurrent cycles of violence** targeting civilians, and entrenched criminal networks are increasingly common where there are **economic shocks, weak rule of law and flagging institutions** unable to provide the most basic services to their people. (…) Threats may take on a more acute form when they happen together, creating a loop of cause and effect and compounding risks that contribute to fragility.”

OECD (2016), *States of Fragility 2016: Understanding Violence*, OECD Publishing, Paris.

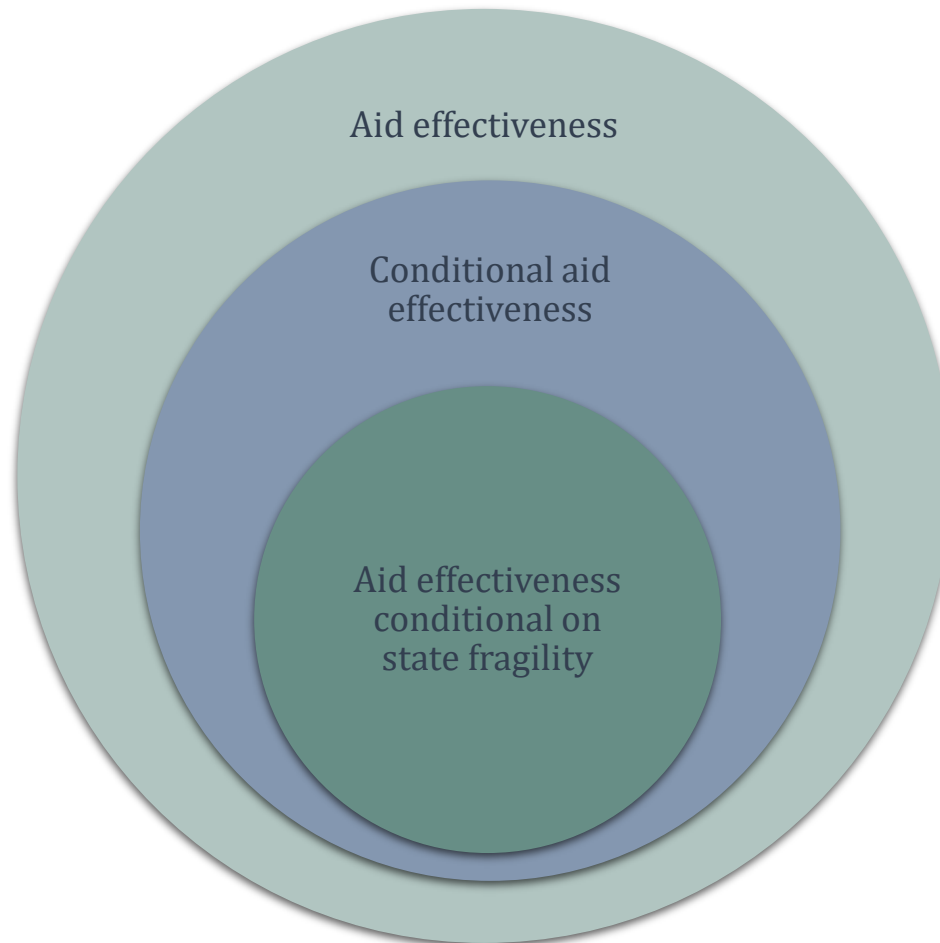
# Motivation

- The increasing **importance** of ‘fragile states’
  - Concerns over security and development
  - Need to assist these countries
- **Samaritan’s Dilemma**: according to a strand of the **aid effectiveness** literature, aid is effective only in countries pursuing ‘good’ policies and with a sound institutional environment
- Scarcity of studies looking at aid effectiveness in fragile states using **standard cross-country growth regressions**
- Lack of consensus in the **definition** and **measurement** of state fragility
  - Diversity of fragility indices and lists of fragile states
  - Criticisms to the existing approaches

