On Interdisciplinary Approach to Law and Economics

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Introduction

In recent decades we can observe growing interdisciplinary approach in social sciences, both with respect to methodology and research subject. This trend is probably most visible in economics, where new disciplines are developing dynamically, among them: behavioral economics or psychology and economics, economic sociology, law and economics etc. This is not a surprise if one takes into account that all social sciences have the same subject of study: human behavior in different environments. Moreover, the urgency of interdisciplinary approach stems from the needs of contemporary social policy, which deals which issues that lie at intersection of the social sciences, including crime, corruption, tax compliance, social inequality, poverty and discrimination.

In this seminar I would like to present some recent results in two interdisciplinary areas, which form a part of law and economics. The first is behavioral law and economics, which combines psychological, legal and economic approaches to analyze human behavior in legal environment and formulate policy prescriptions. This area is already well established, moreover it was recently subject of two presentations in this seminar, therefore, I constrain myself to present some interesting research questions and hypotheses, which should be a subject of further studies.

The second interdisciplinary area lies at intersection of economics, legal studies and sociology. The subject of study is the relation between social norms and law. It was initiated by Posner (Posner (1997), Posner (2000)) and Cooter (1998) at the end of the nineties, and then one could observe very few studies in this area. Only in recent years some important experimental and theoretical contributions emerged, we are going to present them in this seminar.

Behavioral Law and Economics

Since the foundations of behavioral law and economics were already presented in this seminar, I will constrain myself to present some interesting theories and formulate research questions and hypotheses, which should be subject of further study.

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Hindsight bias and Hand Rule

Hindsight bias means that once some event happened, people have trouble assessing what its likelihood was before the event. Specifically, they overestimate what the ex-ante probability was, once they know that the thing did in fact happen. There are many examples of hindsight bias. People tend to believe that one year before the last American presidential election (i.e., in 2007), the odds that Barack Obama would be elected were quite high. Since it happened, it seems very likely, but in November 2007 betting agencies evaluated Obama as about 7% likely to win.

Hindsight bias has more dramatic consequences in medicine. For example the radiologist Leonard Berlin (2003) claims that in hindsight as many as 90% of lung cancers and 70% of breast cancers can be observed on radiographs previously read as normal. This claim is based on empirical studies conducted in prestigious US medical institutions (Madarász (2009)).

Hindsight bias has important implications in law, especially in tort law. One of the basic rules in tort law is Hand rule or Hand formula. This is a rule introduced by Judge Learned Hand which describes a process for determining whether a precaution against an accident should be taken. It says that the owners duty is to implement precaution only if cost of precaution is lower than expected damage from accident (if precaution is not implemented). Formally $C < P \cdot D$ where $C$ is cost of precaution, $D$ is a damage and $P$ probability of accident. Hand rule leads to the efficient outcome, which means that precaution is taken only if it socially desirable to do so.

According to hindsight bias, the court, which uses the Hand rule systematically overestimates the probability of accident. Hence the courts will find negligence more often than they would if they could perfectly assess ex-ante probabilities after the fact. This leads to excessive precaution from social point of view.

How to deal with this problem? There is no clear answer. In their seminal paper Jolls et al. (1998) suggest two solutions: keep the courts unknowledgeable about whether accident actually happened, raise the standards of proof of finding negligence. Both of those proposals are not convincing.

So we have here an important problem: how to deal with hindsight bias in court ruling, in order to avoid a systematic error in evaluation?

Illusion of control and specificity of criminal law

Psychological evidence suggests that individuals suffer from an “illusion of control”, overestimating their ability to control risks and therefore distinguishing to a greater degree than is rational between risks that are and are not in their control. In the study related to law and economics, Guttel and Harel (2008) point to studies finding that an individual tends to be willing to bet more on predicting the roll of dice that the individual rolls, than the same dice rolled by others. The same illusion causes individuals to be more willing to bet on the outcome of dice they have not yet rolled than the as-yet-unrevealed outcome of dice they have already rolled. The psychological literature shows this preference can generalized: people “have a strong preference for guesses of future contingencies over guesses of past contingencies,” or as Guttel and Harel put it, they have greater confidence in their predictions.
than their “postdictions.” Guttel and Harel then explore how the illusion of control matters for the optimal specificity of law.

