GLODERS
Global Dynamics of Extortion Racket Systems

Competing Racketeering Policies: A Simulation

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Summary

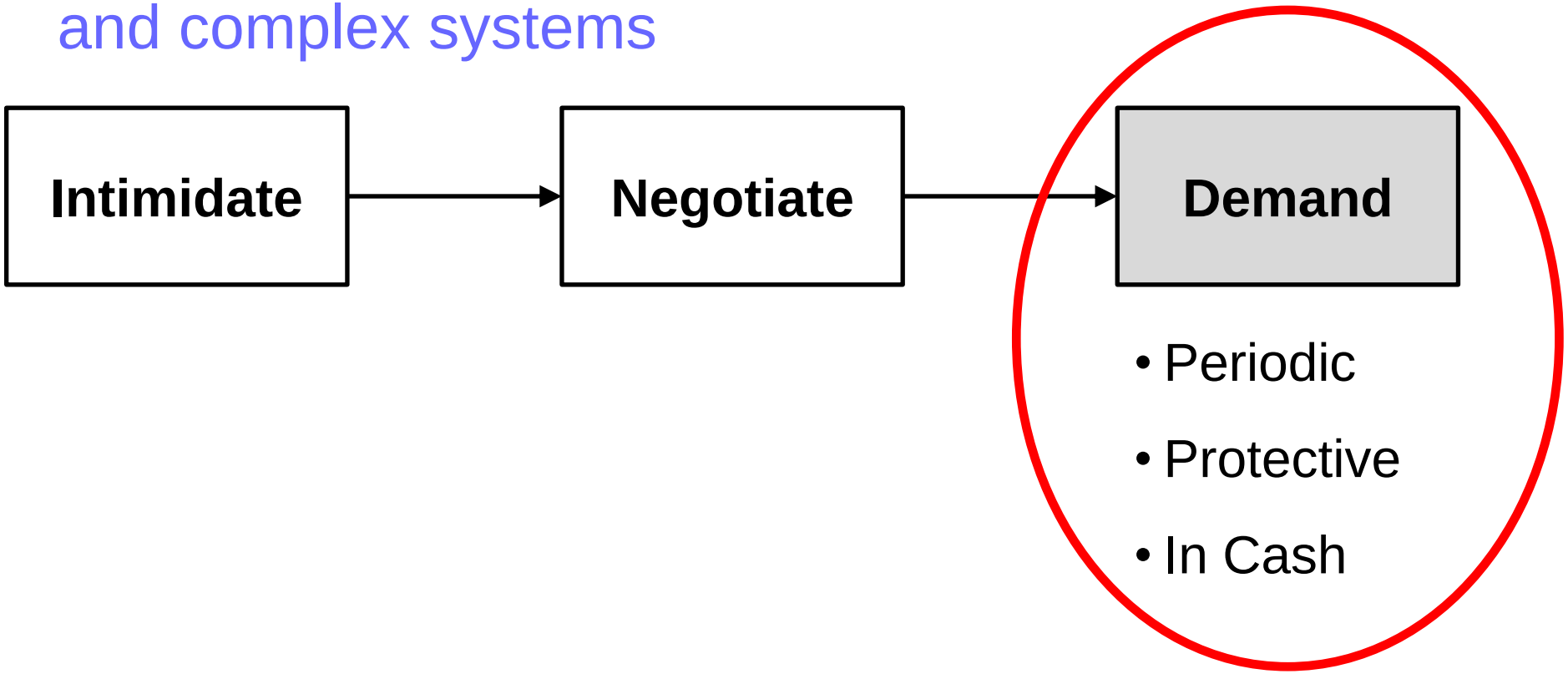
GLOBAL DYNAMICS OF EXTORTION RACKET SYSTEMS

- Introduction
- IntERS Model
- Experiments
- Future Work

Introduction

GLOBAL DYNAMICS OF EXTORTION RACKET SYSTEMS

- Extortion Racket Systems (ERSs) are highly dynamic and complex systems



(FRAZZICA et al., 2013)

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- Propose the **IntERS** (Internal Dynamics of Extortion Racket System) model aiming to:

1. Reproduce the **effect of competition** among different Racketeering Policies

2. **Generate extortion dynamics** similar to the ones observed nowadays in the **Sicilian/Palermo's Mafia**

Introduction
Hypotheses

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1. The **competition** among ERSs **leads to social order** being established after and through the initial warfare

2. It **gradually** allows for the relatively **most sustainable system**, among those competing, to be selected

Introduction
Why Simulation?

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- Because it allows us
  - **To reproduce** phenomena in a controlled environment
  - **To test** different policies
  - **To collect** information
  - **To validate** hypothesis and **to answer** question

IntERS Model

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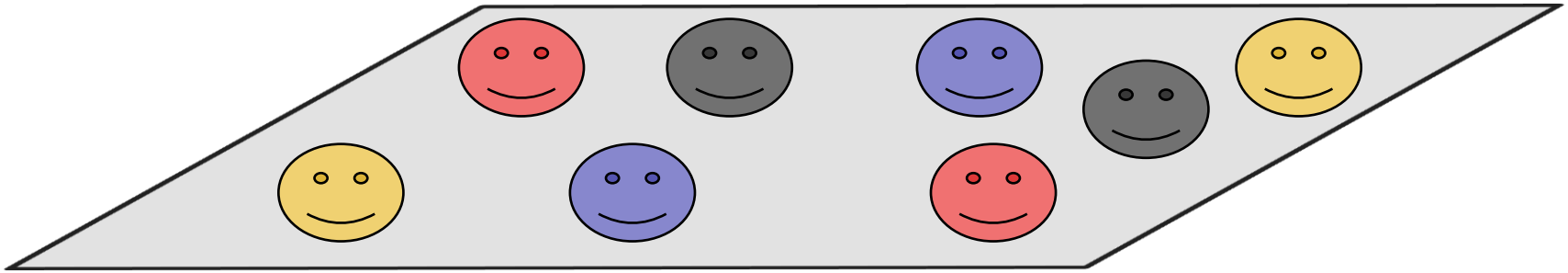
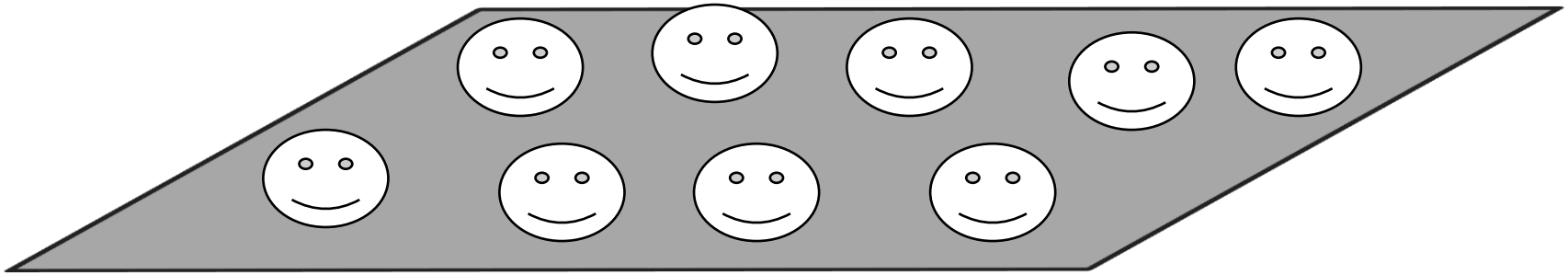


Extorters



Targets

IntERS Model

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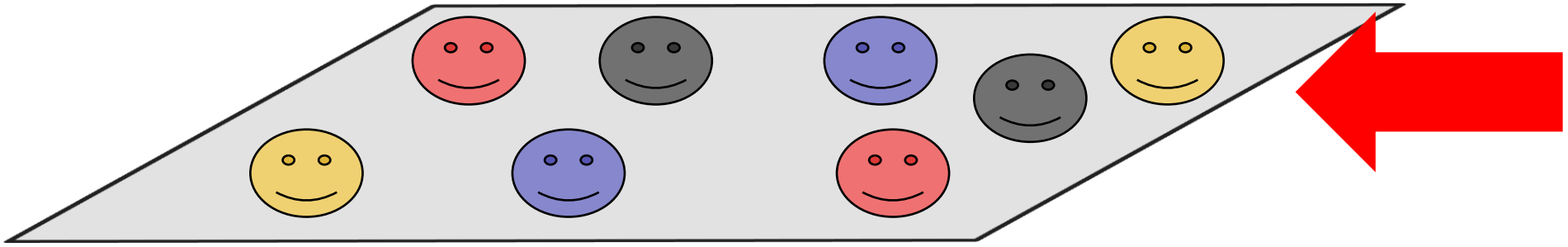
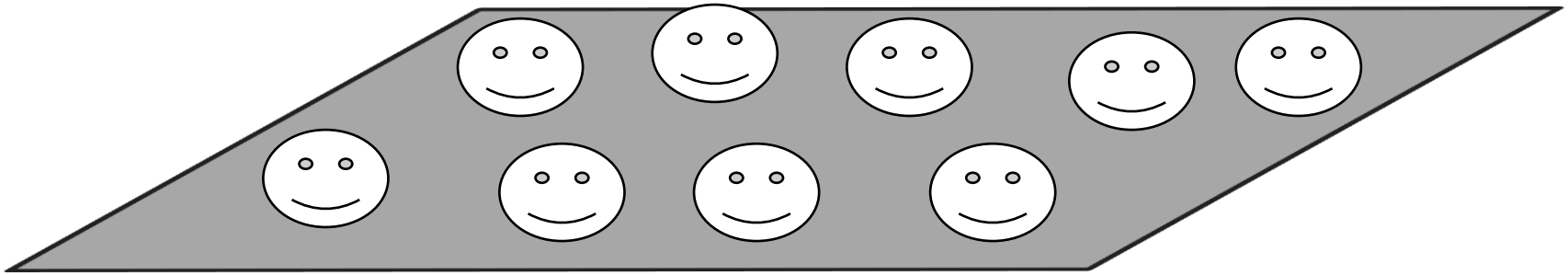
Global Dynamics of Extortion Racket Systems

(Inspired on (AXELROD, 1995))



Extorters



Targets

IntERS Model

GLOBAL DYNAMICS OF EXTORTION RACKET SYSTEMS

- **Racketeering Policy Dimensions**

		Demanded Extortion: Low	Demanded Extortion: High
Punishment Severity: Low		Low/Low (LL)	High/Low (HL)
Punishment Severity: High		Low/High (LH)	High/High (HH)

