

# TEACHING THE ECONOMICS OF SIN

*Lewis Davis*  
*Union College*

---

This note describes a course I developed on the Economics of Sin that integrates ethical and economic material.<sup>1</sup> My hope is that this note will be useful to economists interested in exploring ethically complex economic phenomena and to philosophers who are interested in the ethical implications of economic markets and policies. In keeping with this agenda, I proceed by discussing a framework for relating economic outcomes to common ethical criteria. This is followed by two examples from the course, one involving policy in the market for heroin and the other addressing the economics and ethics of paired kidney exchange. These examples are intended to illustrate the potential for combining ethical and economic approaches to understanding ethically complex economic transactions. I conclude with a few practical remarks regarding the challenge of developing an interdisciplinary course.

## OF ECONOMICS AND ETHICS: AN ANALYTICAL FRAMEWORK

The intersection of economic and ethics is potentially huge. Not only did the field of economics grow out of Adam Smith's interest in the ethical problems, but every price change raises ethical issues to the degree that it affects the wellbeing of both producers and consumers. To provide some focus to the course, I adopted a working definition of sin that was limited to economic exchanges in which there are willing buyers and willing sellers but are nonetheless considered ethically problematic. Thus, the course does not address the broadest set of ethical concerns regarding economic activity, such as institutions of private property and the role of competition in economic life. It also omits a host of interesting topics related to crime, dishonesty and corruption that I may attempt to incorporate into future iterations of the course. With a few exceptions, the students had little background in ethics.

The standard exercise in economics involves mapping policies onto market outcomes. For example, one might consider the impact of a \$1 tax on the equilibrium price and quantity in the market for cigarettes, the number of teen smokers, the incomes of tobacco farmers, tax revenues paid by low-income smokers, and the like. In this course, I attempted to take the analysis an additional step, using different ethical criteria to evaluate the market outcomes. Doing so also required me to introduce some fundamental ethical ideas that later served as a common set of reference points for class discussion.

The mapping of market outcomes onto ethical outcomes is made easier by the fact that ethical criteria are deeply embedded in certain aspects of economic analysis. The most important of these is market efficiency, which is closely tied to utilitarian notions of the social good. To make matters concrete, suppose I have an old car that I value at \$1,000 and you value at \$4,000. We agree to a sale for \$3,000. Since I receive \$3,000 for a car I value at \$1,000, my surplus from this transaction is \$2,000. Similarly, you pay \$3,000 for a car that you value at \$4,000, so your surplus is \$1,000. If no one else is affected by our transaction, then the economic surplus generated by this exchange is simply the sum of these values or \$3,000. A market is efficient when it maximizes the total economic surplus it generates.

Market efficiency also has ties to libertarian ideas regarding freedom of exchange. Note that the exchange of the car leaves both the buyer and seller better off, a result that should hold in any voluntary exchange. Following this logic to its extreme provides an argument that freedom of exchange will maximize economic surplus, implying that libertarian rules regarding economic behavior will generate utilitarian social outcomes. Much of economics is concerned with qualifying this statement, which may fail due to bad information, irrational decision making, uncompetitive markets and externalities, among others.<sup>2</sup> At the broadest level, the goal of economics is to determine under what conditions and policies libertarian behavior will produce utilitarian outcomes.

Returning again to the example of the car, note that the economic surplus generated by the sale of the car is independent of the sales price. If the price were \$1,500, for example, the economic surplus would still be \$3,000, though this surplus would be distributed differently between us. Focusing on how policies affect the surplus of particular market participants allows us to address Rawlsian concerns regarding the wellbeing of the least well-off individuals. It also permits other distinctions. For example, in the commercial sex market, we may be more interested in the wel-

fare of producers than consumers, whereas in the market for heroin, we may be more concerned with the welfare of consumers than producers.

To the professional ethicist, the discussion above may appear hopelessly simplistic and naïve. In response, let me note that the point here is not to close off ethical debate but to foster it. For example, the argument that free exchange is mutually beneficial is a useful starting point for discussing the rationality of teen smoking or the exploitation of paid organ donors. More broadly, I wanted students to think carefully about the limits of the manner in which economics models ethical considerations. When is economic surplus an adequate measure of the social good; in what ways does it fall short and why; when is exchange voluntary? Additional ethical concepts that proved useful included paternalism, exploitation, and the harm principle.