Traditionally legal norms may be divided into rules and standards. Rules are characterized by great specificity, as they define legal outcomes ex ante. Legal standards, on the other hand, are less specific, articulating open-ended tests whose precise content is only revealed ex post.

Suppose now that the agent knows there is a rule or standard but does not know of its exact content. Guessing whether one has violated a rule often involves postdiction because the rule specifies some specific fact that already does or does not exist. For example, the rule against drunk driving specifies a blood alcohol content that one either has or has not reached. Estimating the probability of detection here involves postdicting this specific fact. By contrast, a standard (for example, where “under the influence” means an influence imposing an “unreasonable” risk) may not identify any determinative fact. In this case, estimating whether one has violated a standard may involve predicting how the enforcer will apply the standard (that is, what fact will turn out to be determinative). Therefore Guttel and Harel formulate the following hypothesis, which still has to be tested empirically or/and experimentally: rules have a greater deterrent effect than standards, even if the true probability of being punished is the same.

Prospect Theory and Criminal Law

Prospect theory, created by Kahneman and Twersky (Kahneman and Tversky (1979), Tversky and Kahneman (1991)) has a lot of important implications for law and economics. In particular, Harel and Segal (1999) describe how prospect theory affects the optimal use of uncertainty in criminal punishment. The state would seem to gain the most deterrence by selecting the types of certainty or uncertainty that are most disliked by potential criminals. There are two policy instruments, the magnitude of punishment and the probability of punishment. Regarding the magnitude of punishment prospect theory says that most people are risk-preferring regarding losses, so potential criminals may be risk-preferring regarding criminal sanctions. If so, then they would prefer that the magnitude of sanctions be uncertain, as where the punishment is allowed to vary randomly around some mean. Therefore, holding constant the expected punishment, the state generates more deterrence by making the magnitude of sanctions certain. Harel and Segal observe that this result favors the use of sentencing guidelines that render the magnitude of fines or imprisonment as predictable as possible. This is another hypothesis, which requires empirical and/or experimental testing.

Social Norms and Law

Introduction

The social norm is defined as an informal rule, which is not enforced by the threat of legal sanctions, yet it is regularly complied with. Some norms are sustained by a pure coordination motive. Other norms are enforced, and the sanctions are informal; the violation of norm leads to responses that range from gossip to ostracism, or dishonor for the violator. For this reason the notion of social norm plays a
crucial role in sociological theory, allowing to understand the human behavior within the social group.

Foundations on the relation between law and social norms were laid by Posner (see Posner (1997), Posner (2000)). His initial claim was that a full understanding of law requires consideration of norms since law originates as a set of norms. Even in societies that have strong governments, norms are both a source of law and often a cheap and effective substitute for law — and sometimes they are an antagonist to law.

How the law can combat bad norms? According to Posner

1. Law can combat bad norms by reducing the benefits of compliance.
2. Another way to combat a bad norm is to target the bad-norm entrepreneurs.

Law can be expected to attach a sanction to a violation of a good norm when the private benefits of violation are great or the private costs (whether in loss of advantageous transactions or in guilt) are slight, so that not everyone obeys the norm all the time, and where in addition the violation inflicts substantial social costs. Unless both conditions are satisfied, the benefits of the legal sanction are unlikely to exceed the costs of legal regulation. Thus the law penalizes murder, but not rudeness; and negligent injuries but not (in general) injuries that are the result of a pure accident, even though people feel guilt when they inflict even an unavoidable injury, showing there is a norm, though not in general a law of strict liability for inflicting injury.

In summary, according to Posner, law both complements and substitutes for norms.

**Theories of Social Norms**

There is no prevailing model of social norms in the literature, we will now briefly present some important theories.

There is long tradition in social theory (see e.g., Binmore (2005), Bicchieri (2006)) to treat social norms as Nash equilibria of non-cooperative games played by rational agents. The insight underlying those contributions is that if agents play a game with several Nash equilibria, a social norm allows to select one equilibrium; thus social norm acts as a coordinating device. This insight does apply to some social conventions. For example, the norm of driving on the right side of the road is understood as part of the equilibrium in the coordination game where motorists simultaneously choose whether to drive on the right- or left-hand side of the road. Unfortunately this insight does not apply to most social norms, because the Nash equilibrium criterion assumes that agents choose best responses given the strategy of others, hence there is requirement of excessive coordination; this requirement is very difficult to achieve in reality.

