

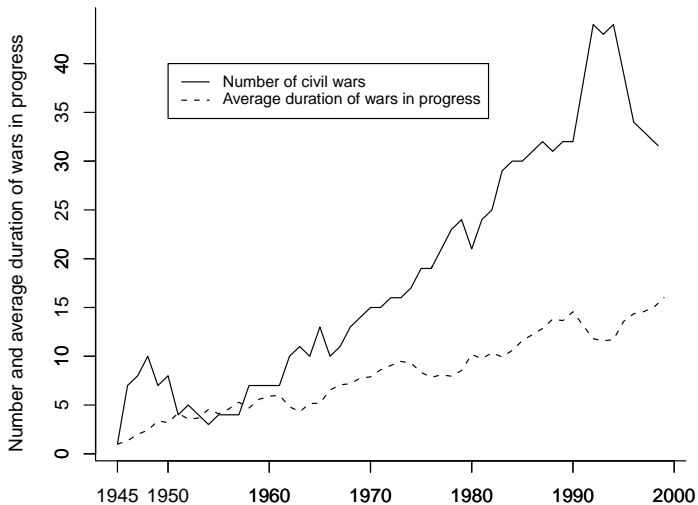
# Agents and Conflict: Civil War Resolution as a Complex Adaptive System

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# Number / Duration of Civil Wars (Fearon 2004)



# Research Question(s)

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- *Under what conditions do groups “spoil” peace processes?*
- *What are the aggregate effects of spoiling on the peace process?*

# Models of Civil War

- 1 Case studies
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- 3 Models: Game theoretic

# My Argument

- 1 Settlement processes **multi-staged** [▶ See Diagram](#)

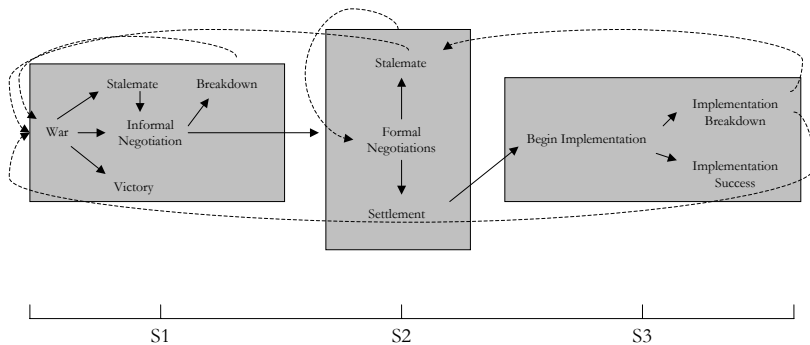
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- 3 Learning and Adaptation over time  
[▶ Formal Model](#)

# The Three Stage Settlement Process



Stages of the Settlement Process

# Potential Spoilers in the DRC (Uppsala)

Year	Side A	Side B1:	Side B2:	Side B3
1996	Govt	AFDL Rwanda		
1997	Govt	AFDL Rwanda Angola Uganda		
1998	Govt Angola Zimbabwe Namibia Chad	RCD Rwanda Uganda	MLC Uganda	

# Potential Spoilers in the DRC (Uppsala)

Year	Side A	Side B1:	Side B2:	Side B3
1999	Govt Angola Zimbabwe Namibia	RCD Rwanda	MLC Uganda	RCD-ML Uganda
2000	Govt Angola Zimbabwe Namibia	RCD Rwanda	MLC Uganda	RCD-ML Uganda
2001	Govt Angola Zimbabwe Namibia	RCD Rwanda	MLC Uganda	RCD-ML Uganda

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- 1 Population of heterogeneous agents defined
  - 1 Capability:  $\kappa$
  - 2 Resolve:  $\delta$

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$$p_i = \frac{k_i}{\sum k_n} \quad (1)$$

$$\Delta \kappa_i = -e_j \kappa_j \quad (2)$$

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- 1 Agents update **beliefs** about  $p$  in each stage

