

ECON 224, Prof. Hogendorn

Problem Set 7

1. *Skyping*. Suppose there are 40 (think 400 million) people who *might* want to use Skype. The benefit of each user (also the price they would pay) for Skype is given by

$$p = 40n - n^2$$

where n is number of people who actually use Skype. Note this is an inverted-U curve with a maximum of 20 and touches the x axis at 0 and 40, and note this is all on the *extensive margin*: we assume each user's intensity of use of Skype is the same.

- (a) Suppose that Skype is considering a price of 4. Discuss what equilibria may emerge in this market. Which equilibria are stable and which unstable?
2. *Friendface*. Consider an Internet platform company called *Friendface*. One quarter of its users can be described as "Group Z," while the rest fall into other groups.
 - (a) Draw a demand curve diagram showing the demand by Group Z users and the total demand of all users (including Group Z) for the service. (For simplicity, you can assume they are linear and slope down at the same rate, note that this means the choke price for Group Z is lower than for the service as a whole.)
 - (b) Show how the two demand curves shift if Friendface introduces a new service to all users that Group Z and the other users like equally well.

- (c) Show how the two demand curve shift if Friendface introduces a new service to all users that only Group Z likes and non one else cares about.
- (d) Show how the two demand curves shift if Friendface introduces a new service to all users that Group Z likes but all the other users dislike. You can assume that the maginitude of the like and dislike is the same, e.g. plus \$1 for Group Z and minus \$1 for everyone else.
- (e) Now show the same result as part (d), but this time Friendface serves the feature to Group Z but hides it from the other groups.
- (f) No credit for this one: does anyone know what TV show the fictional company Friendface is from?