#### PRICE DISCRIMINATION IN THE MARKET FOR HEROIN

In this example, I show how applying different ethical criteria leads to different policies toward the market for heroin. While heroin abuse is associated with a large number of specific harms, here I focus on two, the human cost of heroin abuse and the social cost of economic compulsive crime. Economic compulsive crime is crime committed to finance drug consumption.<sup>3</sup> The numbers in the graphs below are purely illustrative, but in keeping with the empirical evidence I assume that demand by heroin addicts is highly inelastic, meaning that consumption by addicts is not very sensitive to changes in the price of heroin. In contrast, demand by casual users is relative elastic, meaning that consumption by casual users is very sensitive to price changes.

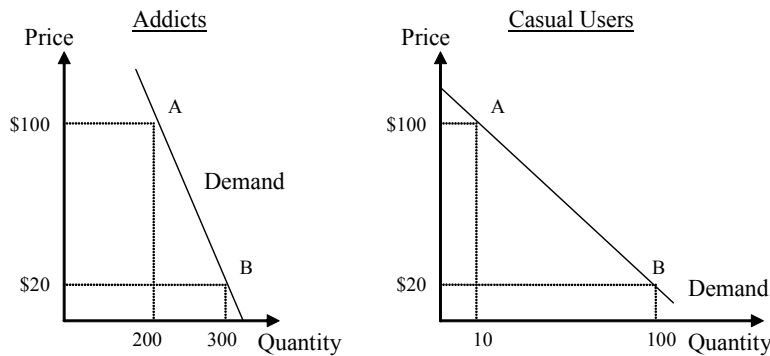
Suppose we follow the common deontological argument that drug use is harmful and should be minimized. In response we should prohibit the consumption and sales of heroin and accompany this with a strict enforcement regime. Enforcement raises the price of the drug to \$100 per gram, and the markets will operate at the points marked *A* in Figure 1. At this price, total spending on heroin will be high, combined sales of \$21,000 in the two markets, leading to high levels of economic compulsive crime. On the positive side, heroin consumption will be low, with the greatest fall in the consumption of casual users, some of whom would become the next generation of addicts. Thus, while this policy limits the human cost of drug abuse, it encourages economic compulsive crime.

Alternately, suppose we follow a libertarian principle and legalize heroin. In this case, the price is low, \$20 per gram, leading the markets to

operate at the points marked B. At this lower price, heroin consumption is much higher, particularly consumption by casual users. Since they are already addicted, consumption by addicts does not change much as the price falls. On the positive side, at \$8,000 total spending in the heroin market will be considerably less, reducing the social harm associated with economic compulsive crime.

As an alternative to these two extremes, we may consider the utilitarian principle of harm reduction, which attempts to reduce the total harm generated in the market for heroin. To begin, note that because demand for heroin by casual users is elastic, both consumption and total spending on heroin are reduced when the price is high. In contrast, demand by addicts is inelastic, so a high price increases economic compulsive crime while doing little to limit consumption. It follows that we may want a high price for casual users and a low price for addicts.<sup>4</sup> This logic underlies Switzerland's approach to heroin policy, which combines vigorous enforcement of anti-drug laws for casual users with access to cheap prescription heroin for registered addicts.

Figure 1



## PAIRED KIDNEY EXCHANGE

The demand for transplantable organs far outstrips supply. Potential recipients suffer long waits with deteriorating health. With respect to kidneys, this shortage is relieved in part by live organ donation, but willing donors are often frustrated by poor tissue match, which can lead to organ rejection. Paired kidney exchange attempts to deal by organizing "kidney swaps" between donor-recipient couples where each couple's kidney is an

acceptable match for the other couple's recipient. Kidney swaps have been performed involving up to six couples.

To an economist, the practice of paired kidney exchange raises the question of whether all mutually beneficial exchanges will take place, and if more than one pattern of exchange is medically possible, which ought to be preferred. The example below is used to illustrate the potential for ethical conflicts to arise out of different patterns of kidney exchange.<sup>5</sup>

Consider three couples, A, B and C, each consisting of a donor and a recipient. Couples A and B have high quality kidneys to trade, while couple C has a low quality kidney. The expected life of a donated kidney varies inversely with donor age, making age an important determinant of kidney quality. In addition, not all transplants are medically possible. Medically feasible transplants are indicated by a "Y" in Figure 2.

*Figure 2*

Donor Couple	Quality	Recipient Couple		
		A	B	C
A	High	N	Y	Y
B	High	Y	N	N
C	Low	Y	Y	N

Figure 3 shows the three possible patterns of kidney exchange, two two-way exchanges and one three-way exchange, and the results of each exchange in terms of the quality of the kidney received by each couple: H for high, L for low, and 0 if no kidney was received. For simplicity, I assume couples prefer higher quality kidneys and are indifferent to other aspects of an exchange. It follows that A is indifferent between the first and third exchanges, both of which are preferred to the second exchange; B prefers the first exchange; and C is indifferent between the second and third exchanges and prefers either to the first exchange.

