ECON 224, Professor Hogendorn

Problem Set 7 Answers

1. *ATT-TMobile_a.*

   (a) As is often the case, there were large economies of scale in the local telephone (distribution) segment of this industry, and history suggests that not more than 2 firms would have entered as a positive matter. Further, there was a normative argument for natural monopoly which had led to regulated monopoly.

   But the long-distance (transmission) segment did not have such extremely high fixed costs relative to demand, and more firms were able to co-exist in this market. By structurally separating the two segments, it was not possible for the monopoly at the local level to carry over to the transmission level, and initially 3 firms entered this segment. 3-firm oligopoly prices are likely to be lower than 1-firm monopoly prices (even 1-firm regulated monopoly prices if the regulation has not been very aggressive).

   (b) On the face of it, this is surprising because a 4-firm oligopoly should be more competitive than a 3-firm one. But in this case Sprint would be considerably smaller than the other 2 firms in the market, so asymmetries probably matter. For example, if economies of scale are very powerful, then the two large firms might be able to underprice little Sprint and still make a profit. Or the other firms might be vertically integrated into related industry segments like broadband or TV, and Sprint could then suffer a cost-disadvantage offering these services. Anything that made Sprint a weak competitor on its own might make it a takeover target since its assets would be more productive under common ownership with one of the larger players.

2. *NN_a*. In the case where the platform charges 0 for delivery, we can expect that the service will be offered to anyone for whom the MSB>0. (This assumes that there is some way to fund the service itself, in the case of a pure positive externality, there could still be an issue with the service not being offered because no one will pay for it, or at least not the last 3 units of it.) Then the amount offered will be 13.

   If, instead, the platform charges $1 for delivery, then the this be a private transaction and the number of units will be where $MPB = 10 - q = 1$ or 9 units, a much larger drop than would be expected from a marginal price change like this.