Table 1 – Extorters' Policy dimensions

IntERS Model

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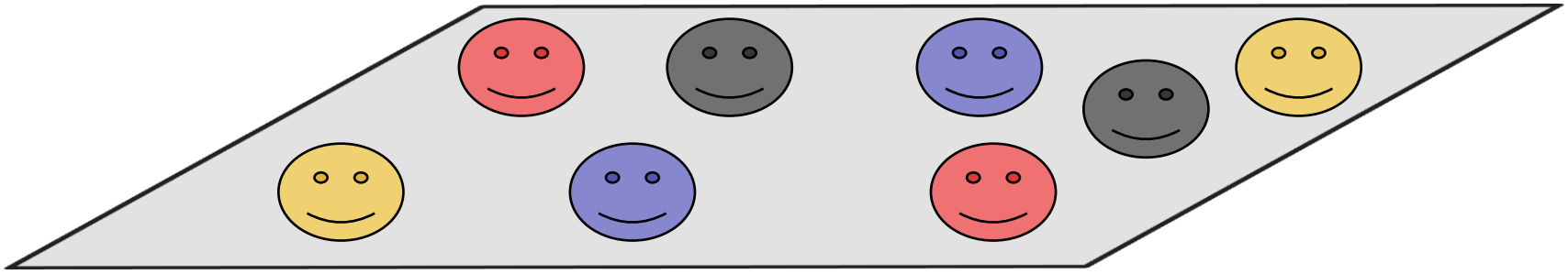
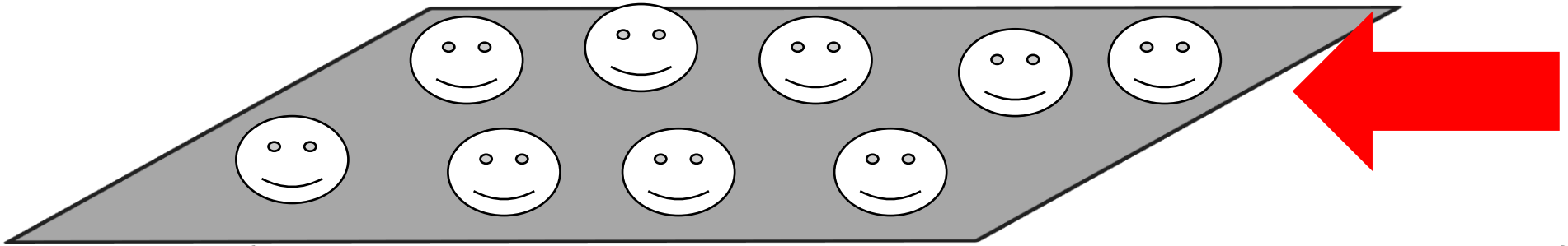


Extorters



Targets

Examples

Shopkeepers, Entrepreneurs, Construction Companies, Professionals, etc

IntERS Model

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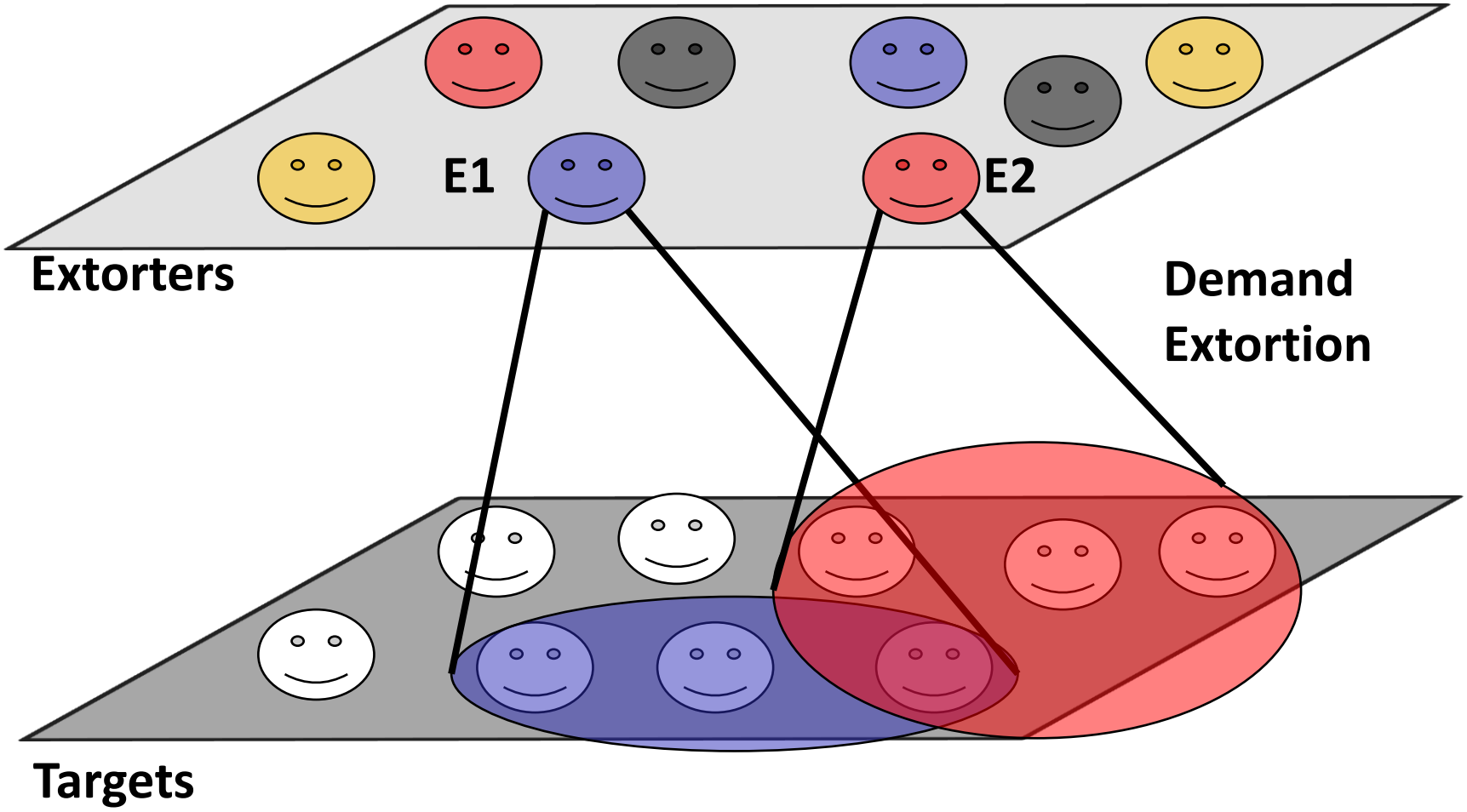
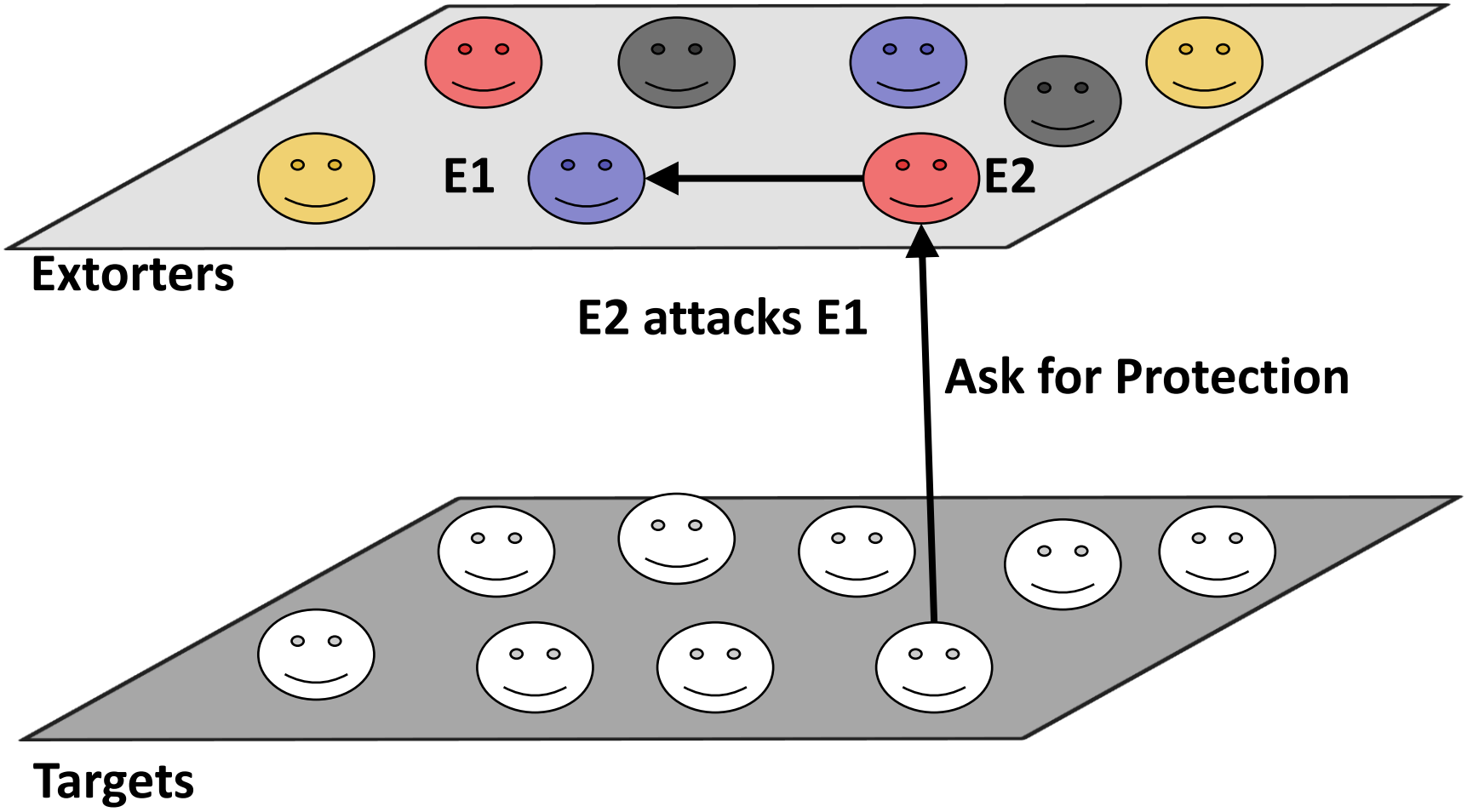
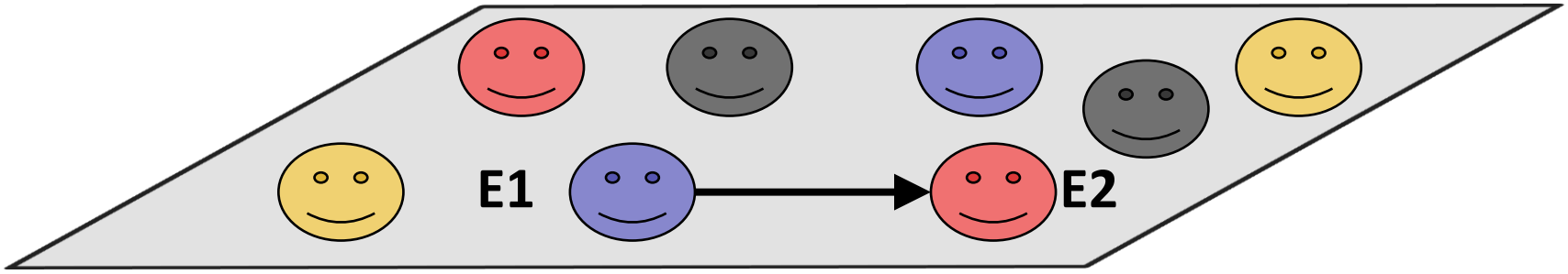