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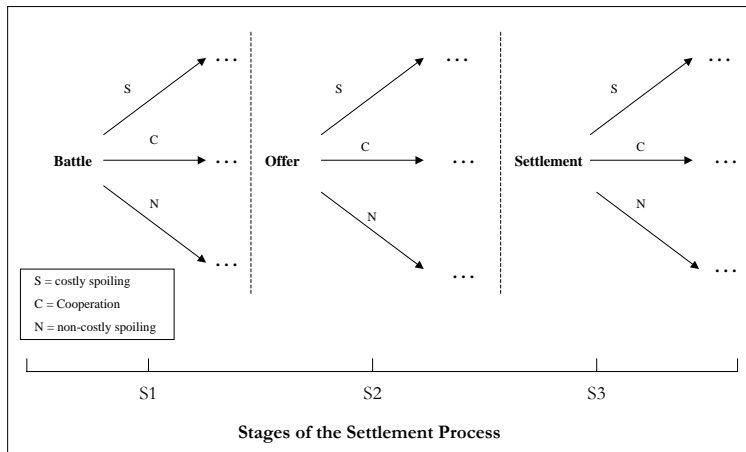
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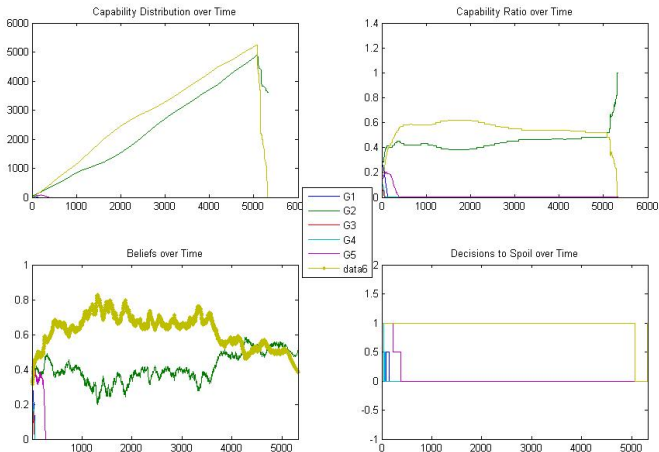
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- 3 Process repeats until **victory** or **implemented** settlement

