

**EC337 – Economic Analysis of Legal Issues
Spring 2013, Boston University**

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Second Mid-term Practice Test – Solutions

Monday, March 18, 2013

This is a 38-minute test. There is a total of 38 points allocated across two questions. Use the number of points allocated to each part as a suggestion for how long to spend on that part. I recommend that you attempt all parts before using more time than is suggested for any one part. If you complete some parts in less than the suggested time, use your extra time to revisit parts you may have had trouble with the first time through and to check your work.

Please read the questions carefully and write your answers in the blue booklets provided. Please follow my instructions at all times.

You only need to identify yourself with your BU ID on the blue booklets. You may keep this question sheet when the exam is over.

1. [25 points total, 5 parts] Ivan will be hosting an event at his home on Saturday. On the preceding Wednesday, a pipe at his home breaks. If the pipe is not fixed, he will have to cancel the event, which will cause him to miss out on \$1200 in certain profit. He calls Joe, who is the only plumber available. Ivan and Joe enter a contract that states that Joe will fix the pipe on Saturday morning and Ivan will pay Joe \$500. On Friday, Qiao offers Joe \$1500 to fix her hot tub on Saturday. If Joe accepts this offer, he will have to breach his contract with Ivan.

a) [4 points] Is it efficient for the contract between Ivan and Joe to be breached? Explain briefly.

answer:

Surplus with no breach: 1200 profit minus 500 plumbing cost for Ivan; 500 revenue for Joe; 1200 total.

Surplus with breach: 0 profit and 0 plumbing cost for Ivan; 1500 revenue for Joe; 1500 total.

Yes, it is efficient for the contract to be breached, since the total surplus is higher under breach (1500) than under performance (1200).

[That is a complete answer worth full points. It would also be fine to interpret Ivan as already having \$500 in cash kicking around to pay the plumber, in which case his private – and thus the total – surplus would just be greater by 500 in each case; nothing in the entire problem will be different under this interpretation. You might also assume that Joe has some disutility from working amounting to something like \$250 per day (as long as it's less than 500, since he never would have agreed to the contract with Ivan otherwise), so that his net profit is less than the payment he receives; again, nothing in the problem will change.]

b) [5 points] Assume that Joe knows that courts always employ the “expectancy” remedy rule when a breach of contract is found, and that Joe and all courts know exactly how much profit Ivan stands to earn from hosting the event. Will Joe decide to breach the contract? Explain briefly.

answer:

Ivan expects profit net of the plumbing cost of 700 under the contract, but gets 0 if there is a breach. So Joe will have to pay Ivan 700 under the expectancy rule if he breaches.

After breaching, receiving 1500 from Qiao, and paying 700 in damages to Ivan, Joe would be left with 800.

Yes, Joe will decide to breach, since his private surplus from doing so (800) is higher than his private surplus from performing the contract as written (500).

c) [5 points] Assume instead that Joe knows that courts always employ the “expectancy” remedy rule when a breach of contract is found, but that Joe also knows that Ivan will lie to the court and

be able to convince them that he stands to earn \$2000 in certain profit from the event. Will Joe decide to breach the contract? Explain briefly.

answer:

If the court is convinced that Ivan would earn \$2000 from hosting the event, it will rule that his expectancy under the contract was this profit minus the \$500 plumbing cost, or \$1500, and order Joe to pay this amount as compensation for breaching.

After breaching, receiving 1500 from Qiao, and paying 1500 in damages to Ivan, Joe would be left with 0.

No, Joe will not decide to breach, since his private surplus from doing so (0) is lower than his private surplus from performing the contract as written (500).

[The breach is still efficient, because we, with better information than the court, know that Ivan's actual expectancy under the contract is still just \$700, as in the previous part. But because of the court's mistake, which the question asks us to assume that Joe can foresee, the expectancy remedy rule does NOT lead to the efficient outcome in this instance. Note that Ivan's threat to lie about his potential profit leaves him no better off: he'll get \$700 in profit net of the plumbing cost, since the contract will be performed; whereas he would have gotten the same \$700, except in the form of straight money compensation, without the threat to lie.]

d) [5 points] Suppose instead that, on Friday afternoon, Ivan learns that Joe has agreed to fix Qiao's hot tub on Saturday, and that Joe will hence breach his contract with Ivan. Ivan manages to get the case brought in front of the court immediately. Assume that the court orders specific performance. Will Ivan's event be held as planned on Saturday? Explain.

answer:

By ordering specific performance, the court is telling Joe that he must perform the contract with Ivan as written. But that doesn't mean it will actually happen, since it might be possible for all three parties to come to a mutually beneficial bargain in which Ivan's pipe does not get fixed.

For example, Joe could agree to split the payment of 1500 from Qiao evenly with Ivan. Ivan would then have 750, which is greater than the 700 he would get under performance of the contract. And Joe would have 750, which would be greater than the 500 he would get under performance of the contract.

