## **Executive Summary**

One of the ways by which the legal system has responded to different sets of problems, specifically to acts of negligence that have resulted in large disastrous consequences to society, due to the changing physical, economic, and institutional relationships, is the blurring of the traditional scope and boundaries of criminal law, especially with respect to tort. The blurring of the criminal law's boundaries refers to the trend observed in criminal law which now shares properties that were traditionally exclusive to it, both procedural and substantive. This includes the criminalization of acts that were formerly merely tortious or governed by regulation or administrative law (Bowles, Faure and Garoupa, 2008; Luna 2005; Svatikova, 2011); the use of civil procedures to pursue the objectives of criminal law; the relaxation of mens rea in criminal law as seen in the case of corporate crime; and, in common law countries, the use of punitive sanctions outside criminal law (Mann, 1992).

A debate exists in the legal as well as in the law and economics community regarding the desirability of this trend. While some think that the trend is advantageous to the society since it allows more flexibility in the legal system, enabling it to cope with fast-paced changes or with new problems in society, others believe that there is some value in preserving the traditional boundaries of crime (See for instance Cheh; Coffee, 1991, 1992; Cooter, 1999; Kadish, 1963; Koenig, 1988; Luna; Mann, 1992). That is, acts that should be criminalized should only be limited to those that unequivocally exhibit the elements of wrongfulness, harmfulness and intent or culpability.

One of the consequences of the increasing criminalization is the growing reliance on the criminal justice system, a costly form of regulating behavior that includes the maintenance of the penal system and involves imposing harsh punishment on the individual. Although the enforcement costs are high, this should also be weighed against the corresponding societal benefits – that may include the prevention of environmental or financial disasters. If however, the same acts may be deterred and prevented from occurring, using an institutional technology that is less costly to administer than criminal law, such as tort or administrative law, then society should prefer the latter set of tools.

This study aims to contribute to this literature by determining the circumstances in which the criminalization of an act leads to the improvement of society's welfare. The issue is narrowed down by considering two distinct sanctions that under certain circumstances may be imposed under criminal law, incarceration and social stigma. The study uses the tools provided by law and economics where the normative criteria rests on social welfare maximization. In order to gain a better understanding of how social stigma arises in criminal law and how social stigma and incarceration affect individual behavior, a theoretical model is provided. The process of social abstraction associated with model building allows us to identify the channel by which the sanction actually affects individual behavior. The identification of these channels can serve later as a guide for policy.

## Incarceration

In analyzing how incarceration affects the incentive to an individual to violate a legal standard, we considered the crucial role of time constraint. This aspect has not been fully explored in the literature on law and economics, especially with respect to the analysis of the benefits of imposing either a fine or a prison term. We observed that that when individuals are heterogeneous with respect to wealth and wage income, and when the level of activity can be considered a normal good, only the middle wage and middle income groups can be adequately deterred by a fixed fines alone regime. The existing literature only considers the case of the very poor, deemed as judgment proof.

One way to address the issue of wage and income heterogeneity that necessitates the imposition of a jail term is to consder the imposition of discriminatory fines, similar to the day fine system that exists in Germany and other Northern European countries. In this case, the legal system can rely on tort law alone to address deterrence issues. Aside from this, day fines may also be seriously considered as part of the intermediate or alternative sanctions in criminal law which help avoiding imprisonment. Converserly, if discriminatory monetary sanctions cannot be imposed by the social planner, a jail term may also be imposed. In this case, the legal system may take advantage of incarceration which is a sanction under the ambit of criminal law.

However, we have shown that one of the channels that leads to the deterrence effect observed with incarceration is the restriction of the individual's use of time, an endowment which is the same for all individuals. Imprisonment in this case, can be perceived as a case of full incapacitation where the inividual's total time use is restricted. However, this is a costly way to deprive individuals of their time, from the point of view of enforcement agencies and from the point of view of the individual, as evinced by the huge amount spent annually in maintaining the penal system and the huge losses due to the destruction of human capital in prison. There are other forms of sanctions that are less costly and that can achieve a similar deterrent effect. An example of this is the driving penalty point system, where the individual's time allocation is simply restricted as opposed to the total deprivation of time experienced in incarceration. Among other forms of incapacitating sanctions are electronic monitoring, probation, and community service.

