

Epstein – Civil violence

Table 2. Input assumptions for runs

	Model one			
	Run 1	Run 2	Runs 3 & 4	Run 5
Variable name				
Cop vision	1.7	7	7	7
Agent vision	1.7	7	7	7
Legitimacy	0.89	0.82	0.9	0.8
Max. jail term	15	30	Infinite	Infinite
Movement	None	Random site in vision	Random site in vision	Random site in vision
Initial cop density	0.04	0.04	0.074	0.074

- Height = 40, width = 40

Grievance and action levels

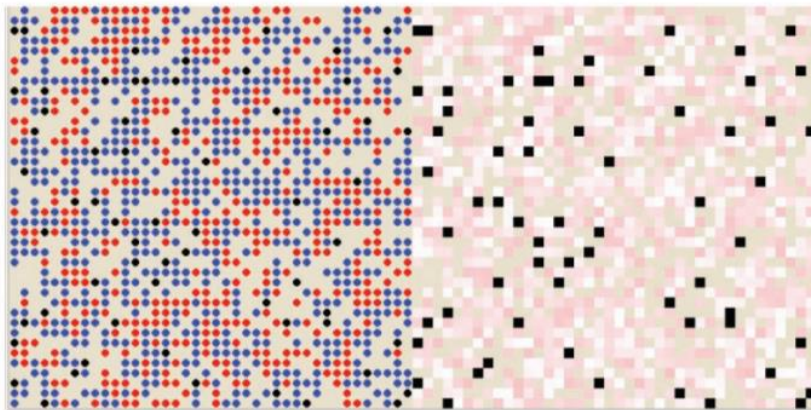


Fig 1. agents are colored by their private level of grievance and agents are colored by their public action: blue if quiescent; red if active

Fig 2. Free Assembly Catalyzes Rebellious Outbursts.

Time series of active agents

Fig 3. Time series of total rebels (punctuated equilibrium) → Collect amount of rebels over time (1000 iterations)

Fig 4: Same as fig 3 but over 20 000 iterations of the model

Inter-outburst waiting times

Fig 5: distribution of waiting times between outbursts (threshold for outburst is above 50 actives)

- Time between end of one outburst and start of the next for 100 000 iterations of the model
- Frequency distribution of inter-outburst waiting times

Fig 6: Same data as fig 5 only truncated: high-frequency events thrown out (waiting times less than 30 cycles) and logged

- Sensitivity of this distribution the variation in parameters: e.g. increasing jail term flattens distribution

Size distribution of outburst

Fig 7: size distribution of outburst during total activation (do not fully comprehend this one)

Ripeness index

Measure of tension: $G * B / R$, where R is average risk aversion G average grievance and B

Frequency of blues

Fig 8: Plotted tension and active agents over 400 iterations

Reducing legitimacy during the run:

Fig 9: beginning $L = 0.9$, reduce to $L = 0.2$ in increments of percent per cycle

Plot: Legitimacy over time, number of actives, total jailed population

Fig 10: Hold L at 0.9 for 77 period. Reduce to 0.7 in one jump. (plot same as in 9)

Cop reductions

Fig 11: Beginning at a high level and walk cops down