

The Economics of Information Congestion

Discussion by Franck Portier
fportier@cict.fr

Toulouse School of Economics

September 2011



The Economics of Information Congestion

Discussion by Franck Portier
fportier@cict.fr

Toulouse School of Economics

September 2011



Basic Setup

- ▶ Firms: $\theta \in [0, 1]$, one message each

Basic Setup

- ▶ Firms: $\theta \in [0, 1]$, one message each
- ▶ send messages: if opened, $\pi(\theta)$

Basic Setup

- ▶ Firms: $\theta \in [0, 1]$, one message each
- ▶ send messages: if opened, $\pi(\theta)$
- ▶ cost of sending a message: γ

Basic Setup

- ▶ Firms: $\theta \in [0, 1]$, one message each
- ▶ send messages: if opened, $\pi(\theta)$
- ▶ cost of sending a message: γ
- ▶ probability of the message being opened: \mathbf{p}

Basic Setup

- ▶ Firms: $\theta \in [0, 1]$, one message each
- ▶ send messages: if opened, $\pi(\theta)$
- ▶ cost of sending a message: γ
- ▶ probability of the message being opened: \mathbf{p}
- ▶ message supply: $\mathbf{p}\pi(\bar{\theta}) = \gamma$

Basic Setup

- ▶ Firms: $\theta \in [0, 1]$, one message each
- ▶ send messages: if opened, $\pi(\theta)$
- ▶ cost of sending a message: γ
- ▶ probability of the message being opened: \mathbf{p}
- ▶ message supply: $\mathbf{p}\pi(\bar{\theta}) = \gamma$
- ▶ Think of firms as fishermen with one line and one hook

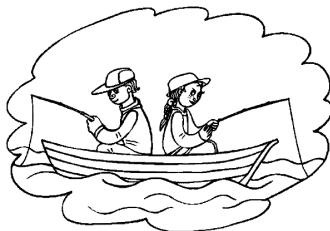


Tragedy of the Commons

- ▶ Tragedy of the commons: $\mathbf{p} = \mathbf{p}(\bar{\theta})$, $\mathbf{p}' < \mathbf{0}$

Tragedy of the Commons

- ▶ Tragedy of the commons: $\mathbf{p} = \mathbf{p}(\bar{\theta})$, $\mathbf{p}' < 0$
- ▶ This is the fisheries problem



Tragedy of the Commons

- ▶ Tragedy of the commons: $\mathbf{p} = \mathbf{p}(\bar{\theta})$, $\mathbf{p}' < 0$
- ▶ This is the fisheries problem



- ▶ Note that welfare of the fish is here not taken into consideration ...

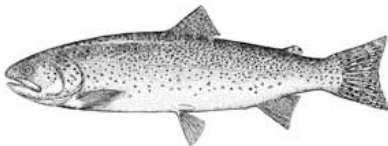
Fisheries vs Phisheries

- ▶ There is more than the simple tragedy of the commons in the phisherries problem



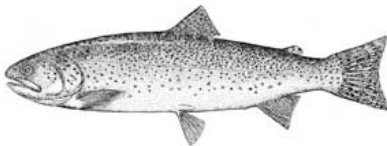
Introducing Smart Fish (Trouts?) (and Caring for Them)

- ▶ Assume that high θ messages are less valuable for the consumer



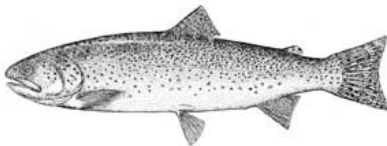
Introducing Smart Fish (Trouts?) (and Caring for Them)

- ▶ Assume that high θ messages are less valuable for the consumer
- ▶ As if a fish would prefer to be caught by a better fisherman, and better fishermen had lower profits per catch



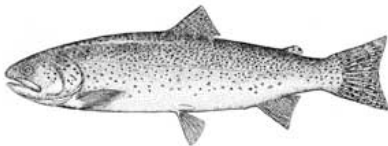
Introducing Smart Fish (Trouts?) (and Caring for Them)