# Preview of the results

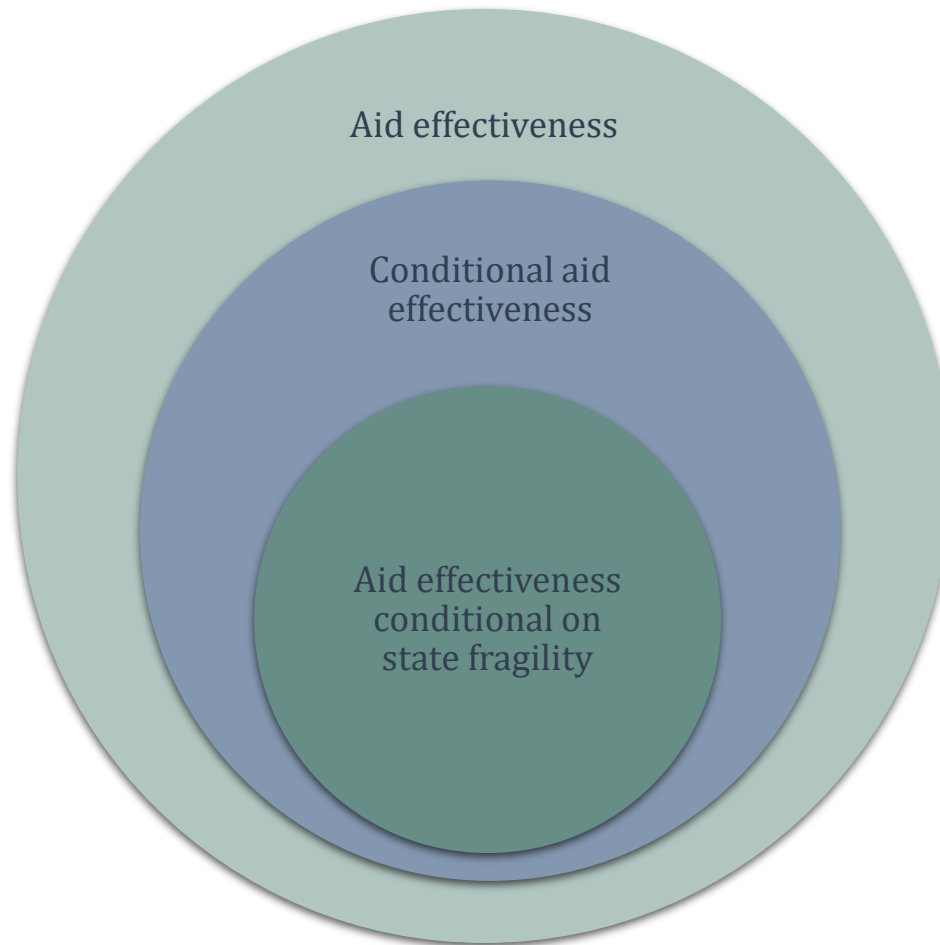
- **Measure of state fragility:**
  - Country Policy and Institutional Assessment (CPIA) index replaced with **two indices** capturing the core dimensions proposed in Besley and Persson (2011): **state ineffectiveness** and **political violence**
  - These two continuous variables replace a dummy variable for fragile states
- Hypothesis: Aid is **less effective** in promoting growth in countries with a **higher degree of state fragility**.
  - There seems to be **no significant impact** of either state ineffectiveness or political violence on the effectiveness of aid in promoting economic growth.

# Overview of the literature



- Three generations (Hansen and Tarp, 2000)
  - First (early 1970s) and second (1980s-early 1990s): positive impact of aid on growth
- Aid conditional on certain factors:
  - **type of policies** (e.g. Burnside and Dollar, 2000)
  - **institutional quality** (e.g. Burnside and Dollar, 2004; Balamoune-Lutz and Mavrotas, 2009)
  - **political system and its stability** (e.g. Svensson, 1999; Chauvet and Guillaumont, 2003)
  - **external and climatic factors, namely, trends in terms of trade, short-term export instability, and natural disasters, among others** (e.g. Collier and Dehn, 2001; Collier and Goderis, 2009)
  - **the geographic conditions of a country** (e.g. Dalgaard, Hansen and Tarp, 2004)
  - **the level of social capital** (e.g. Balamoune-Lutz and Mavrotas, 2009)
- McGillivray and Feeny (2008)
  - There are differences when comparing fragile with highly-fragile states
- Andrimihaja, Cinyabuguma and Devarajan (2011)
  - Aid\*Fragile states positive but non-significant
- Carment, Samy and Prest (2008)
  - Aid has a larger impact on growth in more fragile states,