IntERS Model

GLOBAL DYNAMICS OF EXTORTION RACKET SYSTEMS

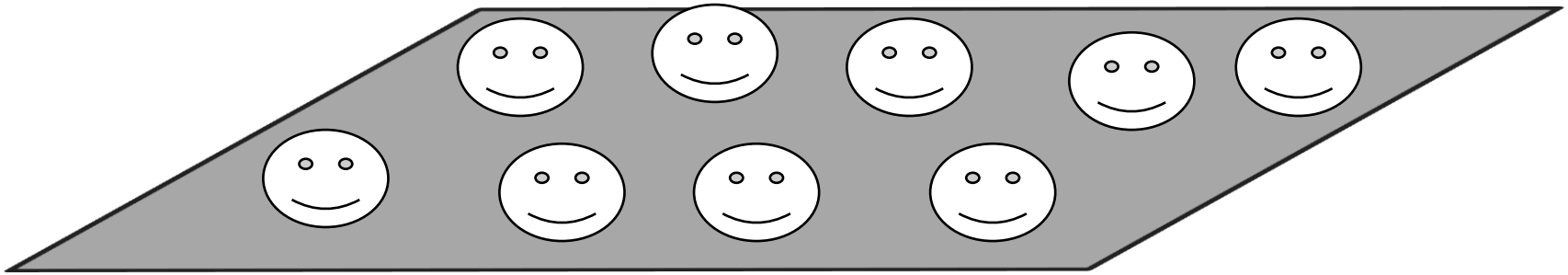


IntERS Model



Extorters

E1 fight back E2



Targets

IntERS Model

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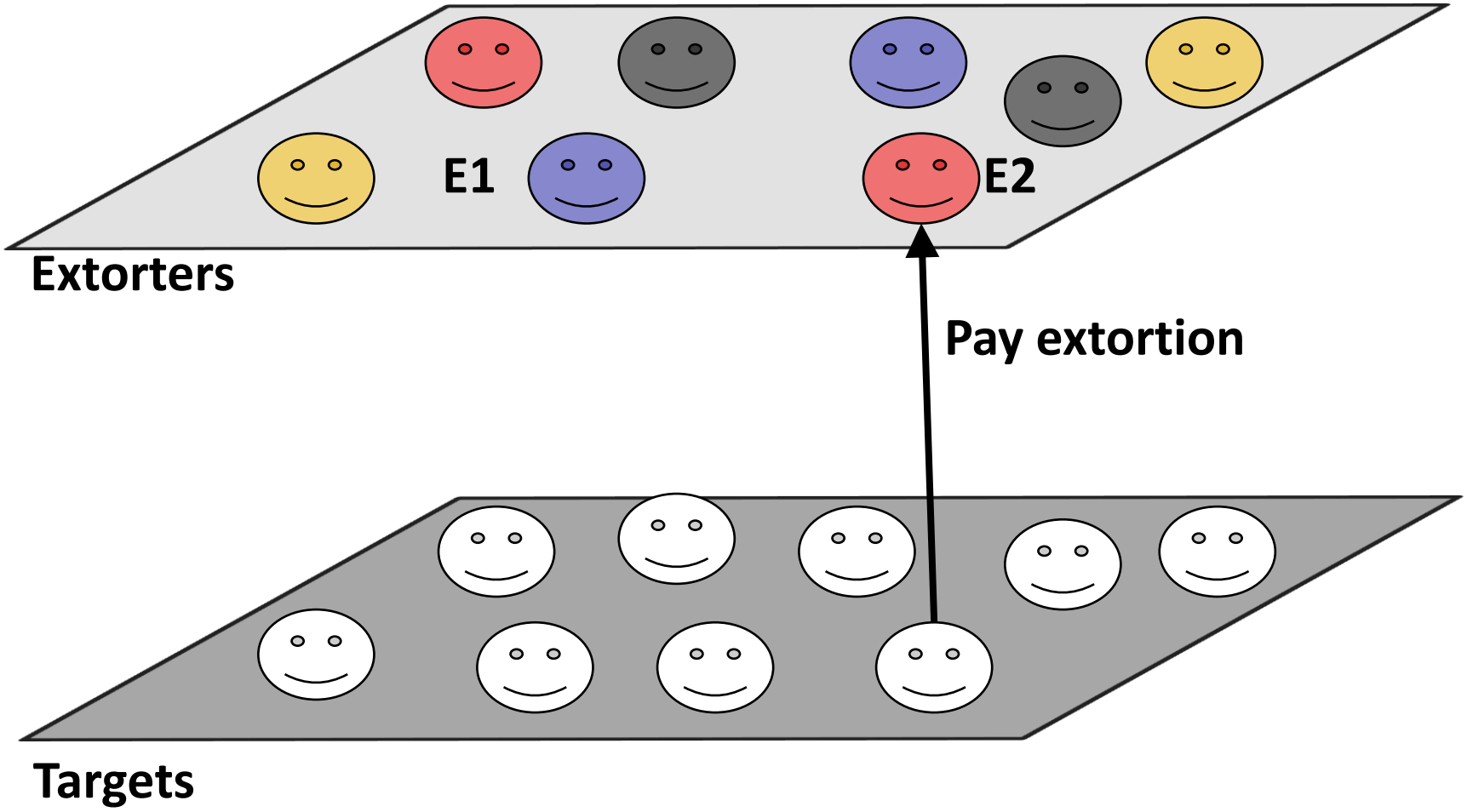
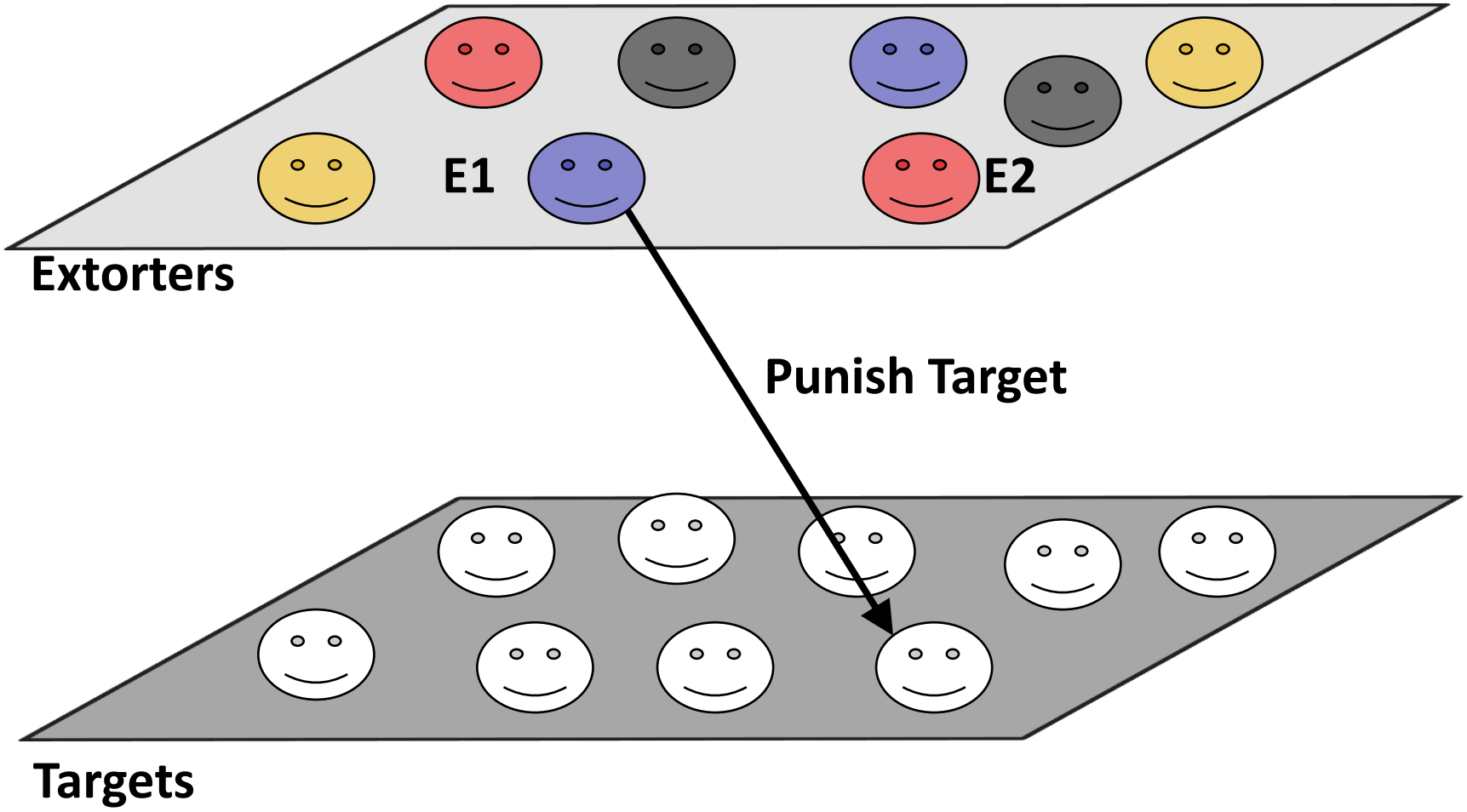
Global Dynamics of Extortion Racket Systems



