II. PROBLEMS
1. Blood banks are organizations which collect blood from donors either for a payment in cash or for a promise to provide free blood in the near future if the donor or his family should require it. The blood banks sell the collected blood to those who, because of surgery, severe injury, and the like, need transfusions. Sometimes the recipients of blood from the blood bank contract severe illnesses—such as hepatitis and HIV—as a result of having received contaminated blood. A recipient thus injured may sue the blood bank for damages. Based on efficiency grounds, what liability standard would you impose in such a case? Why?

This is a situation characterized by unilateral precaution by the injurer, e.g., the blood bank. There is nothing within reason the recipient could do in the way of precaution to avoid harm. There are, however, obvious precautionary measures, e.g., screening of donors, the blood bank could take. As such the appropriate liability rule is strict liability.

2. Describe how each of the following would affect the economically efficient level of precaution and explain your reasoning.
   a) A decrease in the per unit cost of precaution.

   In this case, the marginal costs of precaution are now less than the marginal benefit and, as such, the level of precaution is too low. Thus, precaution should be increased, causing \(-p'(x)\) to decrease and marginal benefits, equal to \(-p'(x)A\), to decrease as well until \(MC = MB\).

   b) An increase in the cost of a particular type of accident.

   In this case, the marginal costs of precaution are now less than the marginal benefits and, as such, the level of precaution is too low. This is because the marginal benefits of precaution are now higher at each level of precaution (since \(A\) has increased). Thus, precaution should be increased, causing \(-p'(x)\) to decrease and marginal benefits, equal to \(-p'(x)A\), to decrease as well until \(MC = MB\).

   c) An external change, i.e., something not attributable to the actions of potential injurers or victims, that reduces the marginal probability of an accident, ceteris paribus.

   In this case, the marginal costs of precaution are now greater than the marginal benefits and, as such, the level of precaution is too high. This is because the marginal benefits of precaution are now lower at each level of precaution. Thus, precaution should be decreased, causing \(-p'(x)\) to increase and marginal benefits, equal to \(-p'(x)A\), to increase as well until \(MC = MB\).

3. Provide an example which illustrates each of the changes described in question 2.
   a) An improvement in technology that lowers the marginal costs of accident prevention, such as automatic seatbelts that engage whenever a person gets in the car and shuts the door. Note that the person does not have to take any additional action (fastening the seatbelt) to take the additional unit of precaution.
   b) As the value of cars increases, the cost of a particular accident increases since it costs more to restore the car to its original condition.
   c) The installation of improved traffic control devices such as medians and barriers that reduce or eliminate head on collisions would be an example here.
4. For each of the situations listed below, indicate whether strict liability or some form of a
negligence rule would be preferred on efficiency grounds and explain your reasoning. In
developing your answers you should consider the effects of each liability rule on both precaution
and activity level, i.e., the question of who is the residual bearer of harm should be factored into
your analysis. To answer each question we have to consider first whether the situation is
characterized by unilateral or bilateral precaution and, second, which party’s activity level has a
greater effect on the probability of an accident and should therefore be the residual bearer of
harm.

a) A boater is killed when his craft collides with another boat. Both boats were traveling at a
high rate of speed toward the same destination along opposite sides of a point extending out
into the lake. The land mass made it impossible for the boaters to see each other until they
were almost at the destination.

This is clearly a situation in which bilateral precaution is efficient. Thus, no liability and
strict liability can both be ruled out. Our choice then is between simple negligence,
negligence with contributory negligence or comparative negligence on the one hand, and
strict liability with contributory negligence on the other. Because both parties’ activity levels
will affect the probability of an accident equally, all four forms of the negligence rule are
equally efficient.

b) A person who is allergic to peanuts falls ill after eating food at a restaurant that contains
peanuts. The menu did not indicate that the item in question contains peanuts.

Once again, this is clearly a situation in which bilateral precaution is efficient. The
restaurant could protect against such accidents by listing the ingredients in each item on the
menu and the person could take precautions by inquiring about the ingredients, i.e., “does
this item contain peanuts?” Thus, no liability and strict liability can both be ruled out. Our
choice then is between simple negligence, negligence with contributory negligence or
comparative negligence on the one hand, and strict liability with contributory negligence on
the other. Because the patron’s activity level is more likely to affect the probability of an
accident (the more frequently he goes out to eat the more likely he is to be exposed to peanuts
in a meal), one of the first three forms of the negligence rule stated above is efficient.

c) A motorist on an interstate highway is injured in a multi-car pileup. At the time of the
accident there was blowing and drifting snow and high wind. In addition, the roads were
snow covered. The motorist had barely stopped in time to avoid five cars that had just
collided in front of him when he was struck in the rear by another driver who did not see the
accident in time to slow down and avoid the ensuing collision.

