

## Examen network industries and digital markets (14/1/2019)

### Part network industries:

#### **Question on the model of advertising in monopoly TV station**

- Profit of firm
- Write down 2 FOCs
- Show that marginal revenue = nuisance cost. Interpret this economically
- Derive the Lerner index for subscription
- Brief explanation when one would only use subscription or only use advertising

- The website chooses  $a$  and  $s$  to maximize

$$\pi(a, s) = (R(a) + s)D(\gamma a + s)$$

- This gives the first-order conditions

$$(1) \quad \frac{d\pi}{da} = R' D + (R + s)D' \gamma = 0$$

$$(2) \quad \frac{d\pi}{ds} = D + (R + s)D' = 0$$

- Substitute (2) in (1) and rewrite (1):

$$R' = \gamma$$

$$D \left( 1 + (R + s) \frac{D'}{D} \right) = 0 \Leftrightarrow \frac{s + R}{s} = \frac{1}{\varepsilon}$$

### Part digital markets

#### **Question 1: Long tail**

- What is the long tail?
- Give factors that cause long tail
- Discuss the benefits of variety from the paper of Brynjolfsson, Hu and Smith: "Consumer surplus in the digital economy: estimating the value of increased product variety at online booksellers". Discuss their empirical study and their findings
- Are there only benefits from finding existing products? Think of the study from Aguiar and Waldfogel: "Quality predictability and the welfare benefits from new products: evidence from the digitization of recorded music". Discuss the role of producers and how digitization changed the industry

#### **Question 2: Rating systems**

- What are the problems a buyer is faced with?
- What are the factors that influence a buyer trusting a seller? Think of the (dynamic) game we saw in class. You can use it to provide an answer on the question.
- Discuss the findings of the paper of Bolton, Katok and Ockenfels: "How effective are electronic reputation mechanisms? An experimental investigation" and link it to online market platforms