IntERS Model

GLOBAL DYNAMICS OF EXTORTION RACKET SYSTEMS



Experiments (1)
Objectives

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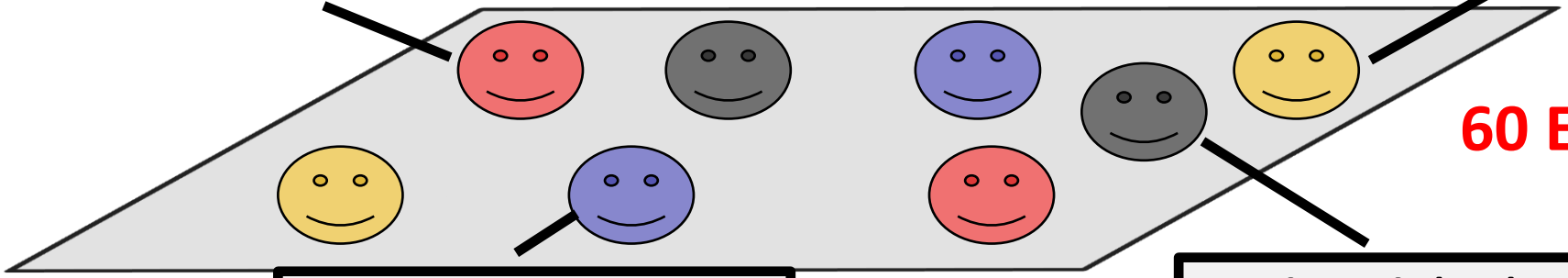
A set of experiments was carried out to fulfill our aims of

1. Reproducing the effects of competition
2. Generating the extortion dynamics

Experiments (1)
Scenario

Low-Low (LL) Policy
Extorters……: **15**
Low Extortion……: **10%**
Low Punishment.: **40%**

Low-High (LH) Policy
Extorters……: **15**
Low Extortion……: **10%**
High Punishment.: **80%**

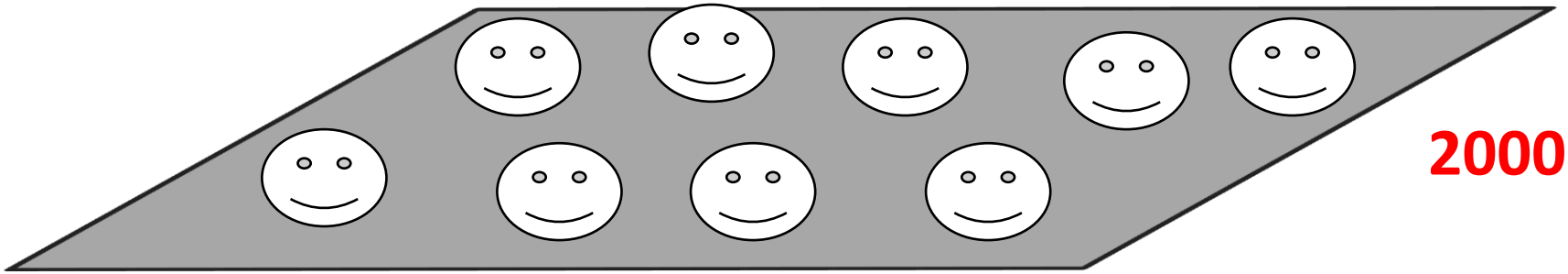


60 Extorters

Extorters

High-Low (HL) Policy
Extorters……: **15**
High Extortion……: **20%**
High Punishment.: **40%**

High-High (HH) Policy
Extorters……: **15**
High Extortion….: **20%**
Low Punishment.: **80%**



2000 Targets

Targets

Experiments (1)
Results

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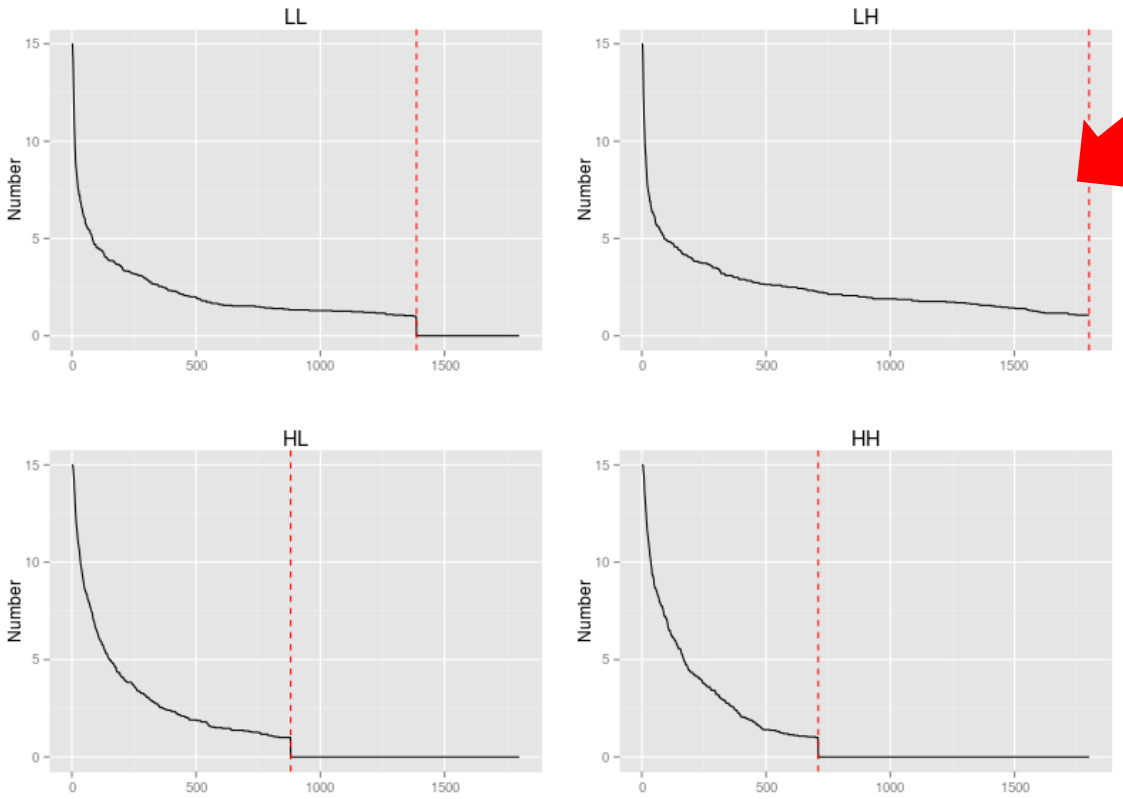

Most Successful

Low Extorters

Fig. 1.a – Number of Extorters per Policy (10%-20% Extortion)

Experiments (1)
Results

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Low and High Extorters are very **successful** extorting

High Extorters **fight and punish more than** Low Extorters

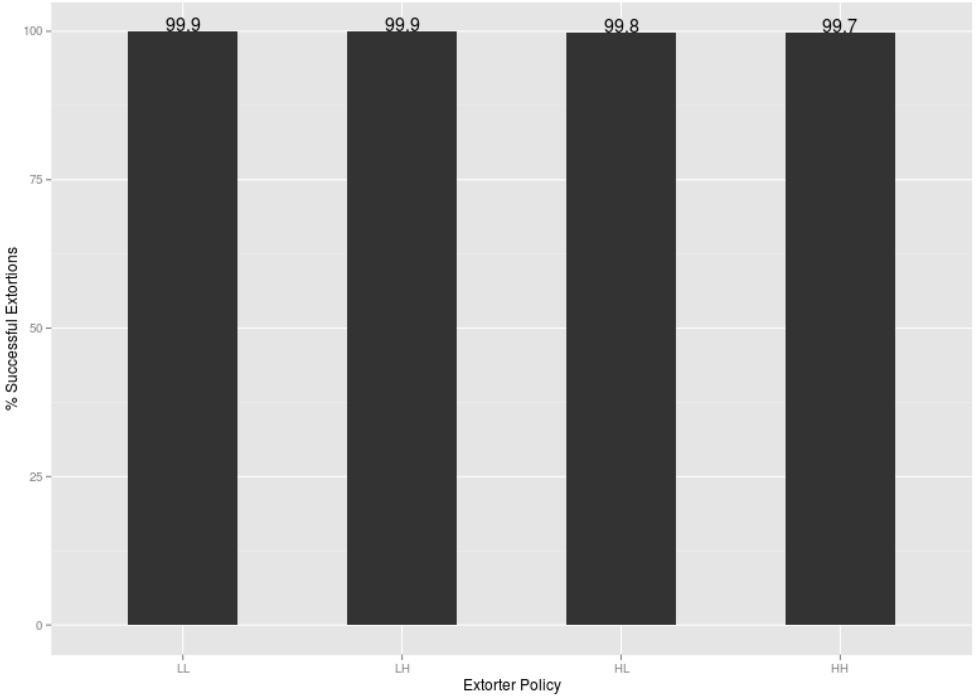

Fig. 1.b – Percentage of Successful Extortions

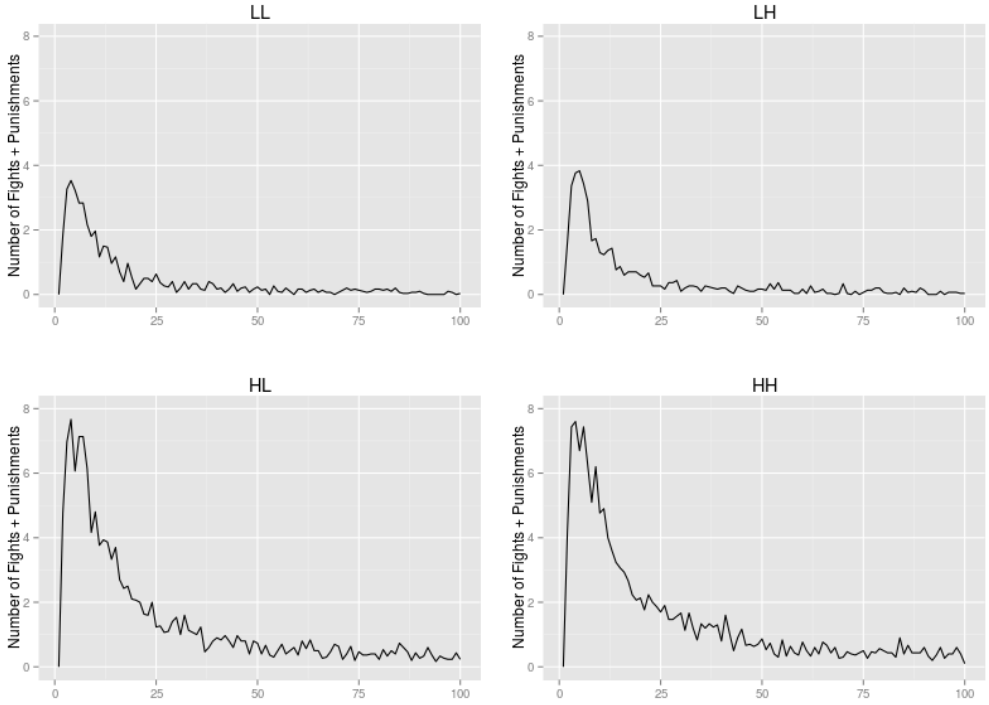

Fig. 1.c – Violent Activities

Experiments (1)
Results

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Proportionally, High Extorters **spend more wealth on violent** activities than Low Extorters

