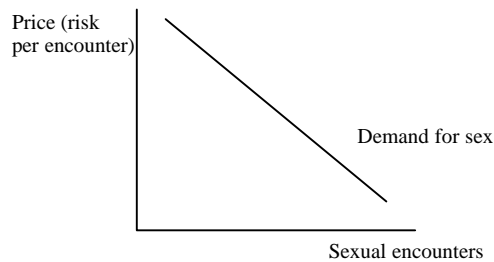


## Will More Condoms Mean Less AIDS? It's A Question of Elasticity

Like every other activity, engaging in sex involves costs; one of the most significant of those costs is the risk of contracting a serious, even fatal disease such as AIDS. To an economist, this suggests that the amount of sexual activity demanded will be influenced by the risk of that activity. Based on that assumption, we can show that making sex safer -- say, by increasing the availability of condoms -- will increase sexual activity and, depending on the elasticity, could increase the incidence of sexually transmitted diseases such as AIDS. (That is, the probability of getting a sexually-transmitted disease is not reduced to zero when using a condom.)

*Q: Before going on, can you see why making something safer might actually increase the amount of AIDS?*

**THE DEMAND FOR SEX.** There is a demand curve for sex which, like any other demand curve, is downward sloping. People will demand more the lower the price per unit. In the case of the demand curve for sex, it is useful to measure the price in terms of risk rather than dollars. Such a demand curve shows that if the risk per sexual encounter is reduced, the number of sexual encounters will increase.



While it is difficult to know with precision the shape of the demand curve for sex, such knowledge would be useful when considering the controversy over proposals to make condoms easily, perhaps freely, available in our high schools and colleges. Those who favor making condoms more readily available argue that this availability would make sex safer by encouraging condom use. Those who oppose a policy of readily available condoms argue that such a policy would cause an increase in sexual promiscuity by making it less costly.

*Q: How would you decide between these two arguments? Do you think people use economics or value judgements when deciding which "side" to favor?*

Both sides make good points. Greater availability of condoms would certainly increase their use, which would reduce the health risk per sexual encounter. But it is equally certain that reducing the health risk per sexual encounter will increase the number of such encounters. The important question is: By how much? The answer to the "how much" question depends on the risk elasticity of the demand for sex, which, if we could measure it, would tell us the percentage increase in the number of sexual encounters that will result from a 1 percent reduction in the average risk per encounter.

*Note: This is exactly the same as the price elasticity of demand that we have talked about in class:*  
$$\text{Risk elasticity of demand} = (\% \text{ change in number of sexual encounters}) / (\% \text{ change in risk per encounter})$$

If the value of the risk elasticity of demand for sex is less than one, then increasing the availability of condoms will decrease the number of cases of AIDS or other sexually-transmitted diseases. For each 1 percent reduction in the risk of contracting such a disease from each instance of sexual intercourse, there will be less than a 1 percent increase in the instances of intercourse.

But, if the risk elasticity of demand for sex is greater than one, then a policy that lowers the average per-unit risk of sexual intercourse would increase the number of cases of AIDS and other sexually-transmitted diseases. The reduced risk per episode from engaging in sexual intercourse will be more than offset by an increase in the amount of intercourse in which students engage.

*Q: If the last paragraph was true, would you ever argue that we should make sexual intercourse more risky by outlawing the use of condoms?*

Consider a hypothetical case. Assume that the probability of contracting a sexually-transmitted disease during each episode of sexual intercourse is  $1/1,000$  if condoms are not readily available on campus, and that the rate of sexual intercourse on a campus is 500 per week. This implies that there will be, on average, one new case of sexually-transmitted disease every two weeks ( $500 * 1/1,000 = 0.5$  per week). Assume next that a policy that makes condoms readily available will reduce the per intercourse probability of disease to  $0.98/1,000$ , or a 2 percent reduction (availability is not the same as use). Suppose that reduction in the riskiness of sex increases the number of instances of intercourse on campus to 515 per week, a 3 percent increase. This implies that the risk elasticity of demand for sex is greater than one, and slightly more than one new case of disease will occur on campus every two weeks ( $515 * 0.98/1,000 = 0.5047$ ). Making condoms more readily available has, in this example, caused an increase in the transmission of sexually-transmitted disease.

*Q: The numbers used here are completely arbitrary, what would happen if the availability of condoms reduced the risk per intercourse to  $0.95/1,000$ ; that is, if there was a 5 percent reduction in risk instead?*

So, what is the risk elasticity of demand for sex? That's an empirical question, one that could only be answered by estimating the demand curve for sex with respect to risk. That would be a difficult task. While we can speculate about the risk elasticity, it's unlikely that anyone will produce a convincing measure of it any time soon. Indeed, if someone were to determine just what the elasticity is, that would not, by itself, resolve the condom controversy.

*Note: this would be an example of where positive economics exist, but people still disagree because of normative economics considerations.*

Assume, for example, that it were established that the elasticity of demand is, in fact, greater than one. That means that increasing condom availability will increase the incidence of AIDS and other diseases. One could still favor such a policy on grounds it would increase total consumer satisfaction. When the price elasticity of demand for any good is greater than one, a price decrease will increase total spending on the good. But total satisfaction is still increased. That is no less true if payment is made in terms of risk than if it is made in terms of money.

Alternatively, suppose it were established that the elasticity is less than one, so that the increased availability of condoms would reduce the incidence of sexually-transmitted diseases. Many would argue that there are costs other than disease associated with increases sexual activity on campus.

So, expect the controversy continue. The fact remains that an important issue in this controversy concerns demand elasticity. Economic theory can't tell us what that elasticity is. But, as is often the case in questions of public policy issues, it can raise an issue that might be otherwise overlooked -- the possibility that making sex safer could increase the incidence of diseases such as AIDS.

*Q: Can you think of other similar cases? What about the controversy of giving drug-users free needles? You might want to think through this case. Giving out free needles reduces the risk of disease per instance of drug use.*