

# Conflict in Cyberspace

Graduate Seminar, Fall 2023  
Instructor: Anton Sobolev

*Week 04:  
Technology  
Steps in*

# Recap W03: Conflict Causes & Consequences

□ **Conflict is immanent (so far):**

- Resources scarcity
- Uncertainty is global
- Role of beliefs

**Conflict:** Anarchy → Monopolization of Violence → State → World Order

**Olson**

- Incentives to be **Roving Bandit**
  - Capacity to control the territory: Low
  - Individual harm from: Low
    - 'bad investment climate
    - 'general distrust'
- ↳ **Strategy 'Steal Everything'**
- Incentives to be **Stationary Bandit**
  - Capacity to control the territory: High
  - Individual harm from: High
    - 'bad investment climate
    - 'general distrust'
- ↳ **Strategy 'Protection Racket'**
- **Other Factors**
  - Planning horizon (short- vs long-)
  - Outside competitors (#)

↳ **Stationary Bandit does not care about others, only about her own utility**

**Volkov**

- What drives 'Iron Law' of **Monopolization of Violence**
  - 'Prisoner's Dilemma'
  - All potential 'bandits' are weak **[RB]**
- ↳ **Strategy 'Steal Everything'**
- ↳ **War of 'All-Against-All'**
- **1-Winner-1-Loser Mechanics**
  - Monopolization ↑ → # 'Bandits' ↓
- **When Monopolization Stops?**
  - In theory: When it is complete
  - In practice: not clear

**North**

- **Why [almost] no violence after the state is created?**
  - Create economic monopolies
  - Share rents with friends and strong
- **Active Conflict → Latent Conflict**
  - But it does not go away!
- **Important Factor**
  - What sectors produce the rents
  - Resource-intensive
  - Labor-intensive

**Tilly**

- **After the State: Roving Bandit VS Stationary Bandit**
- Uncertainty regarding neighbors:
  - Military capacity
  - Wealth

# Volkov 2002, "Iron Law" of Monopolization of Violence

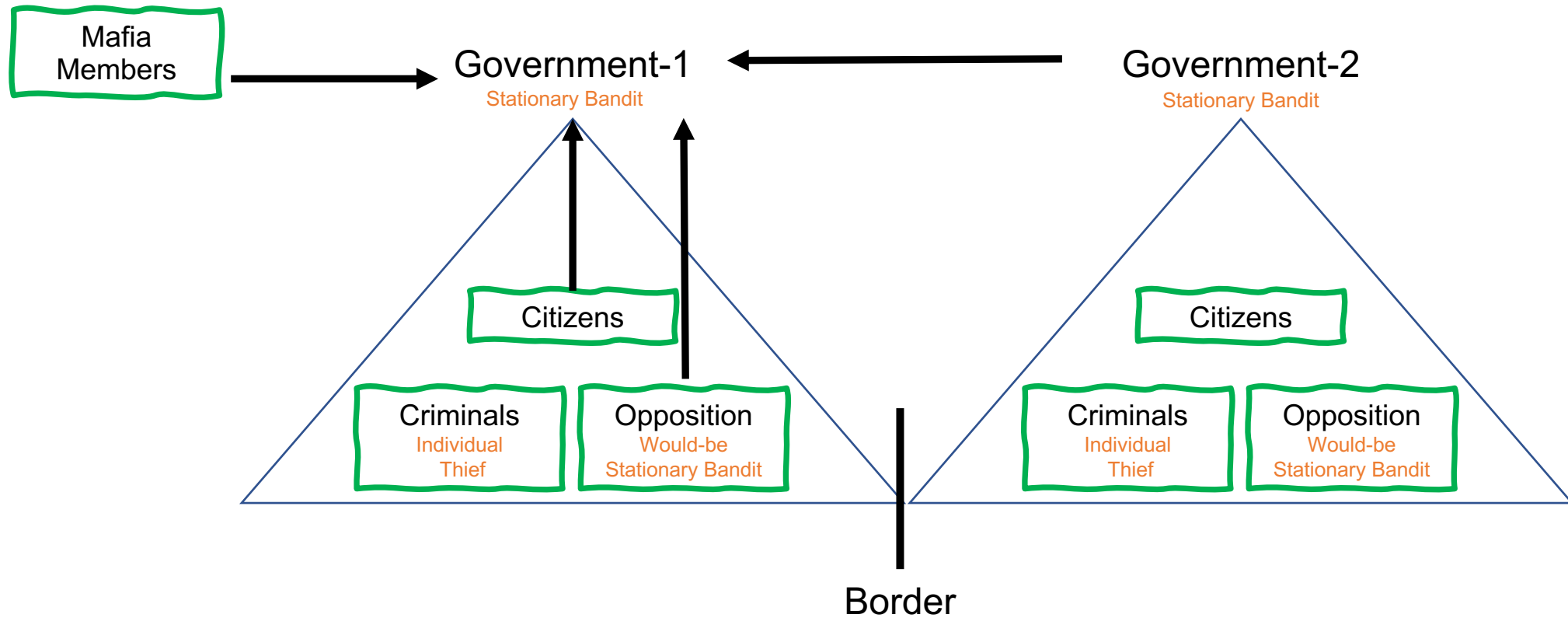
## 'Prisoner's Dilemma'