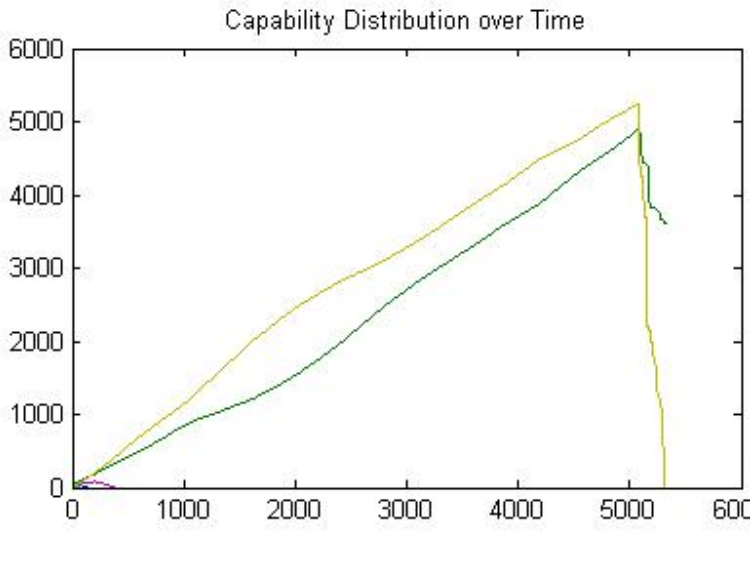
# The Progression of Events



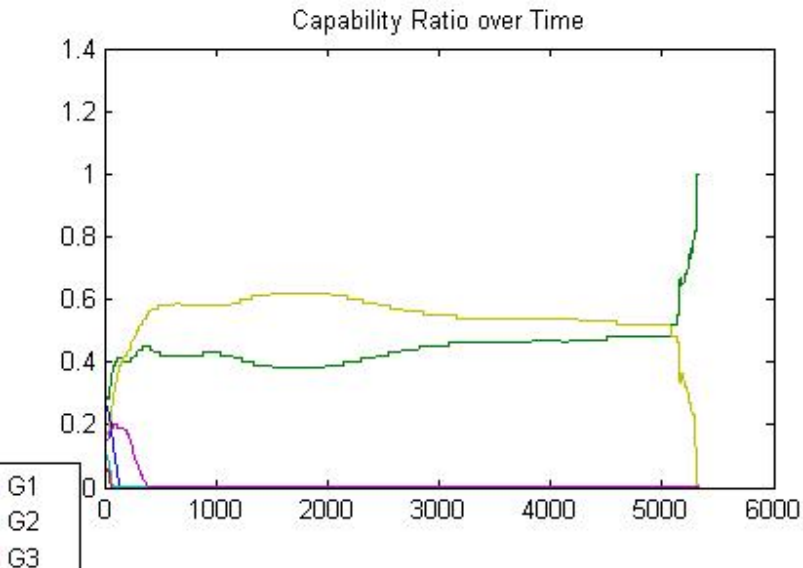
# A Representative Run: 6 Actors & Victory