In series of articles where social norms are related to law (see e.g., Cooter (1998), Funk (2005), Weibull and Villa (2005), Cooter et al. (2008)), social norms are modelled as a activity with network effect: the more agents follow social norm, the higher benefit for every follower. Those models typically lead to multiple equilibria and it is not clear which equilibrium is a prevalent one.

A new definition of social norm was recently introduced by Herbert Gintis (Gintis (2009), Gintis (2010)). His starting point is a concept of Aumann (1987), who showed that the natural concept of
equilibrium in game theory for rational actors who share common beliefs is not the Nash equilibrium, but the correlated equilibrium. A correlated equilibrium is the Nash equilibrium in the game formed by adding to the original game a new player, whom Gintis calls the choreographer, who collects the probability distribution given by the players (common) beliefs, and then instructs each player what action to take. The actions recommended by the choreographer are all best responses to one another, conditional on their having been simultaneously ordered by the choreographer, so self-regarding players can do no better than following the choreographer’s advice. The requirements for a correlated equilibrium include the existence of common priors, which can be interpreted as induced by cultural system of the society in question. Hence, according to Gintis, a social norm is a correlated equilibrium with beliefs generated by tradition, culture, habits, etc.

**Expressive Law and Norms**

The expressive theory of law in relation to social norms is maybe the most important theoretical concept in this field. It was introduced by Cooter (1998), who started from observation that the imperative theory of law defines legal norm as an obligation backed by incentives. The obligation part of a law consists of the normative content established by that law, or in other words the behavior the law states people should keep. The incentive part of the law is connected with the enforcement mechanism (sanctions, rewards). The agent sees an incentive as an external constraint. Alternatively, the agent can view an obligation as an internal value. When many people in a community internalize an obligation, it becomes a social norm. According to the expressive theory of law, the expression of social values is possibly the most important function of the law.

Cooter builds a simple model in which a system of social norms has multiple equilibria. Law can create a focal point equilibrium by expressing values. A focal point can move the system into a new equilibrium in which more people follow the law, even if the law is not supported by incentives. According to Cooter creating focal points is the first expressive use of law.

The most ambitious and advanced theoretical paper which relates social norms and law is Bénabou and Tirole (2011). They consider a population of heterogenous agents who choose the level of their activity and do care about reputation. Detailed description of the model of Bénabou and Tirole is beyond the scope of this review, we will therefore briefly present their results related to expressive theory of law. The authors introduce respectable activity, which is a social norm followed by everyone but the worst people, such as not abusing one’s spouse and children, therefore those who do not follow suffer great stigma; for this reason the incentive part of law for this type of norms does not work well. The same is true for admirable activity, which is the one only the best do, those are rare heroes, who reap such a social esteem, that additional incentives are unnecessary. Hence, if the state would like to change the attitude towards respectable or admirable activities, it should rather point on obligation than incentive part of legal norm.

On the other hand a modal activity, which is a norm followed by about a half of population, is well responding to incentives.
The theory of Bénabou and Tirole has important policy implications, but still awaits to be tested.

Experimental approach

In recent years the relation between social and legal norms were studied in experiments.

The expressive theory of law was empirically tested by Galbiati and Vertova (2010). They conducted a series of public good game experiments in which obligations were introduced in the form of (non-binding) minimum contributions: “a minimum contribution of X tokens to the public good is required from each individual”. Incentives were implemented as probabilistic punishments for contributions below the minimum and probabilistic rewards for contributions above the minimum. The incentive schemes were non-binding too: non contributing to the public good remained the dominant strategy for payoff-maximizers.

The results of the experiments are as follows.

1. The introduction of an obligation in absence of incentives leads to an increase in the provision of the public good. This means that the introduction of a law, even if not enforced, positively affects people’s propensity to cooperate (reinforces social norm).

2. Instead, the introduction of incentives without an obligation does not significantly affect contributions. This result is consistent with the fact that incentives are non-binding.

3. When obligations and incentives are combined, cooperation is strongly reinforced: the joint effect of incentives and obligations on contributions is significantly more positive than the impact of obligations alone. This means that obligations and incentives are complements, jointly supporting high levels of contributions.