Low and High Extorters provide the **same percentage of protection**

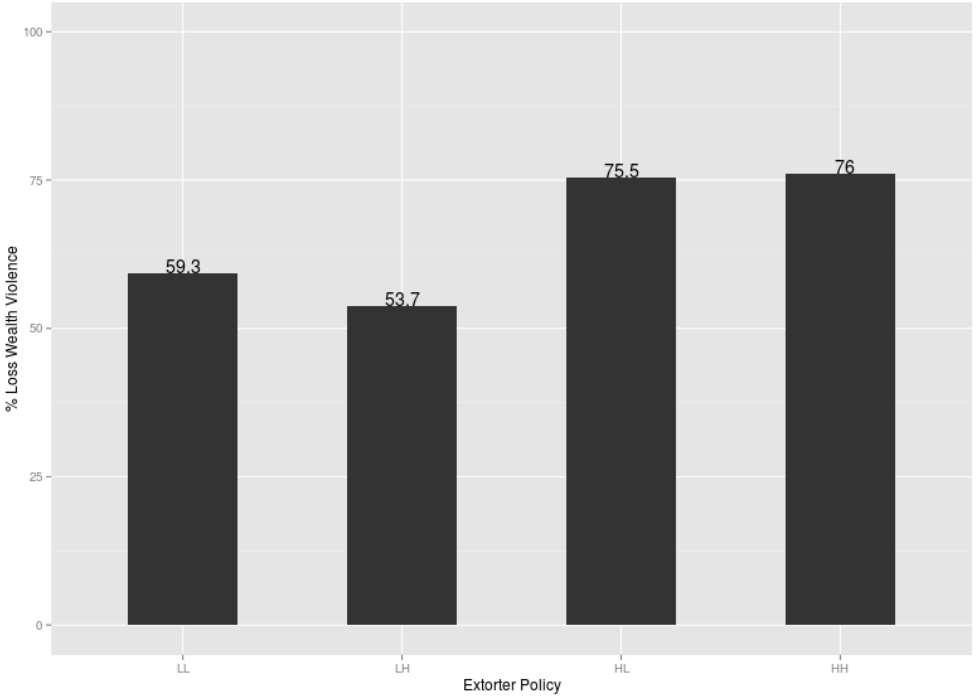

Fig. 1.d – Percentage of Lost Wealth on Violent Activities

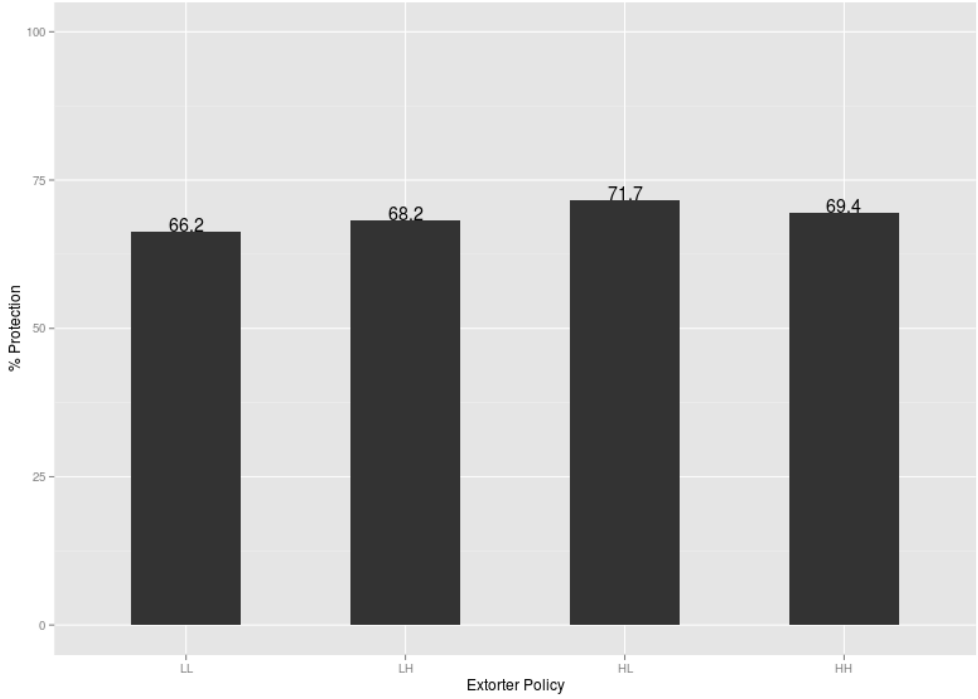

Fig. 1.e – Percentage of Protection

Experiments (1)
Results

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Proportionally, High Extorters **spend more wealth on violent** activities than Low Extorters

Low and High Extorters provide the **same percentage of protection**

Low Extorters are **more efficient than** High Extorters

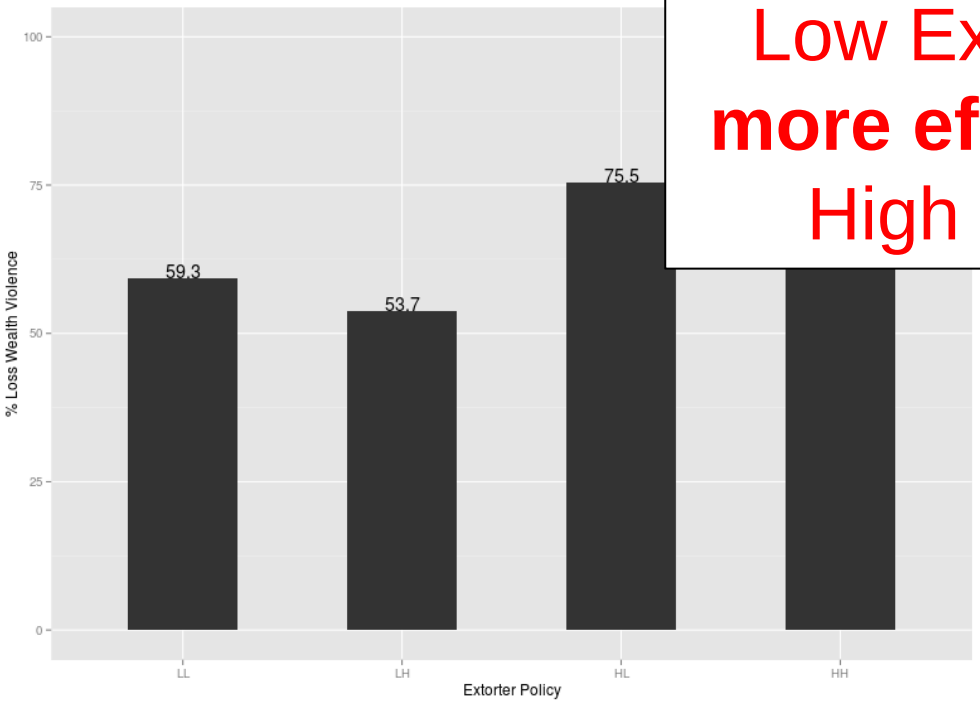

Fig. 1.d – Percentage of Lost Wealth on Violent Activities

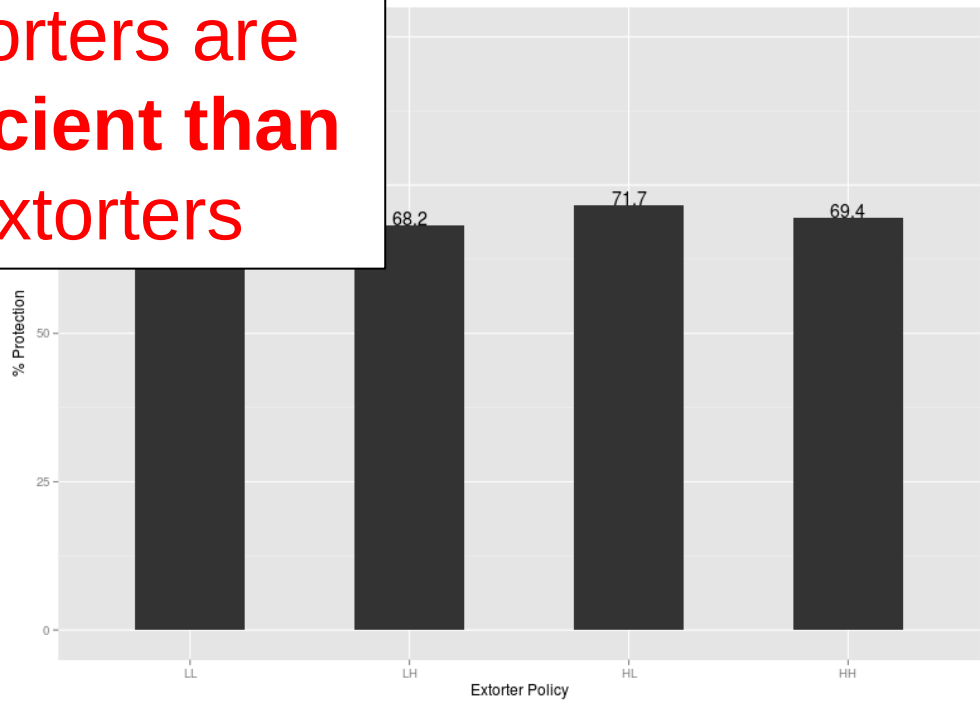

Fig. 1.e – Percentage of Protection

Experiments (1)
Summary

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- **Racketeering Policies** demanding **Low Extortion** are **more successful** than High Extortion policies
  1. **Survives longer**
  2. Accumulates **more wealth** and **targets**
  3. Uses **less violence**
     a. Looses less wealth in fight and punishment
     b. Less visible to the State

