

LECTURE NOTES  
THE ECONOMIC ANALYSIS OF LAW  
ECONOMICS (41-330)

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**DISCLAIMER:** These lecture notes are being made available for the convenience of students enrolled in 41-330, Fall 2007. These notes will undergo many subsequent revisions. In their current form they are essentially unedited. Any comments, criticisms or suggestions are welcomed. Return to the home page for information on contacting the author. These notes follow the general outline and, to a lesser extent, the content of Law and Economics 3rd ed., Cooter, Robert and Thomas Ulen, Addison Wesley, New York 2000. NOTE: In what follows, text depicted in small type represents a reminder to the author and should be ignored by the reader.

**PART A - I  
INTRODUCTION**

**I. Introduction to Law and Economics**

**Introduction**

**1. Historical versus modern interaction of law and economics**

Historically law (courts, policy makers, regulators) used economics to answer specific questions in areas such as anticombiners (or antitrust in the United States), regulation of industries, tax, trade law, determination of monetary damages, etc.

Questions such as:

What is the defendant's share of the market and how will the merger affect competition?

What impact will price controls have on the availability of rental units?

How many truck/bus/rail/air licences can be granted while ensuring some target level of profits in the industry?

What is the appropriate price for telephone or cable service in a given area?  
 Who will bear the burden of the GST?  
 What loss did a person suffer as the result of an unsafe product or an automobile accident?  
 How much profit did a firm lose due to an infringement on its patent?

More recently (1960's and 1970's) the contribution of economic analysis to the study of law has focussed on broader questions concerning the social desirability of existing laws and legal procedures, and possible revisions in laws and legal procedures that might lead to improved social outcomes. Economics began to delve into issues in the areas of property, contracts, torts, criminal law and legal procedure and constitutional law.

Questions such as:

Will the private ownership of discoveries in the field of biotechnology encourage their further development and efficient use?

What remedies for breach of contract will cause efficient reliance upon promises?

What product liability remedies will ensure that firms take the optimum amount of risks?

Do bankruptcy laws ensure that firms and individuals take the appropriate amount of financial risk?

Will harsher punishment (or speedier judgements) deter violent crimes?

How will the federal/provincial division of powers affect economic development in Canada?

Broader questions such as the above do not generally concern the outcome of a given case (a given plaintiff and a given defendant) but rather the impact of a particular law, decision or procedure on society as a whole. Rather than providing specific pieces of technical information to be used in deciding a given application of existing law, modern economic analysis of law attempts to assess the impact of the law on the behaviour of individuals and the resulting impact on society as a whole.

Institution --> Behaviour --> Outcome

## 2. What is the economic analysis of law?

Lawmakers and judges often ask, "How will a given sanction affect behaviour?" and "What impact does such behaviour have on the general well-being of society?" ie. punitive damages and product safety. Traditionally such questions were answered with intuition and a more or less casual look at the 'facts'.

In many such situations, economic theory and economic statistics/econometrics can provide a more

'scientific' answer. To economists, sanctions affect prices and prices affect behaviour.

Economic theory should be able to provide relatively rigorous answers to many of these questions.

WHY?

1. Because economic theory claims to be able to predict what a utility or profit maximizing economic agent will do.
2. Economist claim to have (normative ?) concepts such as efficiency which can help establish criteria for ensuring maximum societal well-being.

### 3. Economics provides some 'normative' standards for evaluating laws and policies.

Laws are instruments for achieving specific social goals, which in turn are premised on specific social values. Although economic theory tries to avoid consideration of what is 'good or bad', given a statement by legislators or judges as to what is desirable or undesirable, economics can help in assessing the extent to which a given law or policy will achieve the 'socially desirable' outcome.

Two important issues arise at this point: efficiency and distribution.

*Efficiency* is less problematic for economics. It simply involves achieving the stated social goal with as few resources as is possible. Generally no one desires that resources be wasted, so that the notion of 'efficiency', although it might really be '*normative*', is at least widely accepted by members of society?

*Distribution* involves decisions concerning which individuals or groups should get more and which individuals or groups should get less. This type of issue is much more of a problem for economics. There really is no '*positive*' theory setting out the optimal distribution societal well-being. Nonetheless, if given a socially desirable change in distribution of well-being, as proposed by policy makers for example, economics can assess the extent to which a given change in the law will achieve the stated distributional goal.

#### The Paradigm: Institution --> Behaviour --> Outcome

Institution	- the law, regulation, sanction
Behaviour	- of rational utility/profit maximizing individuals subject to the institutional constraints
Outcome	- impact of individual behaviour on societal well-being

#### 4. Some examples.

**These are examples of the types of issues that we will address in this course. They are intended to give you a general sense of the type and level of economic analysis that you will be expected to learn.**

EXAMPLE 1. Sanction affects behaviour. (MFC): Employers covered under Workers Safety and Insurance Board (WSIB) must report all worker injuries. Assume that the WSIB scheme is an efficient scheme so that it is socially desirable to have all employers participate and follow the rules. The WSIB premiums are experience rated, implying that more injuries lead to higher employer premiums. For example, suppose that one more injury increases rates by \$1000. Some employers fail to report worker injuries in order to avoid higher future premiums.

