Notes: these are not a substitute for reading!

Robert Cooter and Thomas Ulen, <u>Law and Economics</u>, 3rd edition (Addison Wesley Longman: 2000): 427-454.

Chapter 11: An economic theory of crime and punishment

As we have seen crime has been an important part of 20th and now 21st century life.
Although we may disagree with how it is measured, it is patently clear that crime is an important problem costing billions of dollars annually. This appears to be true for every substantial country for which we have data and is likely true for most others as well.

One important set of questions that social scientists have asked for some time is:
- "Why should crime be punished? And as a natural corollary,
- "To what extent should crime be punished?"
These questions will be the organizing principles of much of the rest of the course.

Although there are many ways to organize approaches to crime and two natural approaches are those that stress history and those that stress theory. Both are attractive in their fashions.

- One way to view the theory of crime is as an historical evolution of the common law. From this perspective we ask less about the optimality, appropriate policy and the consequences, but focus on the rationales that appear to characterize the evolution of law in its historical context.

- In contrast, a second approach is that associated with social science theory and economic theory in particular. From this perspective, theories of crime must predict the impact of alternative theories. For example, theory should be able to answer whether punishment should be swift, severe and certain, or whether punishment simply victimizes particular groups. It should be able to suggest answers to fundamental questions that bedevil society: For example, when crime rates rise, should punishments be increased or decreased? Of course the

requirements of this kind of theory are far more stringent than those associated with a description of the evolution of the law.

Of necessity our approach will blend a little of both approaches although there is no doubt which approach we will stress. As economists we are interested in theories that provide testable implications that can be rejected if not particularly useful.[1]

1. The traditional theory of criminal law in England

arose as part of common law. Gradually, criminal law was codified separately from civil law. Distinguishing between the two types of law were these elements:

   a. The criminal intended to do wrong. This is to be distinguished from some civil acts that are accidental.
   b. The harm done was "public harm" as well a private harm.
   c. The plaintiff is the state, not the private individual.
   d. The plaintiff has a higher standard of proof in a criminal trial than in a civil trial.
   e. If the defendant is guilty, then he or she will be punished by the state.

Moral theory such as retributivism suggests that criminal policy should do what is right so that guilty people should be punished and innocent people should not be punished. The extent of the punishment should be proportional to the crime. Disproportionate punishment is wrong. This theory has relatively few testable implications although it is often identified as the reason the law has evolved in the way that it has.

In contrast economic theory suggests maximizing "social welfare": i.e., a criminal act is that which will increase social welfare if prevented. This approach is developed in section 2 below.

Rather than debate the two, we may ask what is the predictive content of the two approaches and show that the moral theory gives the wrong answer!

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[1] Students should be familiar with this approach to economic theory. Although long a staple of debates about the nature of science, economists are most familiar with Milton Friedman (1952) or see Gary S. Becker, "Nobel Lecture: The Economic Way of Looking at Behavior" Journal of Political Economy 101(3) (June 1993): 385-409. Becker's discussion 389-92 is particularly relevant.

A. Criminal Intent

Carelessness is not the same as criminal

Even a careful person can impose modest risk, but carelessness and negligence imposes excessive risk and must compensate those they harm. If you intentionally impose excessive risk, you may be negligent or reckless and pay punitive damages in addition to compensatory costs.

Beyond damages are intentional acts. Tort law concerns accidental harm and criminal law concerns intentional harm.

Mens rea (a guilty mind) is the legal term for intent.

Culpability scale (broad brush as there are many more fine distinctions in law)

0 --- careful (and blameless)
|| legal standard of precaution
1 ---negligent (fault)
2 ---reckless (fault)
|| line separating civil wrongs from criminal wrongs
3 ---intentional (guilt)
4 ---cruel (guilt)

B. Public Harm and Public Prosecution

There are three kinds of law: property, contract and torts in addition to criminal law. Most of this kind of law is private. Criminal acts threaten the peace and security of the realm and put others at fear for their personal security.

Crime harms the public. This implies several things:
- In civil actions it is one individual against another. In criminal actions, the plaintiff is society at large represented by the public prosecutor.
- Crimes that harm the public may be "victimless crimes" – sales of illegal drugs that both parties readily consent (prostitution, gambling) – still may have a "victim", the order and good government of society whose peace and security requires no sales.

- Public harm also punishes the *attempt* to do bad acts rather than look only at the actual harm that has been done.