# Overview of the literature



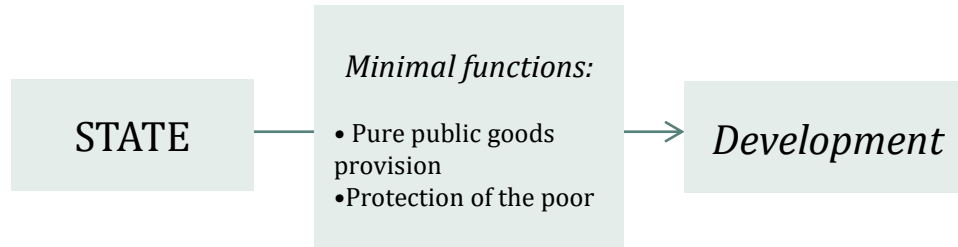
- Challenges of establishing causality
- **Endogeneity**
  - instrumentation strategy

# Definition of state fragility

## Role of the state in society

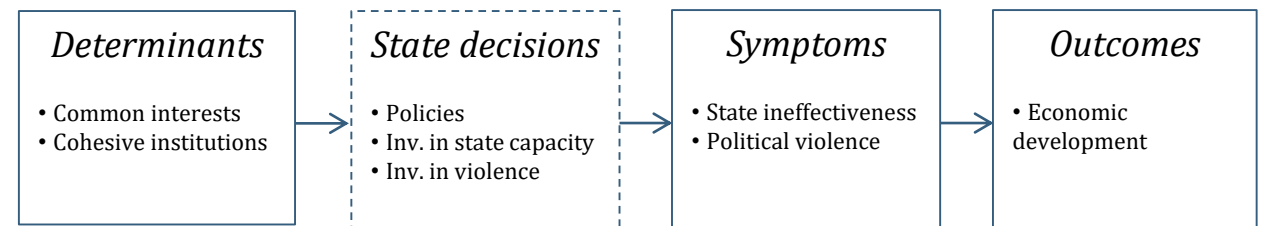
### Normative standpoint

Aligned with the 'post-Washington Consensus' view of economic development, and based on the functions of the state identified in World Bank (1997)



### Positive judgements

Based on Besley and Persson's (2011) theoretical framework





# Definition and measure of state fragility

- **Pathologies** of the state identified in Besley and Persson (2011: 373):
  - “*state ineffectiveness* in enforcing contracts, protecting property, providing public goods and raising revenues”;
  - “*political violence* either in the form of repression or civil conflict”.
- Working **definition**: there is state fragility when the country exhibits one or both of these symptoms; and the higher the level of these symptoms, the greater will be the degree of state fragility.
- **Principal components analysis** applied to obtain a measure for each of the symptoms of fragility
  - The dataset included data for all the countries available over the period 1993-2012

Symptoms	Elements	Proxies
State ineffectiveness	Contract enforcement	Rule of law Regulatory quality Independence of judiciary Control of corruption
	Protection of property	Property rights enforcement
	Public goods provision	Government effectiveness Public health expenditure Access to improved water
	Authority	Failure of state authority
Political violence	Repression	Physical integrity Empowerment rights Political terror scale
	Civil conflict	Major episodes of civil violence Armed conflict Coups d'état Revolutionary wars Ethnic wars