	Steal	Do not steal
Steal	[1;1]	[3;0]
Do not steal	[0;3]	[2;2]

- ☐ All players in similar conditions
- ☐ All players benefit most from: **[No Steal, No Steal]**
- ☐ **['Steal']** – the best response of Player 1 to any actions from Player 2
  - ↳ Incentives lead to worst-case scenario: **[Steal, Steal]**
  - ↳ Incentives launch War of 'All-Against-All'

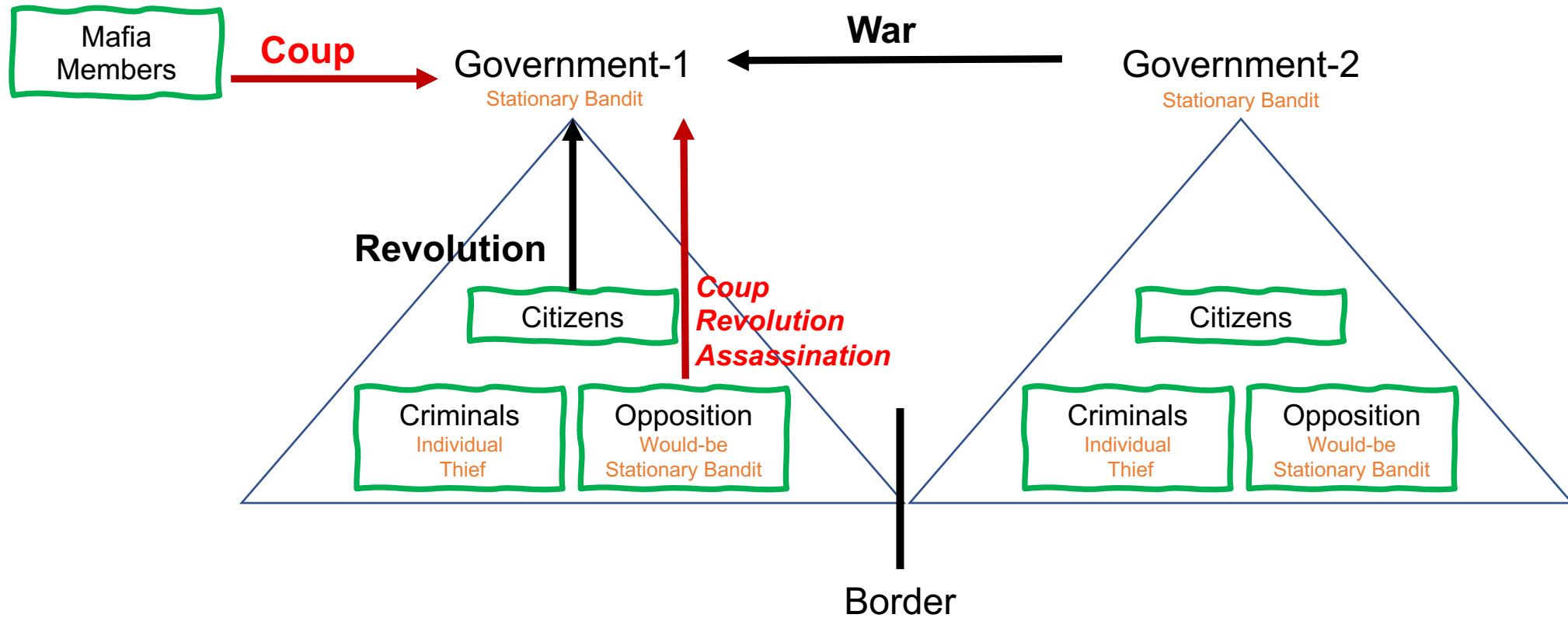
# North (2009): No Violence After the State?

