§3.14  The Distributive Effects of Property Right Assignments

The economist can assist the policymaker not only by explaining the effects of a policy on the efficiency with which resources are used but also by tracing its effects on the distribution of income and wealth. Consider a proposal to make the owner of a factory liable for the damage that its smoke causes to residential property owners. On a superficial analysis the only wealth effect is to make the homeowners better off and the factory owner—surely a rich man—worse off. But the matter is more complicated. If the amount of smoke damage (and the cost of various measures to reduce it) increases as output increases, the new liability will increase the factory's

cager to engross as much of the difference as possible and this may prevent their agreeing on a price without lengthy and costly bargaining.
5. This function of possession is emphasized in Carol M. Rose, Possession as the Origin of Property, 52 U. Chi. L. Rev. 73 (1985).
6. 37 Conn. 500 (1871).
marginal cost. Can the firm compensate by raising the price of its product? Not if it was previously selling at a price equal to its marginal cost and it has competitors selling at a price equal to their marginal cost, which is the same as his marginal cost except that they are not liable for smoke damage (or perhaps they have newer machinery that does not produce smoke as a by-product). If the firm tried to raise its price, its customers would defect to its competitors. If, however, the firm's marginal-cost curve is rising (why might it be?), meaning that its marginal cost is lower the smaller its output, then by reducing its output the firm may be able to keep afloat despite the fact that the pollution-control costs have shifted its marginal-cost curve upward. Even so, the firm's profits will shrink, as will the number of people it employs, the amount of supplies it purchases, and the amount of rent that it can afford to pay for land and other scarce resources.

Now suppose that all the competing firms are made subject to liability for smoke damage and as a result all experience an increase in their marginal costs equal to the first firm's. A price increase is now feasible for the firm. Its sales will not drop to zero. The product is identical for all of the firms, we may assume, but it is not identical to other products, so consumers may pay more rather than do without. But we know from Chapter 1 that there will be some substitution, and therefore the output of the industry will decline. The only difference between this and the previous case is that the consumers now share the burden of the liability with the input suppliers, for some consumers substitute other products when they would have preferred to continue to buy the industry's product at its former price, while others continue to buy it and pay a higher price.

Figure 3.2 graphs these two cases. The left-hand side presents the case of the firm subjected to a cost increase not experienced by its competitors. It faces a horizontal demand curve because the slightest increase in its price would cause its sales to fall to zero as consumers switched to its competitors. The right-hand side depicts a cost increase that affects all competitors equally; here it is the industry's demand curve rather than the firm's demand curve that is relevant.

But the analysis is incomplete because it ignores the effects elsewhere in the economy of a reduction in the output of one product. The output of substitute products will increase, and this may benefit the workers in the industries that manufacture those substitutes. Consumers may be helped or hurt, depending on whether costs in those industries rise or fall with increases in output. Attention to effects in other markets distinguishes "general equilibrium" analysis from the more common "partial equilibrium" analysis of changes in economic activity.

In evaluating the distributive consequences of pollution control in a partial-equilibrium framework, note that the workers and (in our second case) consumers who pay a part of the cost of compliance may be a less affluent group than those who benefit from the reduction in pollution. Some costs of pollution are matters of aesthetics rather than health and are experienced primarily by well-educated, leisureed, and well-to-do people. Furthermore, if the properties the value of which is enhanced by a reduction in pollution are rental properties,

§3.14 1. How might consumers bear a part of the burden in our previous example?
2. Is the existence of competitors a sufficient condition for the demand curve faced by each firm to be horizontal? Why not? What difference does it make to the analysis in the text?
3. Subscript $F$ in Figure 3.2 stands for firm, subscript $I$ for industry.
the primary beneficiaries will not be the tenants but the owners (who may be wealthy): They will demand a higher rent for what is now more valuable property.  

For a change in property rights to have a wealth effect on suppliers of inputs, those inputs must be specialized in the sense that they cannot command as high a price in an alternative use. If the land on which the factory is located is as valuable for some other, and smokeless, use, imposing liability will not affect its value. Similarly, if the workers have as good employment opportunities elsewhere, they will suffer only to the extent of moving costs from the reduction in the factory’s demand for their services. Only if the land and their skills are more valuable in their present use than in any other use will the contraction or disappearance of the factory affect the landowner’s and the workers’ wealth.

Wealth effects also depend on contract. If the employees have long-term employment contracts with the factory owner, he will be forced to swallow a portion of the costs that otherwise would have fallen on them. If the renters have long-term leases, a part of the benefit of reduced pollution will inure to them rather than to the owners. Although it is thus possible to protect by contract against the wealth effects of a change in property rights, the party desiring protection will have to compensate the other party for assuming the risk of the change.

When high transaction costs make contracting infeasible, wealth effects may still be cushioned by anticipation. Suppose the traditional rule is that farmers have the right to be free from spark damage, but there is some expectation that the rule might be changed. Then purchasers of farmland will pay less, and if the change materializes their loss will be smaller. In sum, a change in law will alter the distribution of wealth only to the extent that the change is unanticipated and affects the demand for specialized resources.