C. Standard of Proof

Need a higher standard of proof imposed on the plaintiff (the prosecutor) than in civil cases: beyond reasonable doubt rather than preponderance of the evidence. (unproven)
- Traditionally, convicting an innocent is considered worse than failing to convict the guilty. (Type II and Type I error.)

Type I error: reject the true null.
Type II error: accept the false null. (fail to reject)

Statistical Decision	True state of the Null Hypothesis	
	H_0 is True	H_0 is False
Reject H_0	Type I Error	Correct Decision
Do not reject H_0	Correct Decision	Type II Error

The H_0=The Accused is Innocent

Statistical Decision	True state of the Null Hypothesis:	
	(innocent)	(guilty)
Reject H_0	Type I Error: convict	Correct Decision:
Do not reject H_0 (Accept)	Correct Decision: acquit	Type II Error

Type I: $P(C|H_0)=P(\text{test rejects } H_0|H_0)$
Type II: $P(C^c|H_1)=P(\text{test accepts } H_0|H_1)$

- The prosecution has the resources of the state that may be larger and more elastic than those available to private citizens.

Not always this way. In civil law countries the accused are guilty in principle until they prove their innocence. Presumption of guilt is consistent with belief that the prosecutor will not bring a case without cause so that the defendant must show that he is not culpable.

D. Punishment

Punishment may take several forms: imprisonment, probation, fines, execution or mutilation in some jurisdictions.
In civil law compensation is to restore the damage done to the victim at the expense of the person who did the damage. In criminal law the purpose is different: it is to make the injurer worse off with no corresponding benefit to the victim. Consequently punishment may be followed by action in tort – so that the victim can obtain compensation. Punishment may also be imposed in lieu of compensation: e.g. when the state imposes a sentence on a pauper who assaults someone because no compensation from the perpetrator is possible for the injured party.

Punishment

Perfect compensation is the sum that leaves the victim indifferent between the injury with compensation or no injury at all.

Perfect disgorgement is the sum that leaves the injurer indifferent between injury with disgorgement or no injury.

Monetary punishment is by definition the sum of money that makes the injurer prefer no injury. If thief breaks window worth $100, and steals $75 radio, then $175 to repay the injury and an extra $100 as a fine: extra disgorging.

Property Law:
Contract Law:
Torts:

2. An Economic Theory of the Crime and Punishment

It is a predictive theory of crime that also distinguishes between civil and criminal acts.

A.   Inadequacy of Tort Law and the Necessity of Criminal Law

Tort law achieves efficiency through incentives by making injurers internalize the costs of accidents. Most crimes are also torts. If civil suits forced the injurer to internalize the cost of his crime, then criminal law would be unnecessary.

- There are limitations on compensation: lose a child, a leg, a sense of fear?
- *Criminal punishment aims to deter intentional harms* – not compensate for them. How much would you take to let someone hit you with a hammer? Not a very likely question to get a polite answer. Rather than pricing crime, the goal is to deter it. Consequently criminal law is a supplement to tort law when perfect compensation is not possible.
- Even though perfect compensation may be possible, it may not be practical. Preference revelation may be too hard to obtain. Lop off an arm and what will you take for it *ex post facto*?
- Can private law do the trick even if can have perfect compensation? No. Distinguish in property law between the protection of an interest and the protection of a right.
  - If the law lets a trespasser recompense you for a trespass on your property for any harm done, this is protection of your interest in the property as the owner. It will not in this case protect your right to use the property as you wish without interference from others.
  - Similarly if the victims of auto accidents were perfectly compensated, their interests would be protected but not their right to go about without interference from others. Protecting interest secures wealth, but allowing rights infringement diminishes liberty.
  - Voluntary exchange ensures that those that value them the most get them. Theft does not so guarantee this since the thief does not pay the asking price. This suggests that the remedies in criminal law should be set to encourage voluntary exchange through markets.
  - Two obstacles to prevent substituting compensation for punishment:
    - May be impossible
    - Law may seek to protect rights rather than interests.
    - Also may want deterrence