## Risks of Violence



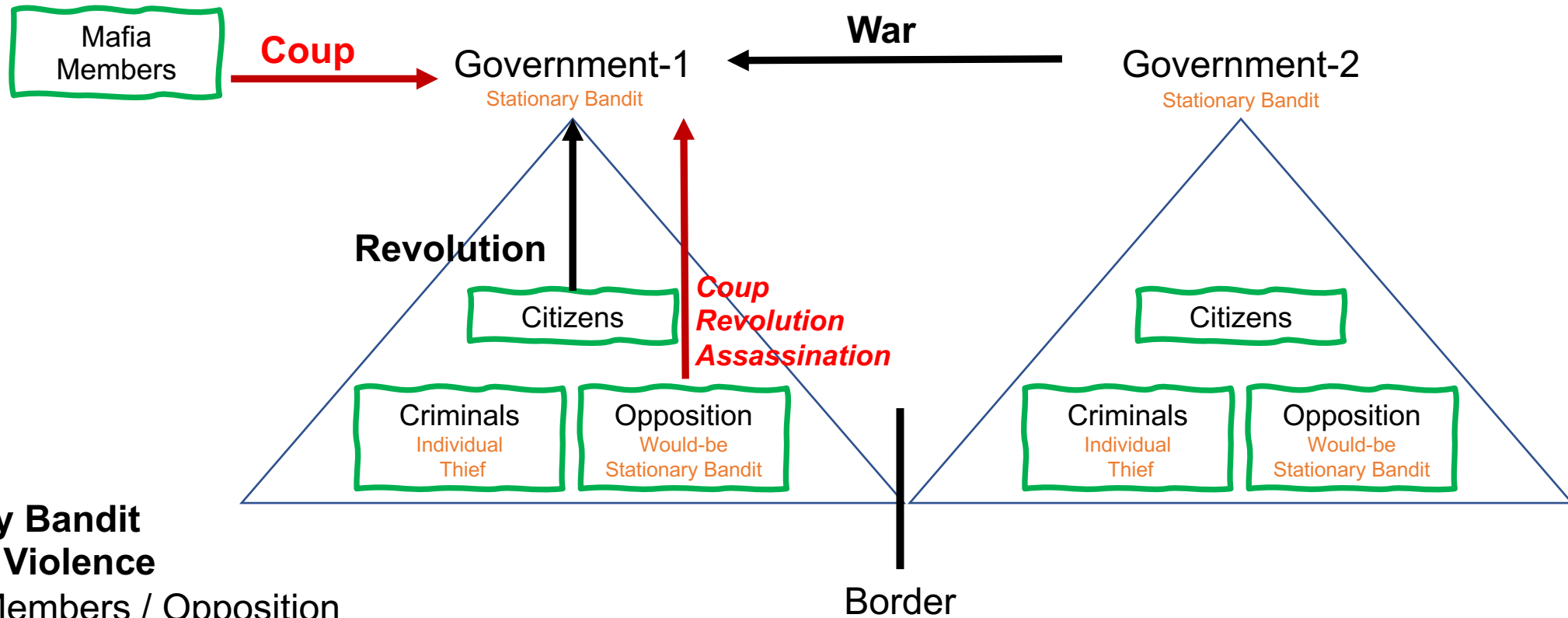
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## Risks of Violence