# Empirical strategy

- Add the **two dimensions of fragility** to a standard growth equation:

$$g_i = \alpha + \beta \log y_{i,0} + \gamma_1 a_i + \gamma_2 s_i + \gamma_3 p_i + \gamma_4 s_i \times p_i + \delta X_i + \varepsilon_i$$

- Add **interaction terms** with aid:

$$g_i = \alpha + \beta \log y_{i,0} + \gamma_1 a_i + \gamma_2 s_i + \gamma_3 p_i + \gamma_4 s_i \times p_i + \gamma_5 a_i \times s_i + \gamma_6 a_i \times p_i + \delta X_i + \varepsilon_i$$

- **Comparison** with existing approaches:
  - Two separate dimensions, instead of a unidimensional measure
  - Avoids the use of CPIA scores
  - Moves away from a binary approach to state fragility

# Data

- Variables used (following Rajan and Subramanian, 2008):

$$g_i = \alpha + \beta \log y_{i,0} + \gamma_1 a_i + \gamma_2 si_i + \gamma_3 pv_i + \gamma_4 si_i \times pv_i + \gamma_5 a_i \times si_i + \gamma_6 a_i \times pv_i + \delta X_i + \varepsilon_i$$

Compound  
annual growth  
rate of real per  
capita GDP over  
the period

Log per capita  
GDP in the  
beginning of the  
period

Net disbursements  
of ODA (% GDP)

Initial level of Sachs and Warner's (1995)  
openness index (trade policy)  
Initial level of life expectancy  
Initial level of inflation  
Initial level of M2/GDP  
Initial level of budget balance  
Geography (Bosworth and Collins, 2003)  
Revolutions  
Ethnic fractionalization

# Data

- Periods considered and number of countries in the samples:

Time horizon	Cross-country			Panel	
	10-year	20-year	10-year	5-year	10-year
Sub-period(s)	1993-2002	2003-2012	1993-2012	1993-1997 1998-2002 2003-2007 2008-2012	1993-2002 2003-2012
Nr countries	77	67	65	63	67

# Methods

- OLS and FE
- IV
  - Rajan and Subramanian's (2008) instrument:

- Zero-stage estimation of aid

$$a_{dit}/y_{it} = \delta_0 + \delta'Z_{dit} + v_{dit}$$

- Donor-related characteristics: commonality of language, current colonial relationship, colonial relationship at some point, colony of UK, France, Spain or Portugal; ratio of the logarithm of populations of donor and recipient; interaction between these variables and each of the colonial dummies
- Aggregated by recipient country
- Arndt, Jones and Tarp's (2011) instrument
- Lessmann and Markwardt's (2012) external instruments

# Results – cross-country data

- OLS

	Dependent variable: real GDP per capita growth					
	20-year		10-year			
	1993-2012		1993-2002		2003-2012	
	(1)	(2)	(3)	(4)	(5)	(6)
Aid/GDP	-0.0792 (0.0703)	0.0199 (0.0377)	-0.132** (0.0639)	-0.0574 (0.0803)	0.0195 (0.0855)	0.115 (0.0699)
Aid x SI		-0.0592*** (0.0213)		-0.0406 (0.0353)		-0.0658* (0.0333)
Aid x PV		-0.0135 (0.0207)		-0.00177 (0.0225)		0.0146 (0.0333)
Observations	77	77	67	67	65	65
R <sup>2</sup>	0.459	0.553	0.523	0.537	0.498	0.545
Adj. R <sup>2</sup>	0.326	0.424	0.383	0.376	0.344	0.380