So, despite specific performance being ordered, it does not seem likely that Ivan's event will be held as planned. Large transaction costs could prevent such a mutually beneficial bargain from being reached, but it seems unlikely that such large transaction costs would arise with so few people involved, especially since they have negotiated contracts with one another in the past.

e) [6 points] Go back to assuming that Joe knows that courts always employ the "expectancy" remedy rule when a breach of contract is found, and that Joe and all courts know exactly how

much profit Ivan stands to earn from hosting the event. However, suppose that it is common knowledge that an emergency plumbing service becomes available that can fix pipes (but not hot tubs) at a cost of \$900 at any time. Just considering Ivan and Joe, now is it efficient for the contract between them to be breached? Will Joe decide to breach? Explain.

answer:

Now, if Joe breaches, Ivan can hire the emergency plumber and still hold his event as planned. In this case, Ivan's private surplus would be $1200 - 900 = 300$, and Joe's would be 1500, for a total social surplus of 1800. Under performance of the original contract, the total social surplus would still be 1200. So yes, it is still efficient for the original contract to be breached.

Ivan's expectancy under the contract is 700, but under a breach, instead of being stuck with 0, he now has a better option that would leave him with 300. So the compensation Joe would be ordered to pay would be the amount that would bring Ivan from 300 up to his expected 700, i.e. \$400.

After breaching, receiving 1500 from Qiao, and paying 400 in damages to Ivan, Joe would be left with 1100.

Yes, Joe will decide to breach, since his private surplus from doing so (1100) is higher than his private surplus from performing the contract as written (500).

[The only wrinkle to this part is figuring out how much compensation Joe would have to pay if he were to breach. Note that it is not completely clear that Ivan has much of an incentive to use the emergency plumbing service following a breach: we have just argued that he will get 700 on net if he does, but we argued in part b) above that he would get 700 anyway, all in compensation from Joe, if he doesn't. The difference, though, is that the emergency option didn't exist in part b). By refusing to use the emergency option when it is available, Ivan would be exhibiting what is called "over-reliance" on Joe. Courts generally try to discourage such over-reliance by calculating compensation based on the difference between expectancy under contract performance and the next best option. In part b), the next best option, which was the only option available to Ivan, was just to cancel the event. But in this part, the next best option is using the emergency service, and the court will account for this when calculating the compensation amount. Knowing that the court will calculate damages this way, it is clearly in Ivan's interests to use the emergency service when it is available if Joe breaches. But it also makes sense that he would choose to do this in any case, since he would get 300 on net from the event immediately on Saturday and only have to wait till the conclusion of the subsequent court case for the additional 400 in compensation, whereas, even if he were awarded more than 400 if he instead chose to cancel his event, he would have to wait till the conclusion of the case to receive all of it.]

2. [13 points total, 4 parts] Suppose that a band called Elastica records an album that bears a suspicious stylistic resemblance to an earlier album by a band called Wire. Before Elastica's album, Wire was earning \$800,000 per year in sales of its own album, and will continue to do so indefinitely if Elastica's album is not released. If, on the other hand, Elastica's album is released, each band will earn \$300,000 per year in sales indefinitely.

a) [4 points] Briefly state the fundamental trade-off that is faced when deciding on the strength of intellectual property protections.

answer:

Giving producers of creative goods some monopoly power allows them to charge a higher price for such goods than they otherwise could, and therefore gives them a stronger incentive to produce such goods. But the wide availability of creative goods can be very beneficial in generating further creativity and other surplus, and such further benefits might be suppressed if existing creative goods are too expensive to access.

b) [2 points] In the present case of Elastica and Wire, what is the efficient outcome? Why?

answer:

Total social surplus with both albums: $300 + 300 = \$600k$.

Total social surplus with only Wire's album: \$800k.

The efficient outcome is for Elastica's album to be suppressed (i.e. not released), since this leads to the highest social surplus.

Suppose that Wire sues Elastica for copyright infringement.

c) [3 points] Will efficiency be achieved if the court orders Elastica to compensate Wire for the damage caused by releasing their album? Explain.

answer:

Elastica's profit if they release their album and pay damages: $300 - 500 = -\$200k$.

Elastica's profit if they suppress their album: \$0.

Elastica will therefore choose to suppress their album, since this gives them the highest possible private profit. Thus, the efficient outcome will be achieved.

[The damage payment must be \$500,000, since the court's assignment of property rights to Wire entitles them to profit of \$800,000 per year, whereas they would only earn \$300,000 per year if Elastica's album is released, i.e. \$500,000 short of what they are entitled to.]

d) [4 points] Will efficiency be achieved if, instead, the court upholds Elastica's right to release their album and be free of any liability to Wire? Explain.

answer:

Wire's profit if they do nothing: \$300k.

Wire's profit if they pay Elastica to suppress their album: \$800k – bribe.

The bribe would have to be at least \$300k to make Elastica as well off as they would be if their album were released, but Wire would be willing to pay up to \$500k and still be better off on net than if Elastica's album were released.

If transaction costs are low enough, Wire will bargain with Elastica to suppress their album, since this will leave Wire with the highest possible private profit. However, if transaction costs are high enough, no bargain will be possible. Thus, efficiency will only be achieved if transaction costs are low enough.