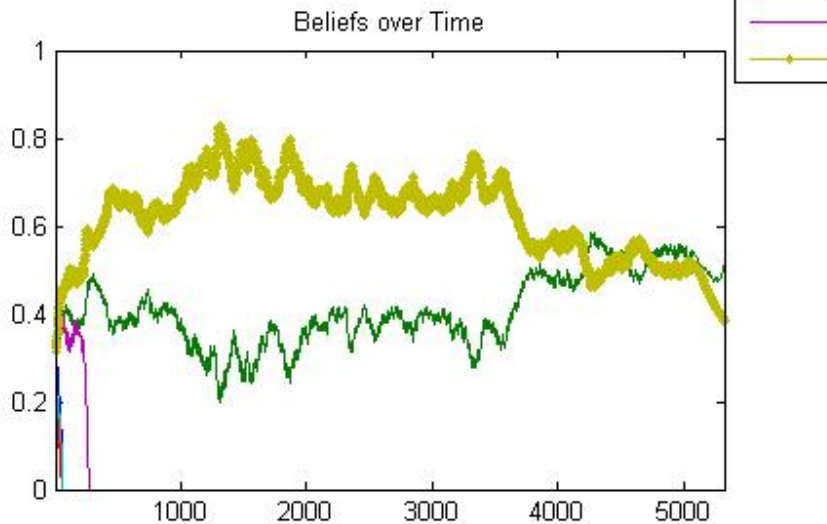
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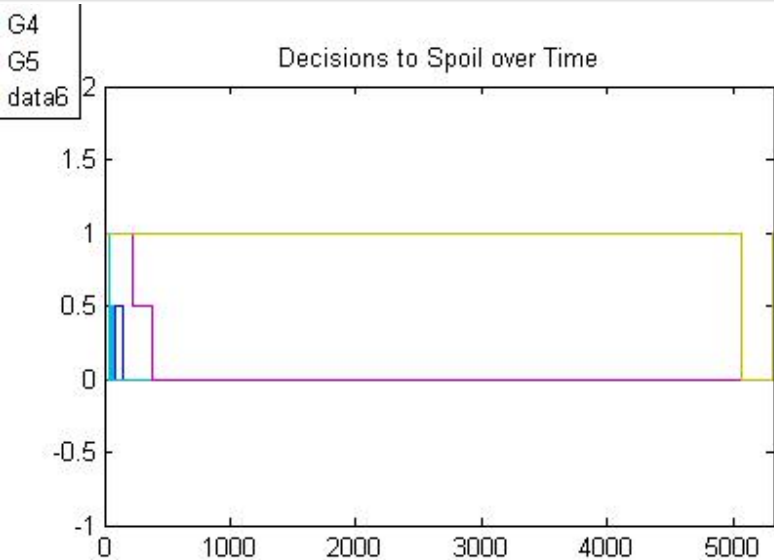
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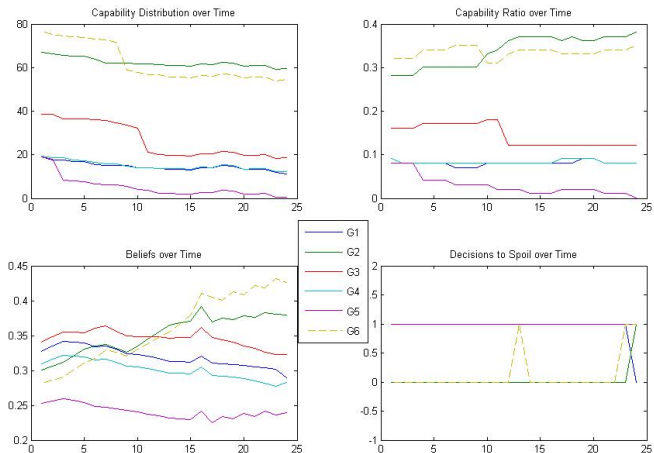
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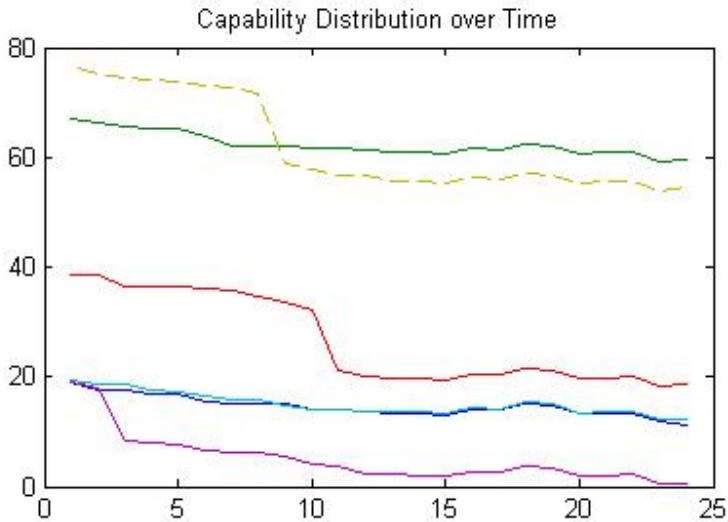
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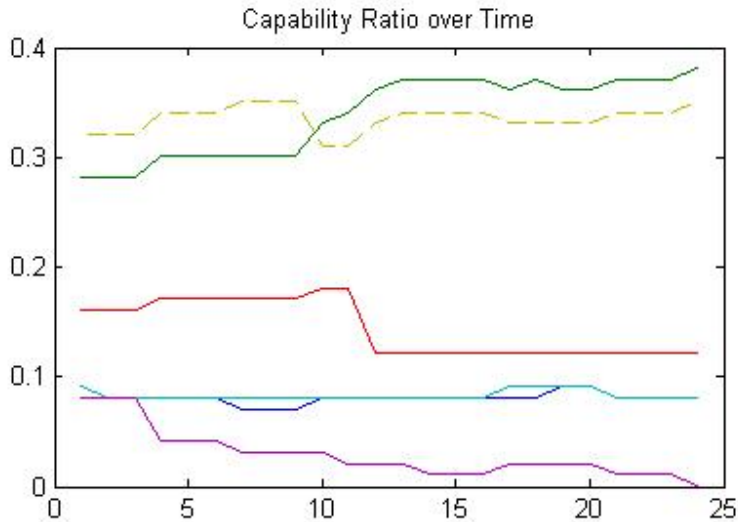
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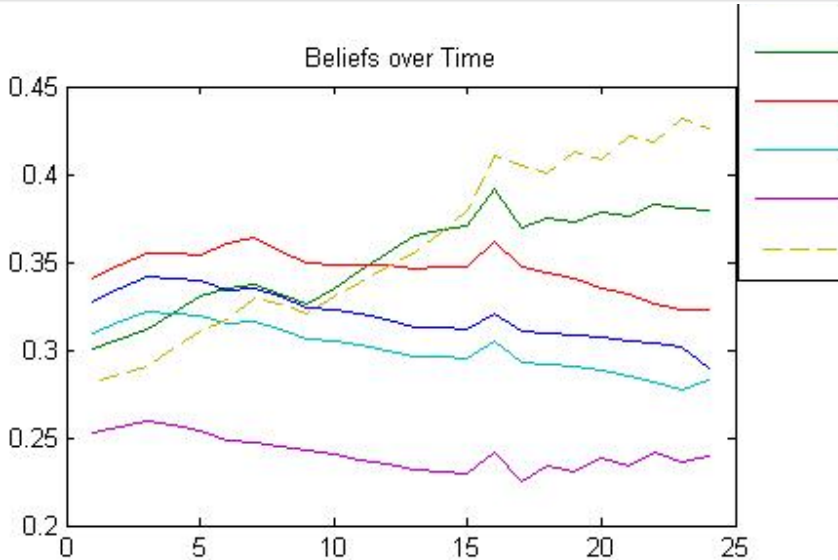
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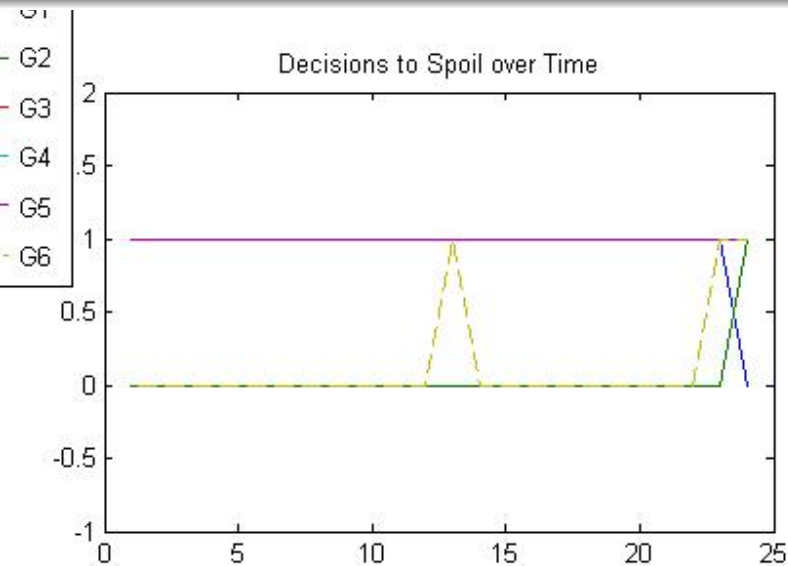
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# Some Model Implications

- 1 Shifts in the perceived distribution of power lead to consequential group decisions and aggregate outcomes
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- 1 Shifts in the perceived distribution of power lead to consequential group decisions and aggregate outcomes
  - 1 Example: Hamas
  - 2 Policy: Preferences vs. Capability
- 2 Groups that spoil early in the peace process are more likely to be included and abide by a peace agreement
  - 1 Example: IRA in N. Ireland
  - 2 Policy: "Negotiation with Terrorists"

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  - Under what conditions do groups spoil?
  - What are the outcomes of the peace process?
- Peace processes staged and “path dependent”
- Peace processes complex, but...
  - Capability / opportunity structure important
- Learning and adapting central