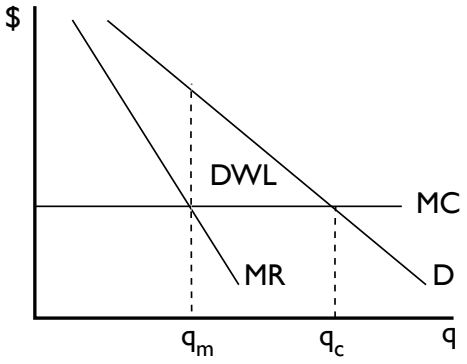
ECON 224, Professor Hogendorn, Spring 2018

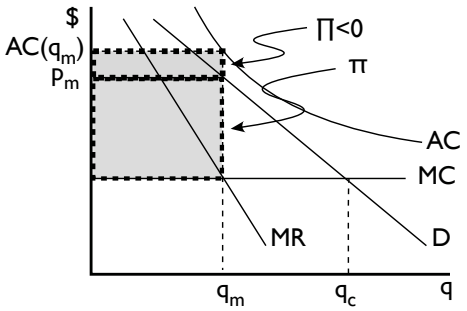
Midterm Exam Answers

1. *Fraud.*

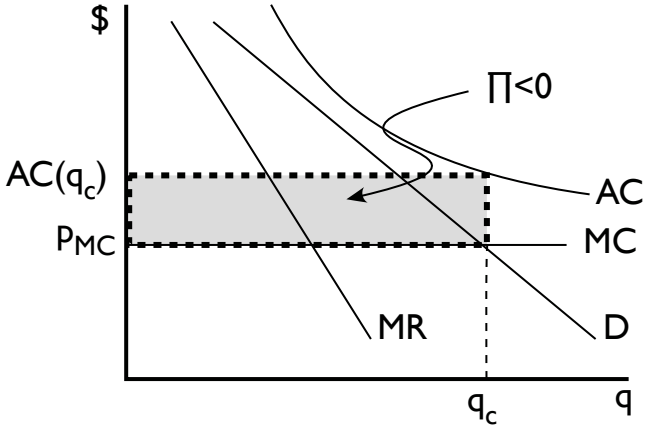
   (a) The monopoly sets its quantity q_m based on marginal revenue equals marginal cost, because that quantity maximizes profit. But the efficient quantity q_c is where the demand curve crosses marginal cost. All units of production between q_m and q_c have a marginal benefit (along the demand curve) greater than their marginal cost. Thus society is suffering a loss since these units are not produced by the monopolist.



   (b) Since MC is flat, $MC = AVC$, and the AC curve slopes down and approaches the flat MC. Nothing ever happens to cause AC to rise again. Even at the monopoly price, FS's operating profit π is not enough to cover its fixed costs, resulting in a net profit Π that is negative.



(c) The lowest possible subsidy is obtained by asking the firm to maximize its (operating) profit and then providing it with enough funding to cover its net loss. This is precisely the amount Π from part (b). Social welfare is maximized when price is set equal to marginal cost, which occurs where demand crosses the MC curve. This point involves a much higher quantity, and AC is still above price so the subsidy needed to cover this level of output is higher.



(d) Since the consortium consists of all the customers, they *are* the demand curve. Thus, one would think the consortium would maximize consumer surplus and set its internal tranfer price equal to marginal cost. The consortium would then have to fund the resulting deficit just as in the graph for part (c). If the internal politics of the consortium make it impos-

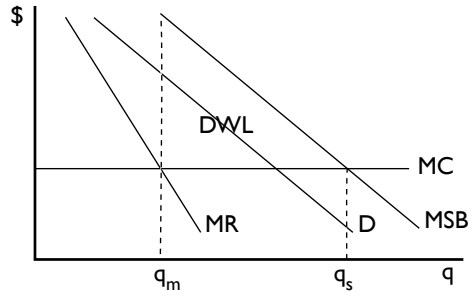
sible to provide the full funding level, then the consortium might direct FS to produce some amount lower than q_c in order to reduce the needed subsidy.

(e) In the case of the public subsidy, the costs are widely distributed across all the taxpayers, while the benefits are concentrated among the small group of client firms. This is the case of client politics, and would certainly be the best-case scenario from the point of view of the client firms. (Although they might not like having the government so closely tied up in their business.)

The consortium model has the same group of concentrated beneficiaries, but now the costs are also concentrated among that same group. This is the case of interest group politics.

As to which one is the more likely outcome, it depends on how vigilant the pubic's representatives are with regard to spending tax revenue. If they are very vigilant, they would not allow the client politics situation to develop. On the other hand, precisely because the costs are so widely distributed, the subsidy might get passed anyway.

(f) The positive externality means that the social optimum q_s is to the right of the point where $MC = MPB$. The deadweight loss from the monopoly is even worse than before because large external benefits are now lost.



(g) In order to incentivize the buyers to purchase the socially op-

timal quantity, the price p_s must be very low, below marginal private cost. If the firm charges this price p_s, it needs a very large lump-sum subsidy as shown.