

Range Wars: The Rancher and the Farmer



Professor Coase employs the classic example of the rancher and the farmer to illustrate how bargaining can internalize externalities. The rancher and the farmer share a common boundary that is easily traversed by the rancher's cattle. When the rancher's cattle stray onto the farmer's land they destroy part of the farmer's crop. The damage to the farmer can be measured by the farmer's lost profits.

Assume the annual cost to the farmer, Jack, for building and maintaining a fence around the farm is \$10,000. Because the ranch covers a larger area, it would cost the rancher, Jill, \$20,000 annually or twice as much to enclose the ranch. If either fence is built, lost profits of \$16,000 in damaged crops will be eliminated. The rancher, however, could eliminate most of damage to the farmer's crops by hiring an additional cowhand for an annual wage of \$5,000. If the additional cowhand is hired, the farmer's annual profit loss is only \$7,000.

1. What is the efficient solution to the problem confronting the rancher and the farmer? The efficient solution would maximize the joint profits of the rancher and the farmer. Should the cattle be allowed to stray or should a fence be built? If so, who should build the fence?
2. Assume that transactions costs are zero. In light of the Coase theorem, how might the farmer and the rancher resolve this trans-boundary dispute under each of the following assignment of rights? Specify the range of potential dollar settlements by indicating the minimum asking price and the maximum bid price. What are the maximum offers that would be made by the party without the right and the minimum offers that would be accepted by the party with the right?
 - I. **Farmer's rights to damages:** The rancher must reimburse the farmer for any lost profits due to straying cattle. (closed range)
 - II. **Rancher's rights:** The rancher has no obligation to keep his cattle from straying. He does not have to compensate the farmer for any damage caused by straying cattle. (open range)
 - III. **Farmer's right to an injunction:** The farmer can obtain a court order to keep the cattle from damaging his crops. If the rancher does not comply, the farmer can ask the court to shut down the ranch. (Assume injunction is a negotiable right. The farmer can choose not to enforce the injunction or sell the right to someone else.)

Variations on a Theme

3. Suppose transactions are not costless. There are negotiation costs, contracting costs and enforcement costs. Think of these costs as a wedge between the price one party pays and the other party receives.

- a) If these costs were \$1,000 per year how might this change your previous analysis?
- b) If these costs were \$5,000 per year, how might this change your previous analysis?
4. The original cost of fencing is based upon an old style post and rail construction. Suppose there is a remarkable new discovery called “barbed wire” that reduces the annual cost of fencing by 50%. How might this affect future relations between the farmer and the rancher?
5. Based upon your analysis, from an efficiency perspective does it matter which system of rights prevails?
6. Suppose the ranch was in existence before the farm. The farmer was a latecomer to the neighborhood. Would this affect the efficient result? Would this affect your preference for one system of rights over another?
7. Suppose a conglomerate took over control of both the ranch and the farm. What would it do to resolve this problem?
8. Does the distribution of rights affect the long-run consequences for the farmer and the rancher? How?

Related Article

Robert C. Ellickson, “Of Coase and Cattle: Dispute Resolution Among Neighbors in Shasta County, *Stanford Law Review*, February, 38 *Stan. L. Rev.* 623 (1986)