In this example, the ethical conflict is between the first and third exchanges. The first exchange satisfies the libertarian preference for freedom of exchange. It will be chosen by the couples involved since both receive high quality kidneys. In this case, C's preferences do not matter since C is not a party to the exchange. The third exchange satisfies utilitarian and Rawlsian criteria. This exchange maximizes both total kidney

quality (HHL rather than HH0 or HL0) and the minimum quality of a received kidney (L rather than 0).

*Figure 3*

Possible Exchanges	Kidney Quality After Exchange		
	A	B	C
A ↔ B	H	H	0
A ↔ C	L	0	H
A → C → B → A	H	L	H
<b>Preferred Exchange</b>	1, 3	1	2, 3

This example raises two issues. The first has to do with whether we can find a policy under which all three criteria select the same exchange. That is, as an economist, I would like to find a policy under which libertarian decision making leads to a utilitarian outcome. In the current situation, the problem is that B prefers the higher quality kidney available from the first exchange. A potential solution is to allow side payments. Suppose, for example, B values a high quality kidney \$10,000 more than a low quality kidney, while C values a high quality kidney \$20,000 more than no kidney.<sup>6</sup> Then with a side payment from C (or from Medicare on C's behalf) to B of say \$15,000, all three couples would prefer the third exchange, and the libertarian and utilitarian outcomes would coincide.

A second issue involves the commodification of transplant organs. Many students who find organ sales distasteful do not object to kidney swaps, but on closer examination these two options are closer than one might expect. In kidney swaps, organs are bought and sold, but they are paid for through a barter system using other organs rather than cash. Does the use of an organ for payment make the purchased organ less of a commodity, and if so, are there other forms of non-monetary payment, donating time or money to a charity for example, that also would be acceptable? Similarly, if kidney exchange is accompanied by a side payment, as suggested above, does the inclusion of money taint the exchange or does the inclusion of an organ ennoble it?

## CONCLUDING REMARKS

I hope the preceding examples have illustrated the potential richness of using economics to investigate and illuminate ethical issues. In closing I want to make two comments for those who might consider developing a course along these lines. First, I found I did not always have the judgment or time to decide which ethics readings were representative of an author's thought, accessible to students, or useful in generating discussion. Because of this, specific suggestions from my colleagues in the philosophy department – “Read this article on organs” – were much more useful than more general suggestions – “Read Nozick.” Second, it proved to be important to dispense with my own expectation that I would quickly become an expert in the field of ethics. Having come to terms with the fact that I would probably misunderstand and misrepresent some ideas, I was pleased to rediscover the freedom of being a novice, of thinking more about questions than answers, and the pleasure of exploring a new and often very foreign field of thought.

## NOTES

<sup>1</sup> I wish to thank Bob Baker, Anastasia Pease, Marty Strosberg and Mike Mathias for advice and the Rappaport Everyday Ethics Across the Curriculum Program for financial support during the development of this course.

<sup>2</sup> An externality exists if a transaction affects someone other than the producer or consumer of a good, such as occurs with second hand tobacco smoke, and is thus closely related to the harm principle. Economic theory suggests we should tax markets that generate negative externalities and subsidize markets that generate positive externalities.

<sup>3</sup> Goldstein (1985) developed a now-common a tripartite breakdown of drug-related crime. In addition to economic compulsive crime, Goldstein includes psycho-pharmacological crime, which is due in part to the reduced inhibitions of intoxicated users, and systemic crime, which is arises from black market interactions.

<sup>4</sup> The practice of charging different prices to different customers is known as price discrimination and may be familiar in its more prosaic form of discounts for seniors or students. The analysis of price discrimination in heroin markets goes back to Moore (1973).

<sup>5</sup> This example is a stylized version of the situation described by Meckler (2007).

<sup>6</sup> No acceptable side payment will be possible if these numbers are reversed, or more generally if B places a greater value on the difference between a high

quality and a low quality kidney than C does on the difference between a high quality kidney and no kidney. In this case, the first exchange maximizes economic surplus, so the libertarian and utilitarian outcomes coincide without a side payment. A Rawlsian would still prefer the third exchange.

#### REFERENCES

- Goldstein, Paul J., "The Drugs/Violence Nexus: A Tripartite Conceptual Framework," *Journal of Drug Issues* 4, 1985, pp. 493-506.
- Meckler, Laura, "Juggling Act: Kidney Swaps Seen as Way To Ease Donor Shortage," *Wall Street Journal*, Oct. 15, 2007, p. A1.
- Moore, Mark H., "Policies to Achieve Discrimination on the Effective Price of Heroin," *American Economic Review* 63(2), May 1973, pp. 270-277.