Consider the following proposed sanctions for failure to report an injury:

- a) If caught the firm must pay the additional \$1,000 in higher premiums, which it attempted to avoid.
- b) If caught the firm must pay double the normal increase in premiums.
- c) If caught the firm must pay five times the normal increase in premiums.
- d) If caught the firm must pay ten times the normal increase in premiums.

The WSIB knows from experience that it is able to catch cheaters in a given industry about 20% of the time (1 in 5). Employers in that industry believe that the Board can catch cheaters about 20% of the time (1 in 5).

Consider the following expected outcomes (viewed from the perspective of the firm):

		<b>Expected increase in WSIB premiums</b>	
<b>Non-cheaters</b>			\$1,000
<b>Cheaters</b>			
Sanction if caught:	Pr. of being caught x sanction		
a) normal premium increase	20% of \$1,000	=	\$200
b) double premium increase	20% of \$2,000	=	\$400
c) five times premium increase	20% of \$5,000	=	\$1,000
d) ten times premium increase	20% of \$10,000	=	\$2,000

Prediction. Set the fine at five times the normal increase and you will eliminate the incentive to cheat. WHY? If the firms believe that they will be caught on average 20% of the time, and if the WSIB imposes fines of five times the normal increase in premiums, then there is no expected advantage to cheating.

A profit maximizing firm will have an incentive to cheat so long as the fine is less than \$5,000 but a profit maximizing firm will have no incentive to cheat if the fine is \$5,000 or more.

Note the interplay of the penalty and the 'perceived' probability of being caught. Both the punishment and the 'perceived' probability of being caught determine the implicit price of cheating.

What if in a given industry the employers believe that the WSIB catches only one in ten cheaters?

Suppose the WSIB wants to decrease the amount of cheating, what should it do:

- a) spend \$300,000 to hire 5 new inspectors and thereby increase the number of cheaters caught to 4% (2 in 50)?
- b) spend \$300,000 on an advertising campaign to convince employers that they will make increased efforts to catch cheaters, and as a result increase the 'perceived' probability of being caught to 40% ?

Why not just set the penalty at \$1 million?

- not a credible threat. Would the government really force a small firm out of business for cheating once on a \$1,000 premium?
- might result in creation of a very strong incentives to make side payments (bribes) to employees or investigators.

What if the government introduced the death penalty for illegal parking (with certainty) and at the same time fired all parking enforcement officers?

Conclusion: Economics does provides a behavioural theory which can be used to predict how individuals or firms will respond to institutional constraints.

**EXAMPLE 2. Society might benefit from someone breaking a promise.** (MFC): A Steel Mill has a contract with an Auto Company to provide it with \$1,000,000 of steel each month. One month an Aircraft Manufacturer contacts the Steel Mill and offers to buy the same steel, previously contracted for sale to the Auto Company, for \$1,250,000. The Steel Mill decides to break its commitment to the Auto Company and sell the steel to the Aircraft Manufacturer. The Auto Company is very upset and claims that the Steel Mill's failure to deliver the steel as promised has cost it \$150,000 in profits (added costs of shipping from an alternative source in another part of the country).

Should the Steel Mill be allowed to break such a contract for the reason given? YES, since the steel will evidently produce something of greater value in the aircraft industry than in the automotive industry.

If so, how should the Auto Company be compensated? It should be awarded its lost profits, of \$150,000. Note that the Steel Mill gets to keep \$100,000 in increased revenue even after compensating the Auto Company. This \$100,000 is a measure of the net increase in value to society of transferring the steel from auto production to aircraft production and this increase in net value of output is why economic theory leads us to the conclusion that the Steel Mill should be allowed to break its contract.

What should happen to the Aircraft Manufacturer? Nothing.

What would happen if there was an outright ban on breaking contracts? Then, even though the value of the steel is \$100,000 more when used by the aircraft industry to produce aircraft, they would not be allowed to do so. Later on we will say that this is an *efficient* reallocation of steel inputs and therefore should be allowed.

What would happen if the failure to deliver the steel to the Auto Company caused it to suffer \$300,000 in lost profits? Then the Steel Mill would not break its contract because it would not have sufficient extra profits, from selling to the Aircraft Company, to compensate the Auto Company. This is a socially 'good' result, since in this situation the value of the steel is higher in the auto industry than in the aircraft industry.

From whose perspective are you answering the various parts of the above question? The individual firms or society as a whole?

**Conclusion:** Economic theory can provide insights into what type of behaviour and sanctions are 'appropriate' in private agreements involving individuals or firms?

