

The Preferences and Beliefs of Criminals

by

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THIS ABSTRACT AND INTRODUCTION IS FOR THE
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ABSTRACT.

We characterize the risk preferences, time preferences, and subjective beliefs of criminals in Denmark. We undertake incentivized field experiments to estimate these preferences and beliefs, to assess if criminals are different than others in terms of these standard characteristics. We recruit subjects from the Danish Registry on the basis of administrative records of crimes that they have committed and, in some cases, been incarcerated for. We consider span “hot” and “cold” crimes against persons and property, respectively. We also recruit controls from the same source, who have no administrative record of criminal activity. Our evaluation of risk preferences includes non-standard models of behavior, including probability weighting, loss aversion, disappointment aversion, and elation loving. Our evaluation of time preferences includes non-standard models of behavior, including hyperbolic and quasi-hyperbolic discounting. We also consider interactions of risk and time preferences, including correlation aversion towards risks spread over time. Finally, we elicit subjective belief distributions of the published statistics on the probability of detection and incarceration in Denmark for various crimes, as well as the ability to process information consistently with Bayes Rule. These elicited distributions allow us to identify the accuracy and precision of the beliefs of criminals, and their ability to update beliefs consistently. We also control for a wide range of demographic, background and socioeconomic variables collected by the Danish Registry, allowing us to better characterize heterogeneity across individuals. Our use of non-standard models of risk and time preferences, and our evaluation of the beliefs of criminals, allows us to quantify a sense in which the “rational criminal” model might apply in Denmark.

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Table of Contents

1. Theoretical Framework	-3-
A. Atemporal Risk Attitudes	-3-
B. Time Preferences	-6-
C. Intertemporal Risk Preferences	-9-
D. Subjective Beliefs	-12-
E. Self-Control	-16-
2. Data	-17-
A. The Danish Registry	-17-
B. Experiments	-19-
3. Results	-22-
A. Overview of the Registry Data	-22-
B. Self-Control Covariates in the Registry Data	-24-
4. Conclusions	-27-
References	-32-
Appendix A: Sample Frame for Experiments	-A1-
A. Defining a Household	-A1-
B. Defining a Criminal	-A2-
C. Defining Controls for Households and Criminals	-A2-
D. Allocation to Sampling Frames	-A2-
E. Allocation to Treatment	-A3-
F. Allocation to Session	-A3-
G. Sample Recruitment Letters	-A5-
Appendix B: Crime Code Definitions	-A9-
A. Translations of Danish Criminal Codes	-A9-
B. Conversion to FBI Criminal Codes	-A11-
Appendix C: Experimental Parameters	-A22-
A. Atemporal Risk Aversion Choice Tasks	-A22-
B. Time Preference Choice Tasks	-A23-
C. Intertemporal Risk Aversion Choice Tasks	-A23-
D. Subjective Belief Questions	-A23-
E. Survey Questionnaire	-A25-
Appendix D: Detailed Econometric Estimates	-A26-

The economic model of criminal behavior provides a rich framework for positive and normative analysis if one does not restrict it *a priori* to extreme caricatures of “rational man.” In general terms it has three major “behavioral moving parts” at work: risk preferences, time preferences, and subjective beliefs. Of course there are also constraints, such as technology and endowments, but many of these can also be choice variables over time. We undertake incentivized field experiments to estimate these preferences and beliefs, to assess if criminals are different than others in terms of these standard characteristics. We recruit subjects from the Danish Registry on the basis of administrative records of crimes that they have committed and, in some cases, been incarcerated for. We consider “hot” and “cold” crimes against persons and property, respectively. With very few exceptions, we consider all crimes.¹ We also sample controls, who have no administrative record of criminal activity, from the same population.