The last result is particularly relevant since in reality one can observe a widespread use of non-binding incentives, i.e. weak incentives that cannot induce desired strategies as dominant. Another important pattern emerging from experimental results is that obligations and non-binding incentives are complements that crucially sustain each other to make laws work.

In similar paper Kube and Traxler (2010) try to answer the following questions: how does formal law enforcement affect the informal enforcement of norms? Are these two enforcement institutions substitutes or complements, i.e., do centralized legal sanctions crowd out or crowd in decentralized social sanctions?

The authors conduct a laboratory experiment in which subjects in groups of four play a one-shot public-goods game. The baseline treatment (Base) captures a situation in which only social sanctioning is possible while legal sanctions are absent. Players observe each others’ contributions to the public good and can assign costly punishment points which reduce the payoff of the punished player. In addition to social sanctions, the second treatment (Law) introduces legal sanctions in the form of non-binding incentives. More specifically, players are randomly monitored after their contribution and sanctioning decisions. A player who is detected contributing less than the social optimum is fined by a central punishment authority – independently of any social sanctions incurred. Comparing subjects’
sanctioning behavior between the two treatments allows to analyze the impact of centralized sanctions on social norm enforcement.

The results are the following: the pattern of social norm enforcement is prevalent in both treatments. In the Law treatment, however, social sanctioning is significantly less intense: the presence of legal sanctions partially crowds out the social norm enforcement. The decline in sanctions is particularly pronounced when the difference between the punisher’s and punishee’s contribution is large. Moreover, actual contributions are higher in the Law treatment. Hence, the presence of legal sanctions reduces individuals’ sanctioning behavior. Legal norm enforcement replaces rather than reinforces social norm enforcement. The combination of legal and social sanctions thus produces more pro-social behavior than the social enforcement on its own.

In another paper Feldman and Harel (2008) test empirically how the impact of social norms on the willingness to obey the law depends on the specificity of legal norms. They divide social norms into compliance and noncompliance norms. Compliance social norms are those that dictate behavior in conformity with the law (such as when most people believe stealing or murder is wrong and hence would obey the law). Conversely, noncompliance social norms are those that conflict with the legal norms (such as when most people believe that tax avoidance or file sharing are not morally wrong - or are even morally desirable - and hence would disobey the law).

In the experiment participants had to fill the questionnaire in which they were asked to indicate their willingness to use trade secrets of their previous employer. Four different versions of the questionnaire were distributed, including compliance social norms, noncompliance social norms, legal rules, and legal standards.

Main results of the experiment are as follows:

1. In cases of conflict between social norms and legal norms (i.e., in the case of noncompliance social norms):
   
   (a) the more rule-like the legal norms are, the more resilient they are to the effect of social norms.
   
   (b) Legal standards are ineffective.

   In other words: when people lack clear legal guidance, they turn to social norms; when the law is clear, the effects of social norms are relatively minor.

2. When there is no conflict between social norms and legal norms (i.e., in cases of compliance social norms), legal rules and legal standards are equally effective.

To conclude: noncompliance social norms are much more potent in guiding human behavior than compliance social norms.

**Empirical approach**

The empirical studies of the relations between norms and law are yet to emerge. To my best knowledge there exists only one study by Buonanno et al. (2008). Their initial claim, based on simple theoretical
model, is that social sanctions are better able to enforce honesty where social interaction density is higher. Building on this claim the authors exploit detailed demographic and geo-morphological information to develop an exogenous and reliable measure of small and isolated communities, characterized by denser social interaction, and then use it as a proxy for the strength of social sanction.

The panel dataset comprised annual observations at the provincial level for the 103 Italian provinces over the period from 1996 to 2003. Since this dataset does not contain direct information on social sanction, the authors use several proxies for social interaction and density taken from demographic and geo-morphological information for each province:

1. the proportion of population living in towns with less than 2,000 inhabitants,
2. the proportion living in cities with more than 250,000 inhabitants,
3. the overall population density,
4. the fraction of territory constituted by mountains.

Controlling for standard determinants of crime and for spatial correlation, they find that introduced measures for social interaction and density have a substantial and significant negative effect on property crime rates, but not on violent crimes. The authors interpret this as an indication that social sanction is important for property but not for violent crime. This is an interesting empirical attempt, but not fully convincing because of the problems connected with causality and self selection.

References