Once again, this is clearly a situation in which bilateral precaution is efficient. Every
motorist on the road should take precautions to avoid accidents. Thus, no liability and strict
liability can both be ruled out. Our choice then is between simple negligence, negligence
with contributory negligence or comparative negligence on the one hand, and strict liability
with contributory negligence on the other. Since both parties’ activity levels will affect the
probability of an accident equally, all four forms of the negligence rule are equally efficient.
d) Some of the residents in a housing subdivision become ill as a result of the release of toxic fumes from a rail car that were released when the train the rail car was part of derailed near the subdivision.

This case is characterized by unilateral precaution. I cannot conceive of anything, short of moving somewhere else, that the residents could do to protect against this accident. Thus it is a choice between no liability and strict liability. Since the rail company is the only one that can take precaution, strict liability is the obvious choice.

5. Suppose the current legal rule regarding accidental injuries when someone rents a jet ski or similar recreational device is that the firm (provider of the item) is liable unless it can be shown that the renter did not exercise due care. Thus, if someone rents a jet ski and subsequently collides with another object or falls off, receiving injury, the firm is liable for the resulting losses unless it can be shown that the renter did not exercise due care.

a) What liability standard is in effect according to the facts described above?

The rule in effect is strict liability with contributory negligence.

b) In your opinion, is the liability standard in effect efficient? Why or why not?

Note that the rule of strict liability with contributory negligence makes the rental company the residual bearer of harm. The question then is, whose activity level has a greater effect on the probability of an accident? One might try to argue that it is the company because it can decide who it is going to rent to and therefore decrease the population of potential renters and the amount of renting that takes place. For example by renting only to people over a certain age, the frequency of rentals is less than it would be otherwise. However, this strikes me as a form of precaution, rather than an adjustment of activity level. On the other hand, renters can adjust their activity level by renting less frequently, thus reducing the probability a particular exchange will result in an accident. Viewed in this way, the rule is inefficient.

c) Assuming your answer to part b is no, what liability standard would you recommend as an alternative if economic efficiency is the primary objective? Why?

Assuming we accept the argument in part b, negligence, negligence with a defense of contributory negligence, and comparative negligence would all be preferred on efficiency grounds.

6. A significant portion of municipal wastes (i.e., household wastes generated by people such as you and me) are disposed of by placing them in commercially operated landfills. The owners of these disposal sites comply with state and federal regulations governing such factors as location, construction of the landfill, collection of runoff from the site, monitoring, and so forth. In addition, households are not supposed to send certain wastes, such as those that are toxic, to municipal waste sites. It is virtually impossible for the landfill operator to inspect the wastes that are sent to the landfill to ensure that no toxic chemicals are disposed of at the site.

Suppose it is discovered that a municipal waste landfill that was in compliance with all known regulations and safety standards has been leaking waste materials and it is determined that an adjacent aquifer may have been contaminated with toxic chemicals. The aquifer serves as a source of drinking water for people and animals (pets and livestock) living near the landfill. Several years after the leaks were discovered, several people fall ill and bring suit against the landfill charging that the landfill is liable for their injuries. Assume all of the wastes deposited in the landfill come from the homes served by the aquifer that may have been contaminated.
a) Considering the situation described above, would you argue it is characterized by unilateral or bilateral precaution? Why? Be specific.

This is a case of bilateral precaution. Note that people were aware of the potential contamination for a number of years before any illnesses appeared. Thus, both parties could have taken precautions. The site operator could have done more to stop leaks at the site and possibly treat the contamination in the aquifer. Residents could have substituted alternative sources of drinking water. In addition, they may have been able to treat the water before drinking it. Finally, it should be apparent that at least some households sent toxic wastes to the site, which is clearly something they could have avoided.

b) In order to promote economic efficiency, should the site owner be subject to a negligence standard–e.g., simple negligence, negligence with contributory negligence, or comparative negligence–or a strict liability standard? Why?

In order to answer this question we have to consider activity levels. On the one hand, wastes have to be disposed of somewhere. However, one could argue that the site operator could move the operation to a different location. On the other hand, the generators of those wastes, the townspeople, could take steps to reduce the amount of hazardous/toxic wastes being sent to the landfill. In addition, they could alter the extent to which they rely on water from the aquifer for consumption purposes and thus reduce the probability of being harmed by drinking the water. For these reasons, some form of the negligence rule that does not involve strict liability would appear to be appropriate. Given the specific circumstances of the case, and in particular, the pre-existing condition of the aquifer, the townspeople could do more to adjust their activity level than could the landfill operator.

c) Assume instead that the wastes deposited in the landfill came from homes that do not draw their drinking water from the affected aquifer. Would this affect your answer to part b in any way? If so, how and why? If not, why?

I would have to say that it would not affect the answer I suggested in part b. In this case, the townspeople could still take actions to protect themselves from the potentially contaminated water by adjusting activity levels; in this case the frequency with which they use the water from the aquifer for certain things. They simply couldn’t do anything to reduce the likelihood of additional contamination. Thus, they should still be the residual bearer of harm.