

Pollution and Market Failure: Role of Government in Efficient Pollution Regulation of the Oil Industry

Perfect markets are efficient when there is perfect information and perfect competition. Unregulated efficient markets ideally have no externalities and minimal or zero transaction costs. The assumption is that economic efficiency occurs when the total surplus is maximized and there is Pareto optimality. Given that, in reality, markets are not perfect or entirely efficient, government intervention is often necessary to adjust for negative externalities on public goods.

Pollution by the oil industry has been an issue of increasing importance in many third world countries. There was a demonstration a few weeks ago on Sproul Plaza calling for increased regulation and punishment of misconduct by oil giants and compensation for their past environmental destruction. The focus was on the misconduct of Shell in Latin America and Africa and the disastrous results for the local population. In this case of pollution, free market competition will not remedy the problem because it does not maximize joint welfare. Government regulation can correct the market failure of this externalized social cost by imposing pollution standards or pollution fees to force a monopoly firm to internalize some of the social costs. (In most of these cases of pollution, Shell was the only firm in the region.)

Governments of these countries can impose compensatory damages on Shell at the efficient level where the marginal social cost equals the marginal cost of abatement. If enforcement is perfect and the firm will have to pay the expected fines, they will choose the profit-maximizing level of abatement where the marginal cost of reducing pollution equals the social marginal benefit of abatement. The firm continues to marginally reduce its pollution level until the cost of reductions outweighs the marginal social benefit. Concerns over inability of enforcement can be countered by factoring the probability of enforcement into the fine. If enforcement is less probable, the efficient fine will be larger. The government can also adjust damages based on the level of necessary precaution taken by a firm. If a firm implements the precaution required, any resulting damages can range from zero to compensatory. If the firm does not comply, they will have to pay damages up to the firm's total wealth. (Ingberman)

The problem here is whether the government will chose to implement policies to curb pollution. Companies like Shell bring in large amounts of revenue into these countries and because of high discount rates and large debts, they need the extra income. Environmental degradation presents a cyclical problem to the poor in third world countries because of their natural resource dependence. Their vulnerability increases drastically because environmental disruption, whether it be climate change or pollution, is devastating to agriculturally dependent economies. If they cannot sustain economic shocks, they fall into debt again. (Roland-Holst)

It is also interesting to note how this issue of oil industry regulation has become prevalent on campus again. Because of the role of expectations and strategic decisions, one can argue that because the massive profits the oil industry has seen as a result of oil price hikes and resulting public discontent, this resurgence of consciousness is occurring at a particularly opportune point in time. Perhaps those calling for more industry regulation are trying to maximize their "expected payoff" by capitalizing on current public opinion.

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