Another important policy implication is that in choosing between a fine or imprisonment, the distribution of wage and income in society should be taken into consideration. In cases where both a fine and a jail term are imposed, the sanction actually becomes nonlinear from the point of view of the individual. Fines should be set equivalent to marginal harm. In order to extract the surplus, imprisonment should be imposed but the jail term should be very short. We have to emphasize, however, that our analysis of fines and jail term as nonlinear pricing devices only applies to the category of efficient crimes, which are crimes that are seen to bring immediate benefits to the offender. Hence, the activity is being priced and not being prohibited.

## Social stigma

According to traditional legal theory, the reason why criminal law is obeyed is not mainly due to the monetary sanctions but mostly due to the stigma arising from the community's moral condemnation that accompanies conviction or merely a suspicion.

Criminal law, apart from deterrence, plays an important role in society. It has an educative and socializing function. If this is disregarded, criminal law would be treated as an institution that merely prices and sanctions behavior and would serve to dilute the cited functions of criminal law.

However, it is not sufficiently clear whether social stigma always accompanies a criminal conviction or when one is merely suspected of it. We attempted to address this issue by exploring and identifying the circumstances in which a criminal conviction carries an additional social stigma. By developing an economic model, we can better understand the dynamic process that goes beyond a tautological definition of stigma.

We first identified the issues that make it difficult to study social stigma from a law and economics perspective. The first concerns the metric by which social stigma is imposed, where we claim that the sanction is not necessarily based on the harm caused but on how far the individual deviated from the average expected behavior of individuals, also known as social norms; and how far his attributes deviated from the average traits possessed by the rest of the society. These two averages are determined by a social process and depend on the social context. The second issue involves the nature of the institutions imposing the sanction. Unlike the court, which is a specialized institution tasked with discovering and assigning blame, the rest of society is comprised of a loose group of individuals who lack the time and specialized knowledge and skills to do what the court does. Hence, the rest of society relies on heuristics to simplify the complicated tasks associated with imposing the sanction.

Social stigma is seen to accompany a conviction under the following conditions: first, when the law coincides with society's social norms; and second, when the prohibited act provides information on an unobservable attribute or trait of an individual --crucial in establishing or maintaining social relationships beyond mere economic relationships.

In the model, social stigma arises as a result of a separating equilibrium. This happens when the expectations of the community concerning the type of individuals committing a criminal act is fulfilled through the individual's action. A hidden attribute important in establishing social relationships is revealed with the commission of an act which becomes the basis for the imposition of the stigma. Hence, it is important that the act is informative of the person's type. The substantive issues of criminal law that limit its scope to wrongness, harmfulness and culpability ensure this.

In this respect, criminal law serves as an institution that facilitates cognitive efficiency in the process of imposing the social sanction to the extent that the rest of society is boundedly rational and uses judgment heuristics. The rest of society must simplify the complicated and time-consuming task of assigning blame and culpability and determining how far the individual deviated from the average trait or expected behavior of individuals. We think that this should be underscored since the degree of individual culpability is now difficult to ascertain amid complex economic relationships and the complications posed by the technological infrastructure of globalization. Criminal law, in this case, serves as a medium to communicate the degree of seriousness of a violation.

Thus, even if the social planner does not impose the social sanction directly, the impact of social stigma can still be influenced by the probability of conviction and the level of the monetary fine imposed as well as by the varying degree of correlation between the legal standard violated and the social traits or attributes of the individual. The first two look at the complementarity and substitutability of the probability of detection and monetary fines when social stigma is present or considered. The last relies on the crucial role of information provided by criminal law as an instrument of cognitive efficiency.

Paradoxically, using criminal law in order to invoke stigma for the violation of a legal standard may also serve to undermine its strength. This is because newly criminalized acts add to the brimming pool of acts considered criminal. Hence, when such criminalized acts are deemed to be merely trivial offenses, the determination of acts considered criminal fails to effectively reflect the intrinsic cost of committing a crime, which is crucial in establishing and maintaining social relationships.

To sum, the results of our analysis reveal that the scope of criminal law is narrow both for the purposes of deterrence and cognitive efficiency. While there are certain conditions where the enforcement of criminal law may lead to an increase in social welfare, particularly with respect to incarceration and stigma, we have also identified the channels through which they could affect behavior. Since such mechanisms can be replicated in less costly ways, society should first try or seek to employ these legal institutions before turning to criminal law as a last resort.