There are four methodological contributions. The first is to consider a wide range of non-standard models of risk and time preferences. For all the wrong reasons, the popularity of “behavioral economics” has re-generated interest among criminologists and sociologists in the economic model of crime. They had casually dismissed the standard economic model as being exclusively normative or descriptively false by requiring *a priori* laughable assumption of rationality and foresight.² When behavioral economists came along and claimed to share that view of standard theory, and often descriptive alternatives, the extended economic model becomes more attractive. Although we reject the premiss of these doctrinal judgments as simply uninformed, we certainly accept the value of rigorously considering a wider range of economic models of risk and time preferences.³ We state and structurally estimate these models of risk and time preferences at the level

¹ We exclude traffic violations, although we retain drinking under the influence of alcohol. This is a large fraction of crimes in Denmark, just over 51% of all crimes in 2012. We exclude homicide and attempted homicide, in the interests of those running our experiments. There were only 167 of these in 2012, out of 207,056 convictions.

² For instance, Lattimore and Witte [1986].

³ Becker [1968; p.176] defined the economic approach to crime perfectly: “The approach taken here follows the economists’ usual analysis of choice and assumes that a person commits an offense if the expected utility to him exceeds the utility he could get by using his time and other resources at other activities. Some persons become ‘criminals,’ therefore, not because their benefits and costs differ. I cannot pause to discuss

of the individual.⁴

The second methodological contribution is to take seriously the “general theory of crime” proposed by Gottfredson and Hirschi [1990] from sociology and criminology. Often referred to as a “self-control” theory of crime, it is strikingly similar to the economic model of crime, properly stated to avoid the straw-men referred to above. In effect the concept of control here is what economists would recognize as the interaction of high discount *rates*, discounting *functions* that can easily lead to dynamically inconsistent choice, low risk aversion or even risk-loving preferences, probability “optimism” in evaluating risky alternatives, and interactions of risk and time preferences that favor “all or nothing” preferences in terms of income streams.

The third methodological contribution is to apply these ideas to an extraordinary database in Denmark, where we have access to administrative records of all criminal convictions, along with a wide range of administrative data on these criminals. We are able to correlate criminal convictions with economic, social and demographic characteristics of the criminal and their family members. We are able to examine historical data on these criminals, well before they were identified by the Danish authorities as having engaged in criminal activity.

Finally, we are able to augment these pre-existing administrative data with observations on carefully designed choice tasks that allow us to test if the preferences and beliefs of convicted criminals differ from those of others. We recruit subjects from the administrative records based on criminal convictions, conduct artefactual field experiments with them, and estimate their preferences.

Our evaluation of risk preferences includes non-standard models of behavior, including

the many general implications of this approach, except to remark that criminal behavior becomes part of the much more general theory and does not require ad hoc concepts of differential association, anomie, and the like, nor does it assume perfect knowledge, lightning-fast calculation, or any of the other caricatures of economic theory.” These days, the last comments might also be directed at most behavioral economists.

⁴ The expression “structural” does not imply that we jointly estimate one large model of everything we are interested in. Instead, it means that we write down and estimate the structural parameters of models of risk preferences and time preferences. Heckman [2010] takes aim squarely at the false dichotomy popular now between atheoretical empirical modeling and “all-in” structural modeling.

probability weighting, loss aversion, disappointment aversion, and elation loving. Our evaluation of time preferences includes non-standard models of behavior, including hyperbolic and quasi-hyperbolic discounting. We also consider interactions of risk and time preferences, including correlation aversion towards risks spread over time. Finally, we elicit subjective belief distributions of the published statistics on the probability of detection and incarceration in Denmark for various crimes, as well as the ability to process information consistently with Bayes Rule. These elicited distributions allow us to identify the accuracy and precision of the beliefs of criminals, and their ability to update beliefs consistently. We also control for a wide range of demographic, background and socioeconomic variables collected by the Danish Registry, allowing us to better characterize heterogeneity across individuals. Our use of non-standard models of risk and time preferences, and our evaluation of the beliefs of criminals, allows us to quantify a sense in which the “rational criminal” model might apply in Denmark.