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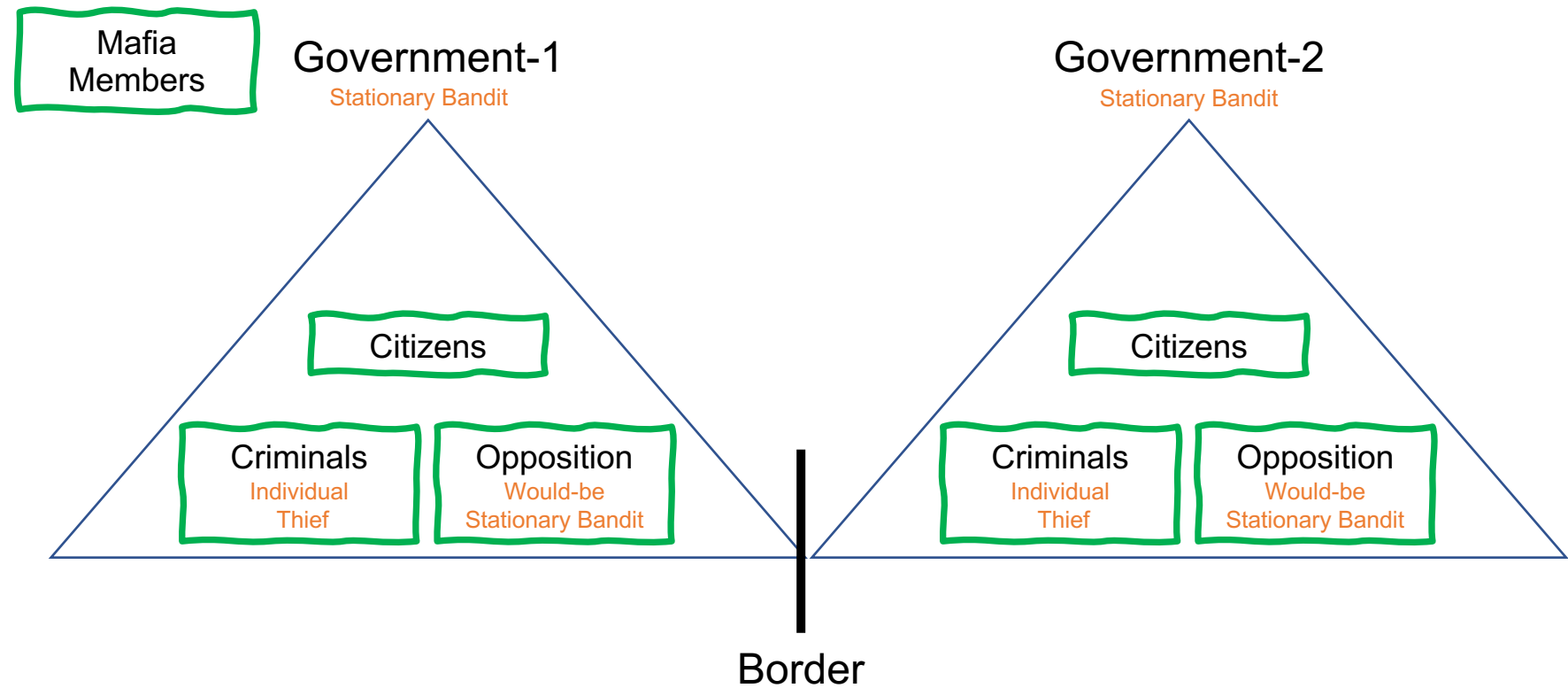
## Risks of Violence