Experiments (2)
Objectives

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Another set of experiments was carried out in order to **test the plausibility** of the **combination of specific values** used to characterize the Extorters' policies

Experiments (2)
Scenario

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- 180 simulations were carried out by combining different attributes values:
  - **Demanded Extortion**
  - **Punishment Severity**
  - **Tolerance to Punish**
  - **Enlargement Probability**

Attribute	Value
Demanded Extortion	[10 / 20], [20 / 40], [30 / 60], [40 / 80], [50 / 100]
Punishment Severity	[20 / 40], [30 / 60], [40 / 80], [50 / 100]
Tolerance	10, 40, 80
Enlargement	10, 40, 80

Table 2 – Extorters' Policies values

Experiments (2)
Results

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- Examining the results with respect to the **last surviving Extorter's Policy** considering **Demanded Extortion**, we could identify **3 different types of patterns**

Experiments (2)
Results

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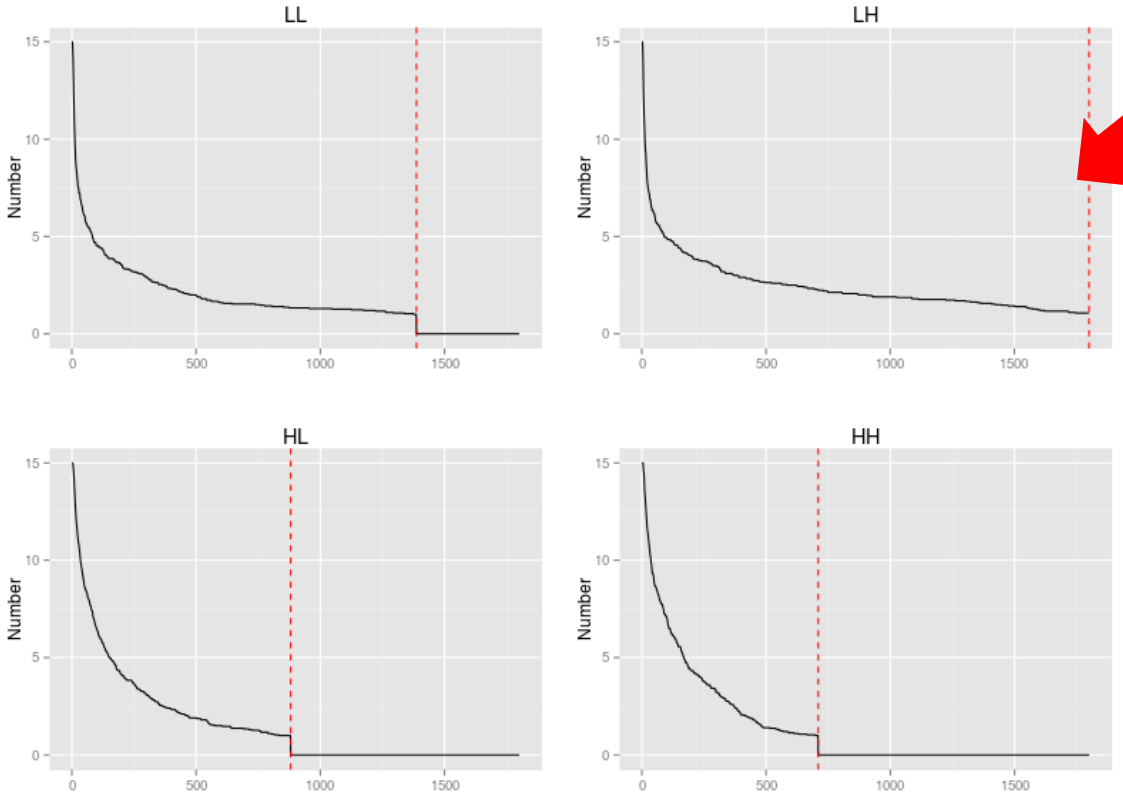
Type 1
Demanded Extortion [10 / 20]



Most Successful

Low Extorters

Fig. 2 – Number of Extorters per Policy (10%-20% Extortion)

Experiments (2)
Results

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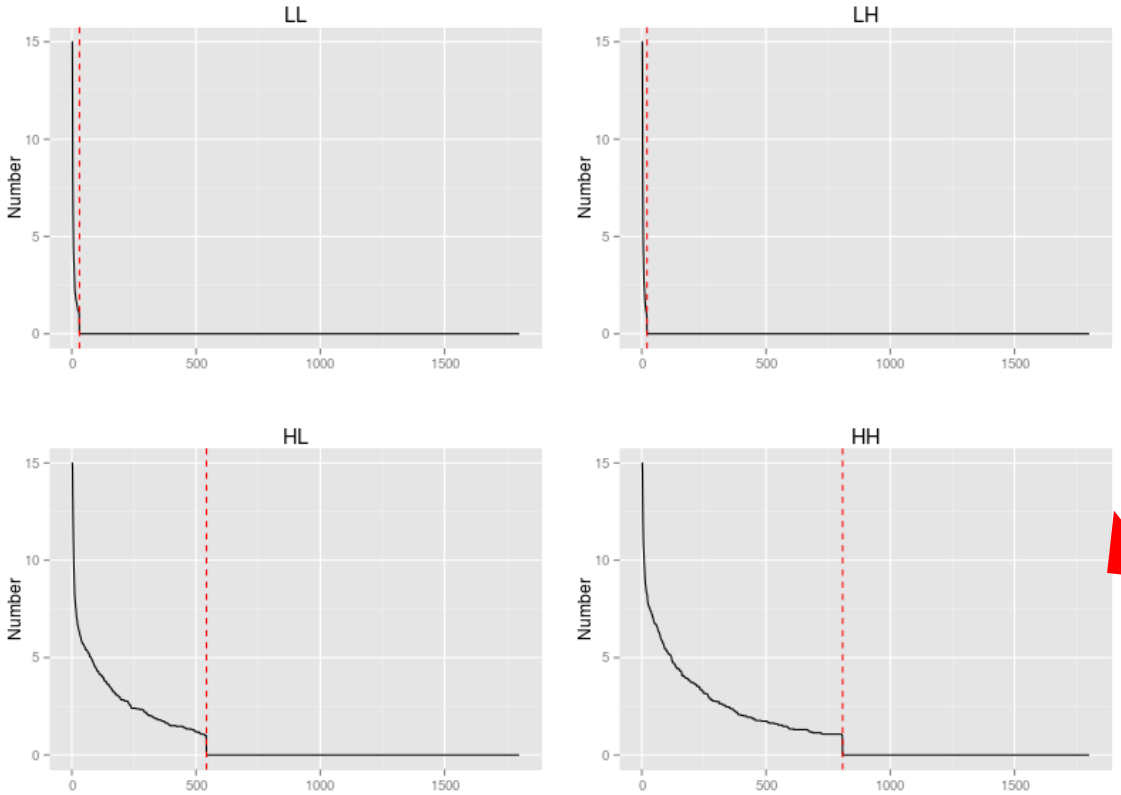
Type 2
Demanded Extortion [20 / 40] or [30 / 60]



Most Successful

High Extorters

Fig. 3.a – Number of Extorters per Policy (20%-40% Extortion)

Experiments (2)
Results

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Low and High Extorters increase their number of violent activities

Low Extorters **use most of their extortion** on violent activities

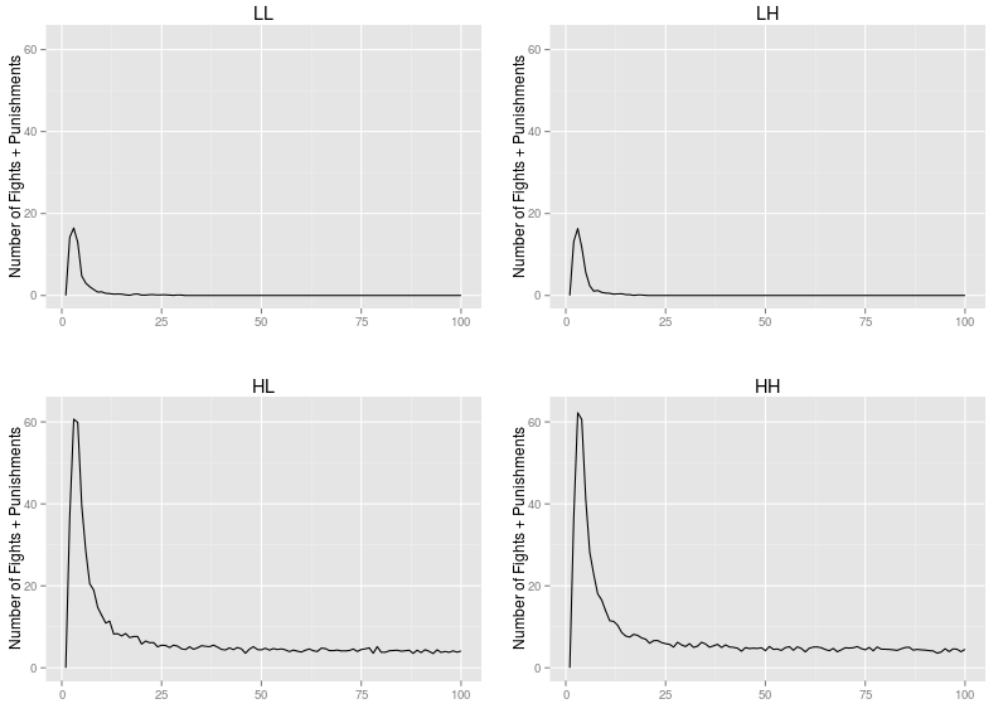

Fig. 3.b – Number of Violent Activities

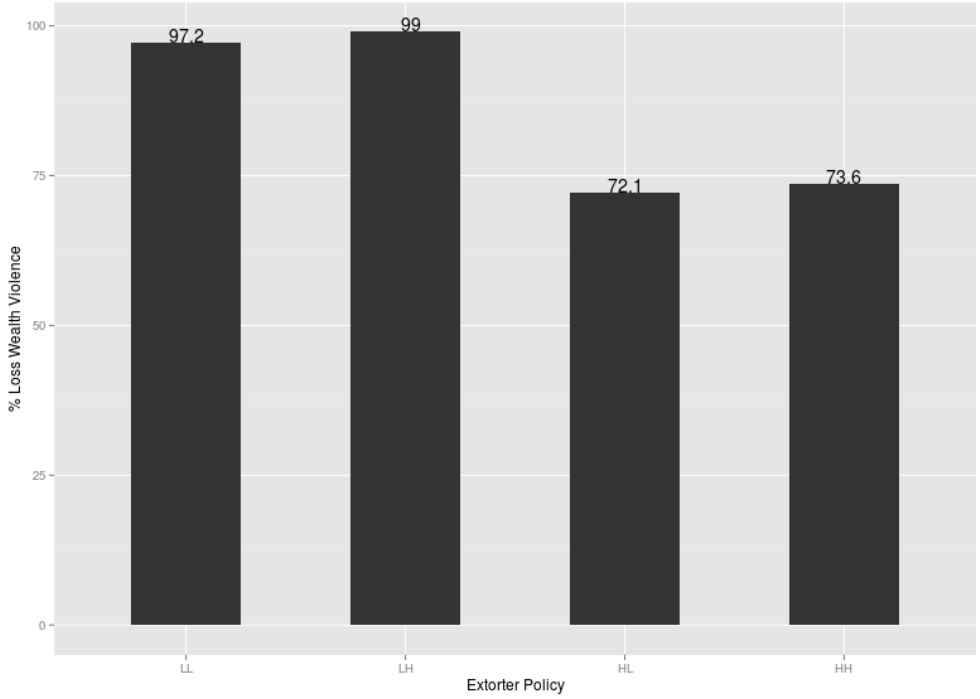

Fig. 3.c – Percentage of Lost Wealth on Violent Activities

Experiments (2)
Results

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Low Extorters are **not able to accumulate wealth**