Notes: Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

- IV

	Dependent variable: real GDP per capita growth					
	20-year		10-year			
	1993-2012		1993-2002		2003-2012	
	(1)	(2)	(3)	(4)	(5)	(6)
Aid/GDP	-0.169 (0.146)	-0.0330 (0.112)	-0.195 (0.165)	0.114 (0.499)	-0.285 (0.486)	-0.804 (1.452)
Aid x SI		-0.177** (0.0736)		-0.196 (0.283)		-1.140 (1.898)
Aid x PV		0.0375 (0.0460)		0.0171 (0.0550)		0.880 (1.549)
Observations	77	77	67	67	65	65
R <sup>2</sup>	0.436	0.253	0.516	0.374	0.339	-13.485
Adj. R <sup>2</sup>	0.298	0.0380	0.373	0.157	0.136	-18.72
p-value LM stat <sup>a</sup>	0.0119	0.0273	0.00310	0.170	0.158	0.568
F-stat weak id <sup>b</sup>	9.889	1.924	8.847	0.532	1.698	0.0884

Notes: Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. <sup>a</sup>The null hypothesis of the Kleibergen-Paap LM test is that the structural equation is underidentified. <sup>b</sup>First-stage F-statistic for weak identification.

# Results – panel data

- OLS and FE

	Dependent variable: real GDP per capita growth							
	<i>OLS estimates</i>				<i>FE estimates</i>			
	5-year averages		10-year averages		5-year averages		10-year averages	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Aid/GDP	-0.121 (0.0746)	-0.0277 (0.0653)	-0.124*** (0.0368)	-0.0193 (0.0402)	0.0949 (0.0872)	-0.0222 (0.153)	0.0709 (0.124)	0.337 (0.218)
Aid x SI		-0.0547 (0.0353)		-0.0602*** (0.0218)		0.0699 (0.0823)		-0.149* (0.0756)
Aid x PV		-0.0198 (0.0307)		0.0103 (0.0191)		-0.0648 (0.0481)		0.0200 (0.0349)
Obs.	179	179	132	132	222	222	165	165
R <sup>2</sup>	0.418	0.442	0.491	0.520	0.726	0.730	0.723	0.740
Adj. R <sup>2</sup>	0.356	0.375	0.420	0.444	0.709	0.710	0.701	0.716

Notes: Cluster robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

- IV

	Dependent variable: real GDP per capita growth			
	5-year averages		10-year averages	
	(1)	(2)	(4)	(5)
Aid/GDP	-0.242 (0.250)	-0.0746 (0.508)	-0.241** (0.122)	-0.0582 (0.191)
Aid x SI		-0.611 (0.952)		-0.299* (0.168)
Aid x PV		0.253 (0.533)		0.139 (0.109)
Observations	179	179	132	132
R <sup>2</sup>	0.399	-1.539	0.454	-0.110
Adj. R <sup>2</sup>	0.335	-1.842	0.379	-0.286
p-value LM <sup>a</sup>	0.0109	0.500	0.00128	0.0394
F-stat weak id <sup>b</sup>	7.007	0.137	12.25	1.455

Notes: Cluster robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.  
<sup>a</sup>The null hypothesis of the Kleibergen-Paap LM test is that the structural equation is underidentified. <sup>b</sup>First-stage F-statistic for weak identification.

# Discussion of the results

- Main results:
  - Aid x **State ineffectiveness**: negative sign in almost all specifications; significant in only a few of the specifications considered
  - Aid x **Political violence**: variation in sign; non-significant
- Comparison with the existing literature:
  - In line with **McGillivray and Feeny (2008)** who found no evidence that fragility per se matters for aid effectiveness
  - At odds with the results in **Carment, Samy and Prest (2008)** who found a significant negative effect for the aid x fragility coefficient
  - Similar to the results found by **Andrimihaja, Cinyabuguma and Devarajan (2011)** when considering the overall sample of countries



# Conclusions and implications

- Contribution to the literature on **aid effectiveness in fragile states** – overcomes some of the limitations of existing approaches
  - Avoids the drawbacks of using the CPIA as a measure of state fragility
  - Considers the separate effects of the core dimensions of fragility
- **Lack of evidence** of a significant difference on aid effectiveness in countries with higher levels of either state ineffectiveness or political violence, which suggests that the fears that aid will be less effective in fragile states can be eased
- Future analysis: **potential indirect effects** of aid on growth, for instance, through the promotion of state ineffectiveness or through political violence

# Thank you!