### Stationary Bandit Mitigates Violence

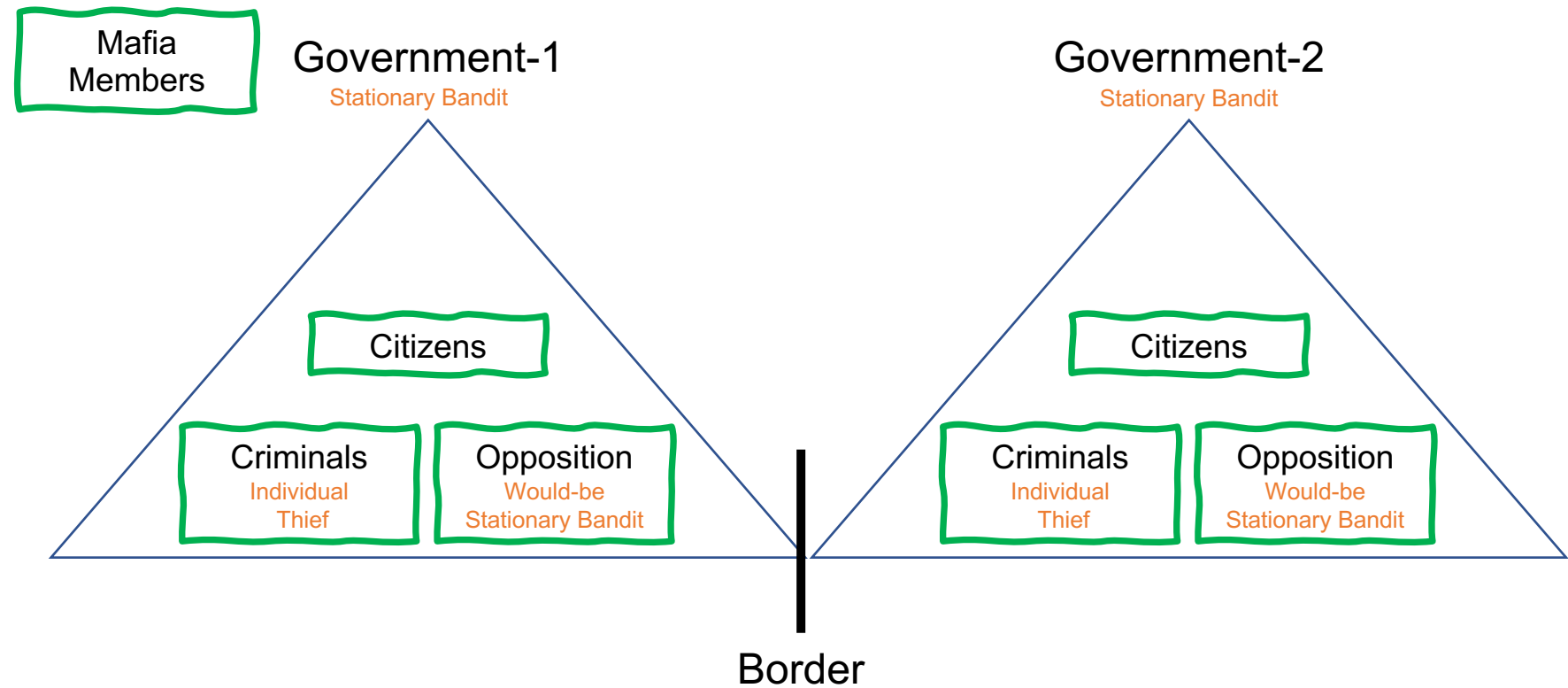
- Mafia Members / Opposition
  - ↳ Economic Monopoly (→ Rent)
  - ↳ Share Rent with inner circle / opposition

# Pre-Digital Age Conflict: Summary



- ☐ Identify all the conflicts
- ☐ Which of them are two-sided conflicts?  
both sides can impose violence / coercion
- ☐ Identify Stationary Bandit' strategies to mitigate them