Low Extorters are **less capable to protect** its domain

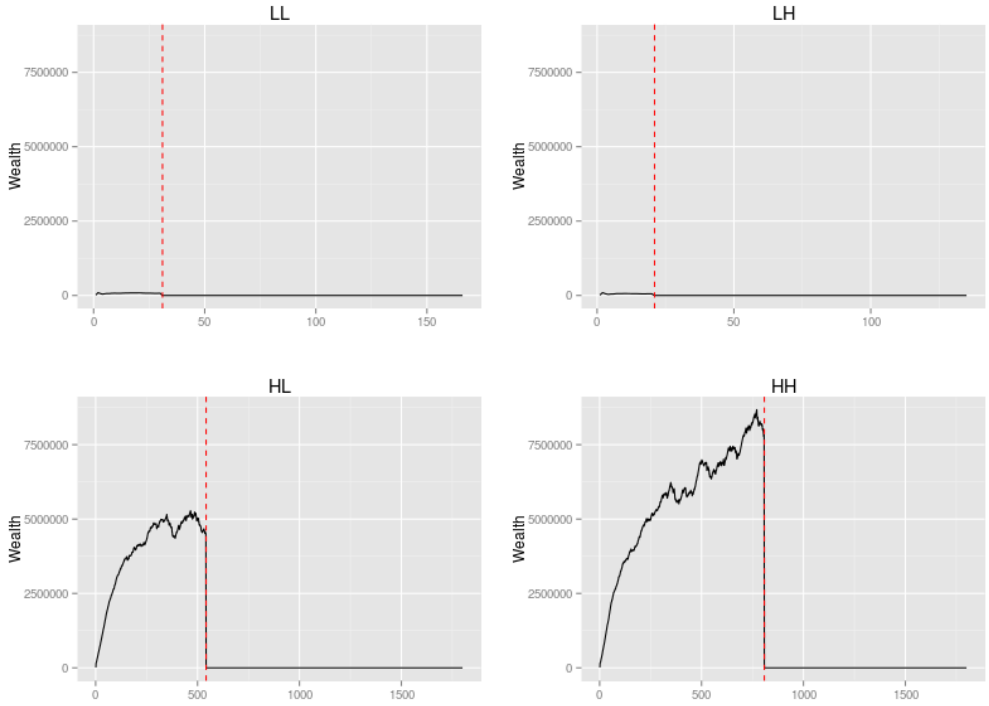

Fig. 3.d – Accumulated Wealth

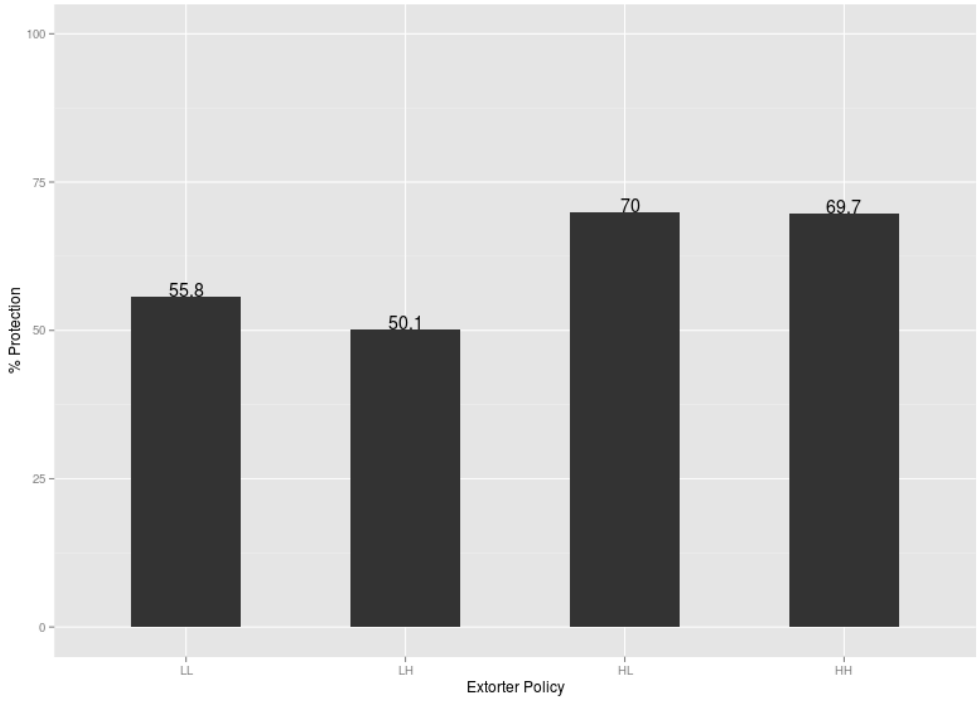

Fig. 3.e – Percentage of Protection

Experiments (2)
Results

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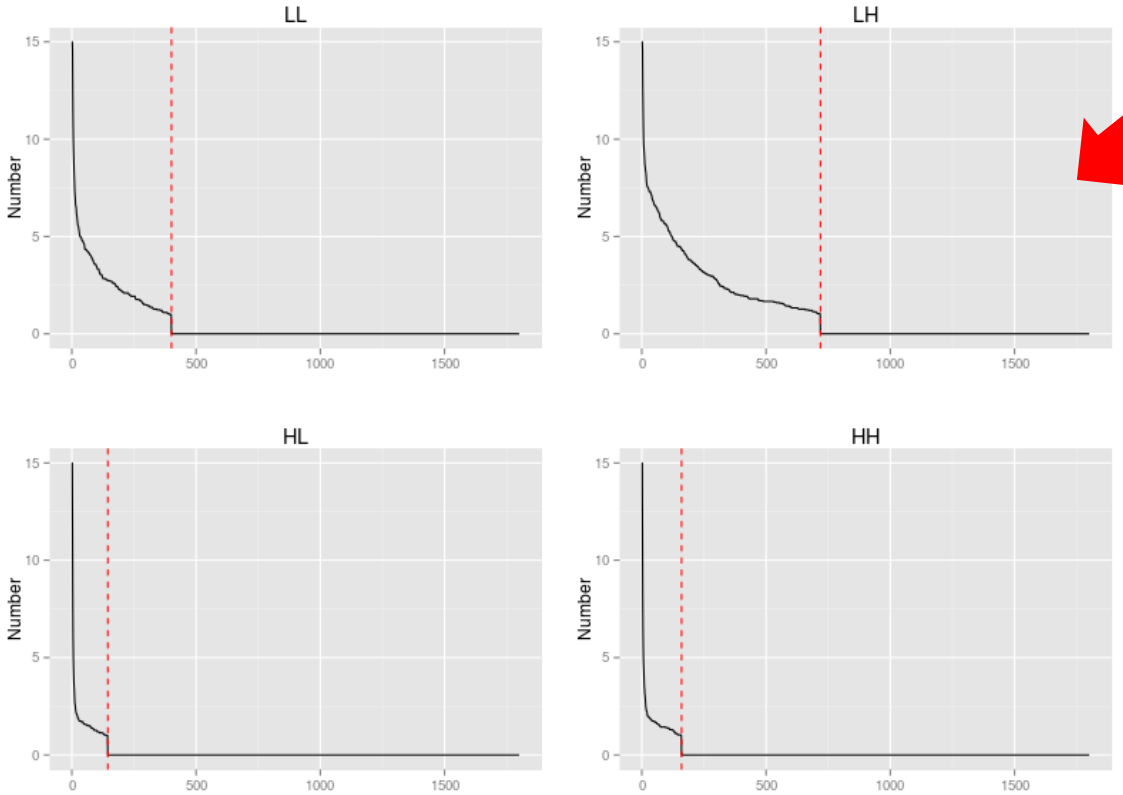
Type 3
Demanded Extortion [40 / 80] or [50 / 100]



Most Successful

Low Extorters

Fig. 4.a – Number of Extorters per Policy (40%-80% Extortion)

Experiments (2)
Results

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Global Dynamics of Extortion Racket Systems