- A thief may want to steal $1000 but if the probability of getting caught and convicted is 0.5 but were he only liable in property law, then he would make $0.5*1000+(1-0.5)*0>>0$! The net expected benefit to the thief is $500 without some threat of punishment. Civil liability without punishment makes theft profitable.
- Thieves cannot be deterred by simply having to return what they have stolen.
  - Tort Law tries to internalize costs such as the risk of accidents. Once they do so then people can do what they like so long as they are ready to pay for their actions. Deterrence is set so as to make the actions less likely.
  - Psychology matters for sanction when one seeks deterrence. A more severe punishment is associated with a greater psychological commitment to the act. The more deliberate, the greater the sanction.
  - Psychology does not matter in the goal of internalization. The compensation is what it is for the act regardless of state of mind.
  - Consequently at trial, the defendant's state of mind is very important. The greater the threat to reoffend, calculation of the act, the greater the punishment. In tort or contract law where compensation is very good, the court pays less attention to the state of mind.

What acts should be punished? Act should be punished when the aim is deterrence while acts should be priced when the aim is internalization. IF perfect compensation is impossible in principle or in fact, then aim for deterrence. Similarly want law to protect rights instead of their interests, or when enforcement undermines liability. Criminal law is about deterrence. <Incapacitation?>

B. Rational Crime

Part A explained some economic reasoning about why we need criminal law to supplement tort law.

Now develop a predictive theory of criminal behaviour with rational model of crime. Plot seriousness of offence against severity of *punishment if convicted*, both measured in monetary terms. Let the crime be embezzlement so that the 45-degree line be the reference for perfect disgorgement. Let actual punishment be plotted in the figure. It is above the 45 and starts against the vertical axis. As the offence gets more serious, the actual punishment should rise more than proportionally so it is the right arm of U-shaped.

We assume that the rational embezzler calculated the cost-benefit of his actions. If the fine for embezzling $1000 is $2000, and the probability of being caught and convicted is 0.75, then the expected punishment is 0.75*2,000=$1,500. We can draw a second curve everywhere below the first marked "*expected" punishment*. The first curve is punishment if convicted.

If the expected punishment curve dips below the 45-degree, then it marks the seriousness of the crime that will "pay" for the embezzler to embezzle. When the vertical distance is maximized, that this the level of seriousness of crime , x* and the severity of punishment, s.

C.   The Mathematics of Rational Crime

Let x be the seriousness of the crime (in $), Let y be the payoff (in $). Assume that: $y=y(x)$ $y'>0$. Let f be the fine. Further, $f=f(x)$, $f'>0$. The probability of being punished is $p=p(x)$, $(p'>0)$ so that the expect probability of being punished for a crime of seriousness, x, is $p(x)f(x)$. The rational criminal chooses the seriousness of the crime to maximize the net payoff:

Max [y(x) – p(x)f(x)], by choosing x.

The marginal values are:

y'-p'f(x)-p(x)f'=0

Or alternately, the criminal's marginal benefit from choosing a more serious act, dx,

y'= p'f(x)+p(x)f'

is equal to the marginal expected value of the penalty (punishment).

What are the implications of this formulation? If p or f increases, then x will fall as will y. Similarly, a fall in y (marginal benefit) will cause x (seriousness) to fall. With a tweak, x can also be interpreted as number rather than the 'quality' or seriousness of crime.

This is all a part of the first law of demand: increase the price and the quantity demanded falls.

Issues ignored include information – the crook knows the costs and benefits and probabilities; the criminal is risk neutral; some people have a 'taste' to be honest relative to others.

D. Criminal Behaviour and Criminal Intent

Although economists are satisfied with an "act as if" their economic actors follow the dictates of marginal equilibrium, in law, crime generally requires criminal intent. Economists are satisfied that a) people act as if they follow the dictates of marginal analysis; b) behavior is alone the answer to whether enough act in ways consistent with the framework to be useful. This is the criterion for a theory: it is useful (or not.)

E. Criminal Behaviour and Criminal Intent

Crime imposes costs on society. Criminals gain and victims suffer both to their persons or property. This leads to a net loss even including the transfer as a transfer since the criminal will value the gains less than the victim – recall the window, the radio and the fence. Second, victims spend money to avoid being victimized: locks, police, and security devices. *A simple goal for the criminal law is to minimize the social cost of crime by equating the sum of the cost of the harm to the cost of preventing it.*

More complexity refines the notion of social costs. Criminal activities can be diverted from illegal to legal – the opportunity cost of illegal activities. Time in prison is foregone real production. Sometimes these issues are not entirely clear an embody subtleties and complexities: Michael Milkin; regulations on agricultural production, etc.