# Pre-Digital Age Conflict: Summary



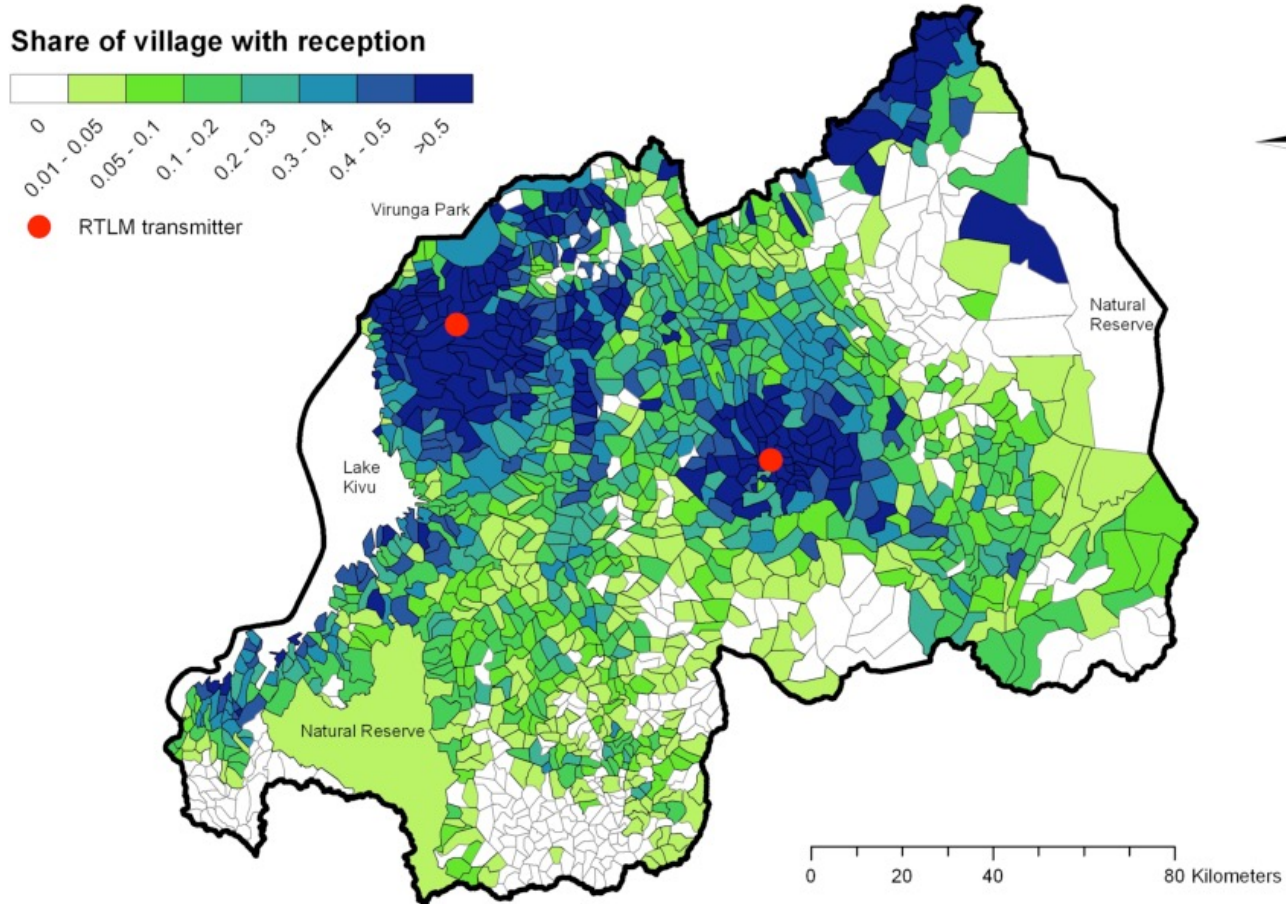
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Any expectations regarding the Cyberconflict?