**EXAMPLE 3. Who should be responsible for the weather?** (MFC): A local Power Company in New York State has a contract to provide power to a Major Manufacturer. The Power Company buys its power from Quebec. One year a particularly bad winter storm occurs and the Quebec power supply is lost. The Major Manufacturer loses power, and as a result \$1,000,000 in profits. The Major Manufacturer sues the Power Company for breach of contract causing the loss in profits.

Note: to an economist, the problem is that winter storms are a known contingency (risk) of buying and selling power in the Northeastern United States, but the parties evidently failed to allocate this risk between buyer and seller when they established the contract. The Court (or Arbitrator) must decide how to allocate the loss? Is the Power Company to blame (totally or partially)? If so, then it must pay for all (or some) of the lost profits. If the Power Company is not to blame then it will not pay for the lost profits, and the Major Manufacturer will suffer the entire loss.

How would an economist address the problem? Firstly, the problem is that a contingency exist ( the risk of winter storms interrupting the power supply from Quebec). We cannot do away with winter storms but perhaps we can do away with the resulting interruption of the power supply to the Major Manufacturer, **if it is warranted**. At a minimum we should be able to decide which party should bear the risk.

Principle: What we would want to ensure is that, however we apportion the loss, we encourage future parties to such contracts to decrease the risk (or cost of a bad outcome) of power interruptions as efficiently as is possible (at as low a cost as is possible).

Evidence: First establish each party's least cost solution for insuring against the risk of power interruption. Suppose we find that the Major Manufacturer could have built a back-up coal fired power plant for use in emergencies at a cost of \$500,000 annually, and that the Power Company could have made a risk sharing agreement with a Southern Power Company to supply each other with extra power in case of emergency at a cost of \$100,000 annually (ie. share a grid).

Outcome: The Power Company can bear the risk at a lower cost than can the Major Manufacturer, therefore it should be forced to compensate the Major Manufacturer for its loss of profits. Why would the courts do this? We want to send the appropriate 'signals' to other firms in analogous risk situations. If there is a risk involved in an undertaking, then the party that can most efficiently (at the lowest resource cost) avoid the risk should do so. If it does not take appropriate steps to avoid the risk and the bad event occurs, then it will have to bear the costs of the damage.

What if the Major Manufacturer only lost \$50,000 in profits? Then the loss does not justify compensation, since it would be more expensive to avoid the loss (\$100,000) than the loss suffered. It would be inefficient to force the Power Company to incur \$100,000 in cost to avoid a \$50,000 loss.

What if a Minor Manufacturer who lost \$150,000 in profits could have supplied back-up power by renting a large portable generator at a cost of \$25,000? Should the Minor Manufacturer be compensated by the Power Company?

If any one customer is compensated, why not all customers? After all fair is fair!

From whose perspective is the above issue being addressed?

Do the individual parties care about economic efficiency? Is it in the Power Company's self-interest to pay the Major Manufacturer for its loss?

After the ruling is made and the Power Company is forced to pay compensation, is the Major Manufacturer more likely to build a back-up generating plant or is the Power Company more likely to make the power swapping agreement with the Southern Power Company?

Can you think of other such risks between parties to a contract. (Faculty members go on strike. A bomb threat closes the Airport on the day you expected to travel. Goodyear supplies Ford with defective tires.)

Conclusion: The notion of economic efficiency is a powerful tool in guiding Courts and lawmakers in their decisions concerning who should bear the burden of unallocated risks. The social objective is to ensure that risk are allocated efficiently.



**Economic analysis and JUSTICE** The 'law' and the concept of 'justice' (fairness, equitableness, righteousness) are often treated as synonymous. Certainly, we expect our laws to be just laws. Can economics help in assessing the extent to which a given law is just? Only to a limited extent. The notion of justice goes well beyond economics. It is a normative notion rooted deeply in the value system of individuals or society (if it is fairly homogeneous). What might appear just to you might well appear grossly unjust to me.

Although it is a fundamental principle underlying our legal system, you might not hear the term JUSTICE used in this course very often. It is 'too big' (too important?) a notion for economics. Economics can deal with 'efficiency' but not 'JUSTICE'.

**The law and economic performance** We will spend most of our efforts showing how economic theory can guide the development of 'efficient' laws. We will be dealing at the level of individual decision making (microeconomic level). But you should be aware of the much bigger picture. An economy cannot progress to any great extent without an effective system of laws.

Many of you have or will study economic development and the problems of third world countries. Hopefully this course will allow you to come to appreciate why it is that without an effective system of laws (a system of laws that assures the security of person and property in the broadest sense) a society can never achieve economic success.

Question: The recent series of financial scandals (financial crime wave) that hit North American financial markets has caused some individuals to lose a lot of money. These are individuals who had money invested in the stock markets, or relatively fat pensions plans. Some of you, or your parents, might have lost some money in Nortel, Enron, Worldcom, etc. but likely most of you did not. So what is the big deal? Why should we be concerned that the current accounting/securities rules and enforcement procedures are defective?