
Of knights and wolves
Warfare and the state of nature in a model of preemptive murder

Comment on
“Peaceable kingdoms and war zones: preemption, ballistics and murder in Newark”
by Brendan O’Flaherty and Rajiv Sethi

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1 Introduction

O’Flaherty and Sethi’s study, “Peaceable kingdoms and war zones: preemption, ballistics and murder in Newark”, is a work of extensive breadth which makes a valuable contribution by incorporating game-theoretic social interactions to the economics of murder. Starting from recent evidence on an increasing trend in murders in Newark and other urban areas in New Jersey at the time of a generalized fall in aggregate US trends, the paper turns to a detailed decomposition of gun discharge episodes, unearthing a puzzling stylized fact: murders rose much faster than shootings in Newark. The authors develop a game-theoretical model to explain this increase in lethality, and to account for the differing New Jersey and US trends simultaneously. The paper then relates the model and its implications to the most relevant empirical studies in the economics of crime literature, and discusses most (though not all, as argued below) of the likely causes (or “changes in fundamentals”) that might account for the diverging Newark trend. Finally, the authors turn to three well-known murder deterrence initiatives, and to other policy measures that might revert the local trend.

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This comment focuses first on O’Flaherty and Sethi’s main contributions. It then turns to a few topics not covered in the paper, mainly related to the potential role that organized crime might have played both within the model and regarding the Newark murder trend. Finally, based on the document’s results and on these topics, the final paragraphs suggest some possibilities for further research.

2 The paper’s contributions

This paper’s main contributions stem from the introduction of “economic complexity” (in Durlauf’s sense) in a model of murder, and from the ensuing comparison of the model’s theoretical, empirical and policy implications with those from more conventional approaches.

The stylized facts that motivate the theoretical model are the Newark’s murder rate trends above the national average, and the increased lethality in the city’s shooting incidents. This model constitutes the first contribution of the paper. While many existing economic approaches to murder use single-actor analysis or incorporate interactions as peer effects, this paper develops a game theoretic setting where two players interact in a shooting incident, and where the level of lethality is endogenous. The key factors in the model are the presence of a preemptive motive for murders, the role played by equilibrium expectations, and the presence of a “social multipliers” effect that implies a higher level of murder with respect to a single-actor model. The game-theoretic setting gives the model a series of interesting characteristics, such as the presence of threshold levels and tipping points in murder and lethality rates, and multiple equilibria and irreversibilities. Communities with large social multipliers and high levels of murder are classified as “war zones”, and the presence of non-linearities implies that even small changes in fundamentals might turn “peaceable kingdoms” into “war zones”.

The second contribution of the paper is the discussion of the existing evidence on murder and its determinants in the light of the model’s implications. The insight is that the standard, single actor approach might lead to non-linearity prediction biases: while current estimates might capture the average effect, they might miss out cases of high “socially multiplied” levels of murder, such as Newark. The paper does not develop its own empirical estimations, but the authors discuss the effect of factors (such as indicators of law enforcement, guns and illicit drugs) on murder rates in

Newark and other cities in New Jersey by extrapolating the elasticities from other relevant studies in the economics of crime literature. They find support for the types of effects they model for New Jersey from the upper and lower bounds implied from existing estimates. Finally, the document also discusses the policy alternatives to reduce murder in a multiple equilibrium setting.

3 Organized crime and the model: from two to many

The plausibility of a “social multiplier” effect in murders provides support for incorporating game-theoretic considerations into the analysis of murder, as O’Flaherty and Sethi do in their model. The “wars” and “kingdoms” in the document title, however, imply the presence of some sort of collective action among the criminals – kingdoms require kings, and wars require armies. The model developed in the paper is akin to the confrontation between two individuals in a state of nature – criminals as wolves for other criminals, rather than knights fighting wars for their kings.

A general comment is that just as the extension from a single actor to two players proved worthwhile, the modeling (or at least the discussion) of the role of organized crime might give the model a more realistic feeling, and might also result in a wider array of predictions.