High Extorters are **not successful** extorting

High Extorters are **unable** to **provide protection**

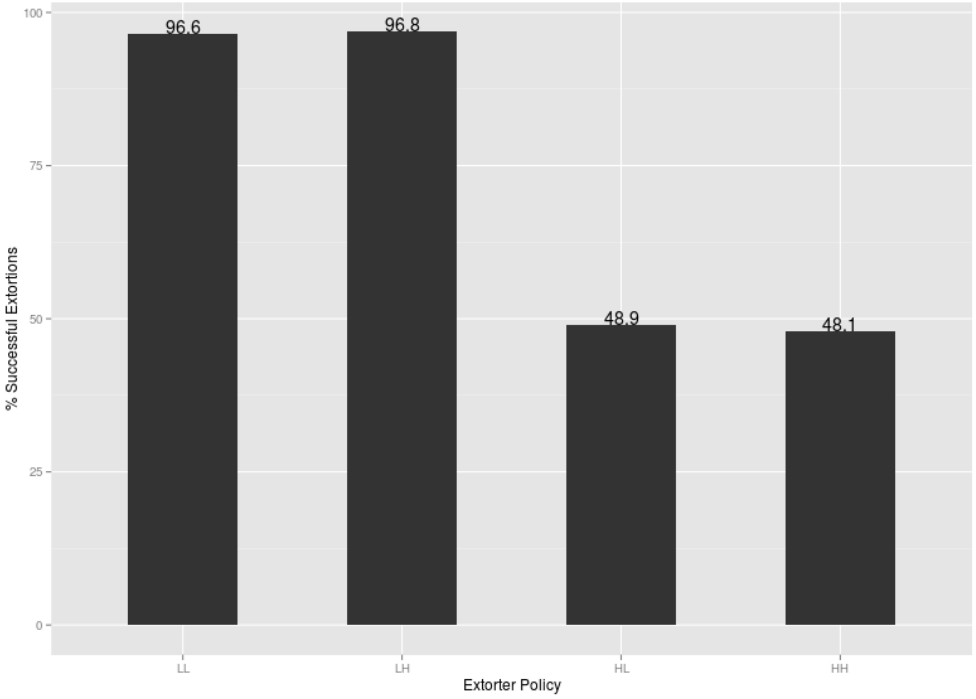

Fig. 4.b – Percentage of Successful Extortions

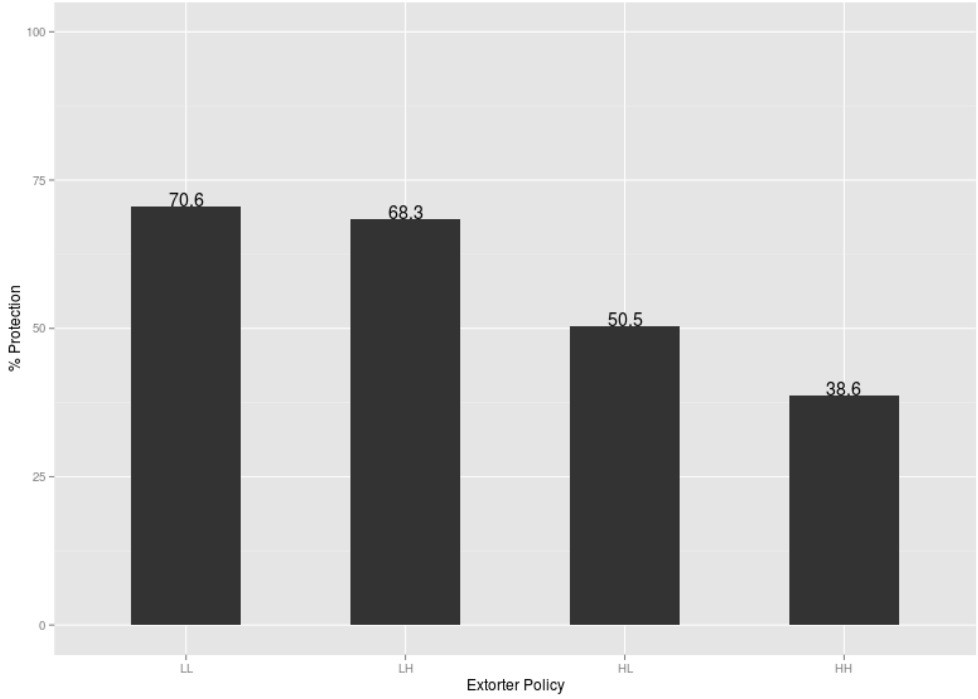

Fig. 4.c – Percentage of Protection

Experiments (2)
Results

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High Extorters **cannot accumulate wealth**

High Extorters **cannot accumulate targets**

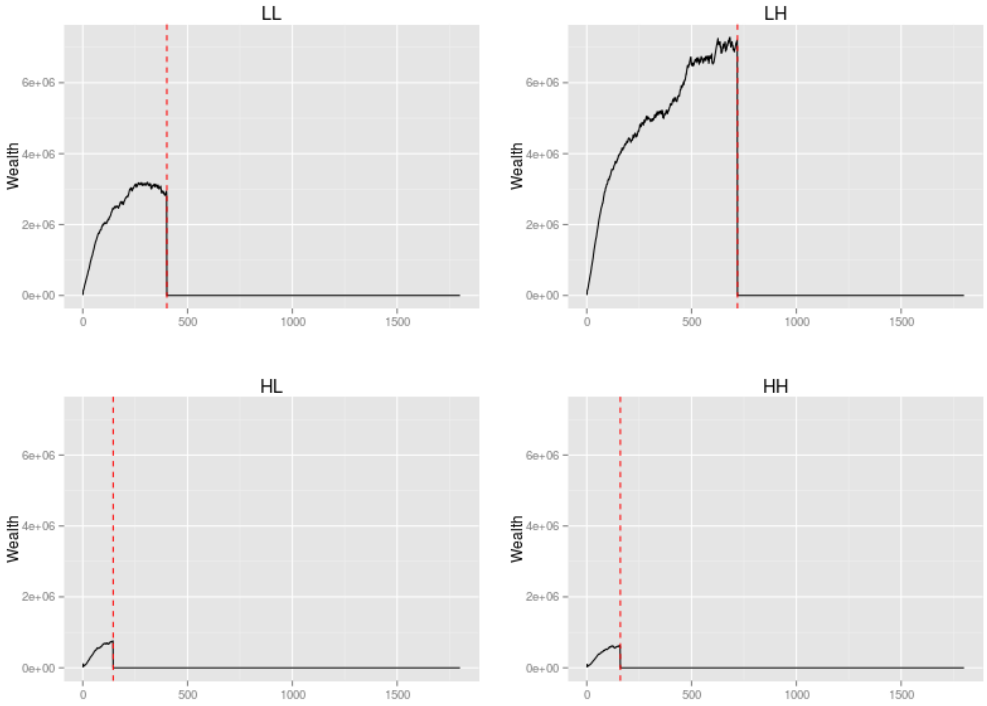

Fig. 4.d – Accumulated Wealth

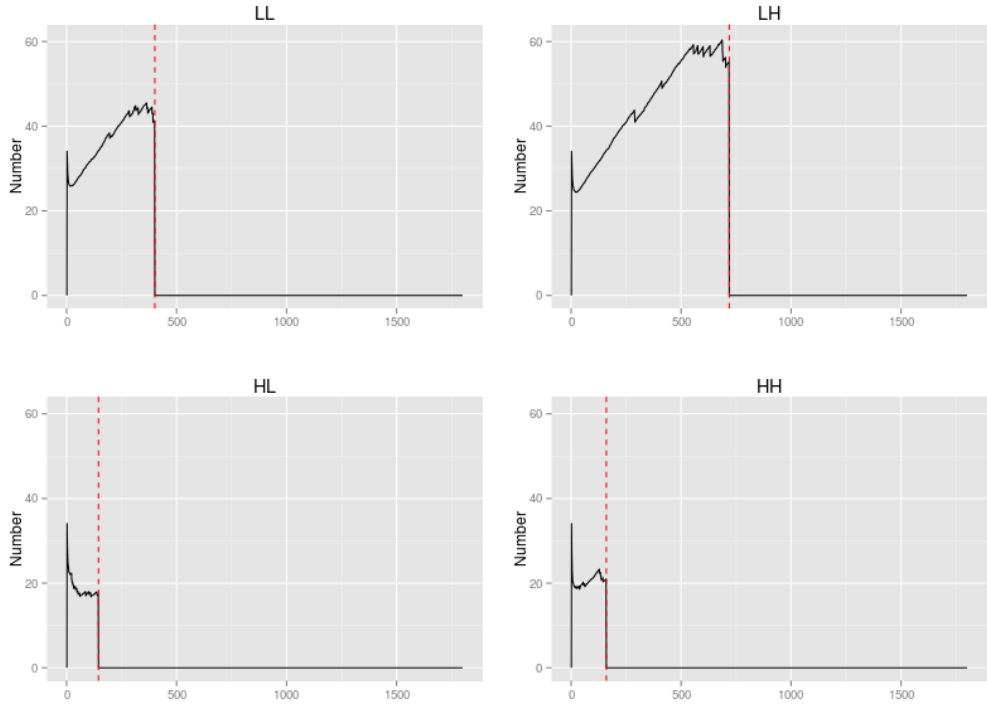

Fig. 4.e – Number of Targets

Experiments (2)
Summary

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	Type 1	Type 2	Type 3
Violence	**Low**	**High**	**High**
% Successful Extortions	**High**	**High**	**High** (LL/LH) **Medium** (HL/HH)
Number of Alive Targets	**High**	**Medium**	**Low**

Table 3 – Comparison among the pattern types

Experiments (2)
Summary

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	Type 1	Type 2	Type 3
Violence	Low	High	High
% Successful Extortions	High	High	**High** (LL/LH) **Medium** (HL/HH)
Number of Alive Targets	High	Medium	Low
Conclusions	• Coexist with Legal authorities • Similar to the Sicilian Mafia **Most Plausible**	• Too visible to the police **Plausible, but easier to fight against**	• Use too high extortion values • Extorters die of starvation **Unrealistic**

Table 3 – Comparison among the pattern types

These results support our hypotheses that competition among Racketeering Policies leads

1. To social order
2. To the selection of the most sustainable system

Experiments
Conclusions

Interestingly, the **Low extortion policies** have features similar to the ones indicated by Franchetti and Sonnino(1877)

"*If the villains made use of their desturctive abilities to an extreme degree, they would soon lack the very matter from which to steal*" (p. 126).

Future Work

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1. Include a new entity representing the **State/Police**
2. Model and implement the **Extorters and Targets** using a **normative cognitive architecture**
3. Allow the **transmission and enforcement of norms** (**legal** and **social**) favouring the identity and cohesion of the extortive group
4. Add **information propagation**, such as **experiences** and **reputation** information
5. Allow Extorters and Targets to **dynamically adapt** to varying **external conditions**

References

- AXELROD, R. (1995) A Model of the Emergence of New Political Actors. In G. N. Gilbert and R. Conte (eds.), Artificial Societies. UCL Press, London.
- FRANCHETTI, L.; SONNINO, S. (1877) *La Sicilia nel 1876*. Firenze: Barbèra, vol. 1-2.
- FRAZZICA, G.; LA SPINA, A.; PUNZO, V.; SCAGLIONE, A. (2013) *Micro-Mechanisms of Extortion Racket Systems*. Presentation at GLODERS Project Meeting . May 20-21, Palermo.

GLOBAL DYNAMICS OF EXTORTION RACKET SYSTEMS

Thank You !!!