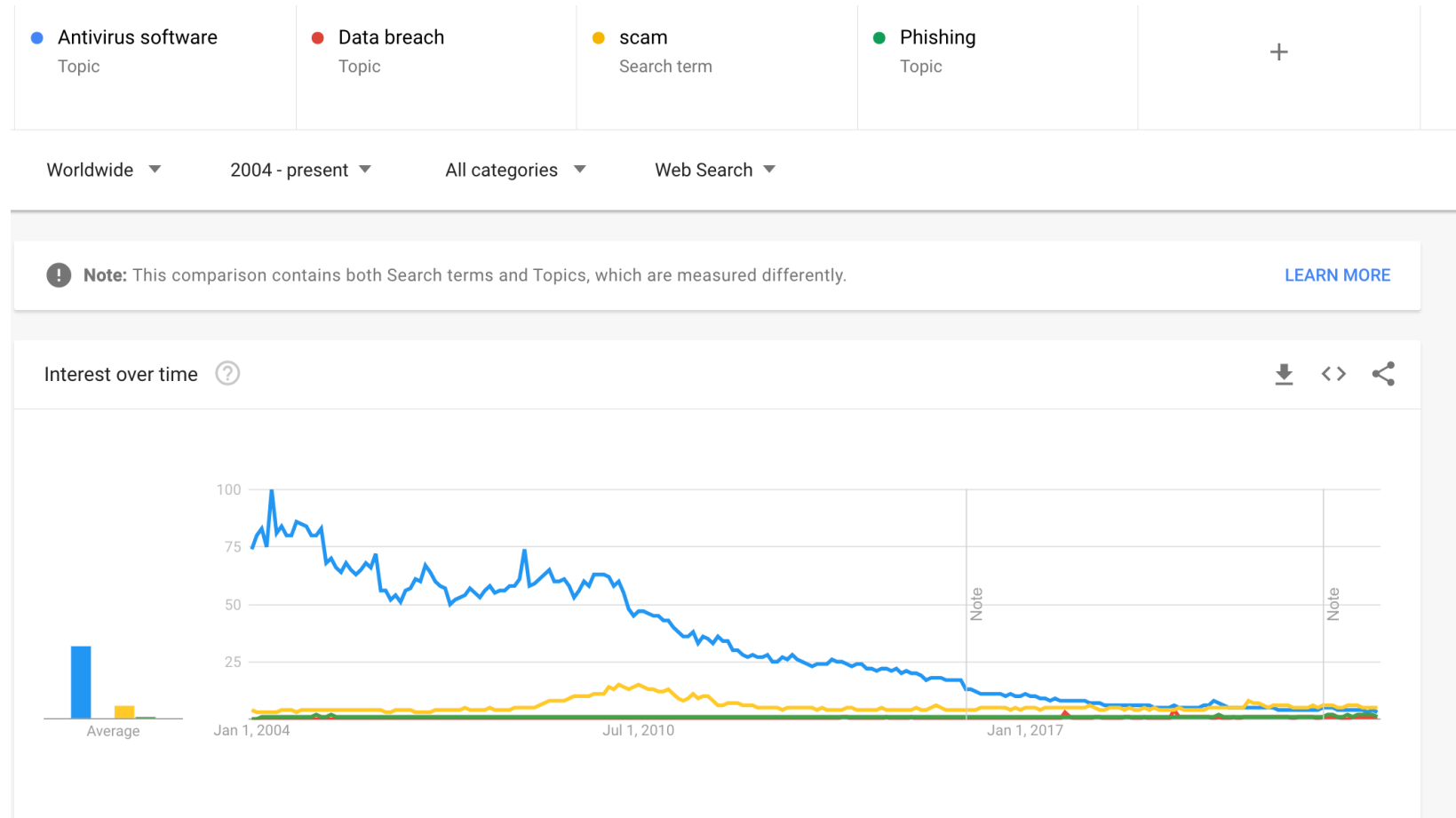
# Technology Steps In: Summary

Figure II. RTLM radio coverage



# Monopolization of violence does not work in CyberSpace

Although this perspective was looked different 15 years ago: Viruses and Antivirus Companies as Protection-Racket Business



# Technology Steps in

## ☐ Physical Space

- ☐ not only lead to a conflict but also triggers the development of the technologies
- ☐ Geography completely determines the communication due to costs it creates
- ☐ Role of beliefs

## ☐ Observed Patterns

Writing -> Beacons, Semaphores -> Books -> Invention of print press ->  
Telegraph -> Phones -> Modems -> Internet -> Web -> Social Media

## ☐ Important Trends

1. Increase efficiency of information diffusion due to cheaper and faster technologies
2. One-to-one -> one-to-many -> many-to-many
3. Shift in a relative importance of substantive technologies and communication technologies -> communications and logistics use to be auxiliary things