An extended theoretical model could incorporate issues such as the discipline within criminal organizations as a deterrent for murder (some sort of “Leviathan effect”), or such as competition between organizations (of which “wars” would be a manifestation). Fully incorporating these aspects into the model is certainly demanding, and probably beyond the scope of the paper. Moreover, the paper’s model is probably a good approximation of the one to one interaction between two criminals, be it between two “mob soldiers” or between two “independent wolves”.

The implications of organized crime, however, can still be informally discussed within the paper’s theoretical setting – like the authors did with the brief discussion of a dynamic extension of the model – or better still considered as plausible sources of change for the model’s exogenous parameters. One of the most obvious ways to introduce an element of criminal collective action is through the comparative static exercises. The paper stresses the decline in the effectiveness of the criminal justice system, but the change in a , shifting the cost distribution $F(\gamma, a)$, might originate in the actions of a criminal organization that routinely needs to order

executions (increasing gains), or that lowers the costs of murder (hiring lawyers or enforcing silence codes). Confrontations between gangs for the control of territory , might also shift the cost functions or increase the availability of more lethal weaponry, resulting in temporary “war zones”.

The paper discusses a few aspects of the collective organization of criminals, such as the effect of witness intimidation on arrest and conviction rates, but the confrontations are modeled mostly as a private interaction between two individuals. While this section argued that the theoretical model might gain by discussing organized crime, the most important implications are related to the paper’s interpretations of facts, predictions and policy implications, covered in the following paragraphs.

4 Organized crime as a fundamental: empirical results and policy implications

The paper’s section on “What happened in Newark?” is remarkable by its attempt to reconcile the preemption model with a variety of phenomena for which secondary data is available, such as arrest rates, prison population and drug prices, but also for others with no direct sources of information, such as guns and police figures. HBO original series stereotypes notwithstanding, it is likely that organized crime, or at least its lack of organization, played a role in the increase in murder in Newark and other New Jersey cities. Even if data on criminal organizations is not easy to come by, there might be at least some anecdotal evidence, like the author’s references to the disarray of the Newark police department or to the prosecutor’s office “flagrant reputation for failing to win convictions”.

Besides the brief mention of witness intimidation, which is usually a collective task, the paper mentions other evidence that, at the least, suggest the presence of criminal organizations. For instance, the lower (and falling) levels of illicit drug markup in the prices of illicit drugs signal the presence of reduced competition in South Jersey. Murder might be part of the collateral damage in a process of shake-out and consolidation in illicit drug trade that involves armed confrontations between gangs (just as layoffs and bankruptcies for legal businesses). Such a process could have in impact in some of the relevant parameters of the theoretical model, such as the costs and gains from murder and the availability of lethal weapons.

The inclusion of organized crime in the discussion could give a new interpretation to some of the provided evidence, such as the “gang related” shootings. It could also result in other implications for the model. A tacit agreement where the authorities trade a partial blind eye for peace and quiet in the streets is more likely to arise with a strong leadership within criminals. Organized crime leaders might also have an incentive to curb an outbreak of violence (and thus act as a Leviathan) if the violence’s visibility hurts business, turning war zones into peaceable kingdoms where law enforcing agencies fail. Even the record forty days with no murders in early 2008, a period that should have seen 6 to 11 murders, according to Table 4’s historical rates, might be the result of a truce between warring gangs.

It is still entirely possible that organized crime had no role in the Newark murder and lethality rates. The examples in this section, however, intended to show that the issue could merit some discussion.

5 Further research

The presence of multiple equilibrium and non-linearities in the determinants of murder rates is probably the most important implication of the paper’s game theoretic approach. A possibility for further research is to go beyond the detailed extrapolation of elasticities from other studies to the Newark data, and attempt to test the implications of the model with larger datasets. The identification of multiple equilibrium and social interactions in econometrics is far from obvious, but other implications might be easier to test. For instance, the existing empirical work might be extended by means of quantile regression techniques, providing further evidence on non-linearities in the effects of relevant variables on murder rates and, ultimately, strengthening the case for the paper’s theoretical model.