- ▶ Assume that high θ messages are less valuable for the consumer
- ▶ As if a fish would prefer to be caught by a better fisherman, and better fishermen had lower profits per catch
- ▶ But a fish can't tell from the hook the quality of the fisher



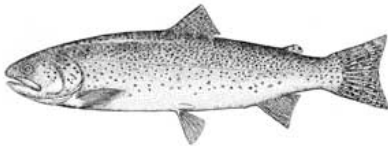
Introducing Smart Fish (Trouts?) (and Caring for Them)

- ▶ Assume that high θ messages are less valuable for the consumer
- ▶ As if a fish would prefer to be caught by a better fisherman, and better fishermen had lower profits per catch
- ▶ But a fish can't tell from the hook the quality of the fisher
- ▶ Fish can decide of their biting intensity



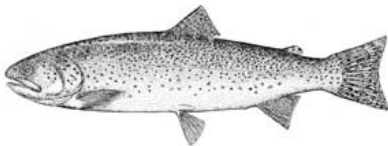
Introducing Smart Fish (Trouts?) (and Caring for Them)

- ▶ Assume that high θ messages are less valuable for the consumer
- ▶ As if a fish would prefer to be caught by a better fisherman, and better fishermen had lower profits per catch
- ▶ But a fish can't tell from the hook the quality of the fisher
- ▶ Fish can decide of their biting intensity
- ▶ If they expect the average fisher to be of a low quality, they will bite less



Introducing Smart Fish (Trouts?) (and Caring for Them)

- ▶ Assume that high θ messages are less valuable for the consumer
- ▶ As if a fish would prefer to be caught by a better fisherman, and better fishermen had lower profits per catch
- ▶ But a fish can't tell from the hook the quality of the fisher
- ▶ Fish can decide of their biting intensity
- ▶ If they expect the average fisher to be of a low quality, they will bite less
- ▶ This will discourage good fishers \rightsquigarrow another externality



Fishing Authority

- ▶ A third player is the platform that collects the messages and send them to consumers



Fishing Authority

- ▶ A third player is the platform that collects the messages and send them to consumers
- ▶ Think of the Fishing Authority that has many possible instruments



Fishing Authority

- ▶ A third player is the platform that collects the messages and send them to consumers
- ▶ Think of the Fishing Authority that has many possible instruments
 - ▶ Fishing permits



Fishing Authority

- ▶ A third player is the platform that collects the messages and send them to consumers
- ▶ Think of the Fishing Authority that has many possible instruments
 - ▶ Fishing permits
 - ▶ Distribute free permits to good fishers



Fishing Authority

- ▶ A third player is the platform that collects the messages and send them to consumers
- ▶ Think of the Fishing Authority that has many possible instruments
 - ▶ Fishing permits
 - ▶ Distribute free permits to good fishers
 - ▶ No fishing zones (Do-Not-Call)



Fishing Authority

- ▶ A third player is the platform that collects the messages and send them to consumers
- ▶ Think of the Fishing Authority that has many possible instruments
 - ▶ Fishing permits
 - ▶ Distribute free permits to good fishers
 - ▶ No fishing zones (Do-Not-Call)
 - ▶ Let fish price the right to fish them



Fishing Authority

- ▶ A third player is the platform that collects the messages and send them to consumers
- ▶ Think of the Fishing Authority that has many possible instruments
 - ▶ Fishing permits
 - ▶ Distribute free permits to good fishers
 - ▶ No fishing zones (Do-Not-Call)
 - ▶ Let fish price the right to fish them
- ▶ What if the Fishing Authority maximizes its own profit and not the social welfare?



Hooks

- ▶ Assume now that fishers can put more than one hook on their line (Shouting to be heard)



Hooks

- ▶ Assume now that fishers can put more than one hook on their line (Shouting to be heard)
- ▶ Many equilibria (I did not get much intuition on how do they differ)



Hooks

- ▶ Assume now that fishers can put more than one hook on their line (Shouting to be heard)
- ▶ Many equilibria (I did not get much intuition on how do they differ)
- ▶ Then a possible equilibrium is that worse fishermen will hang more hooks to the line



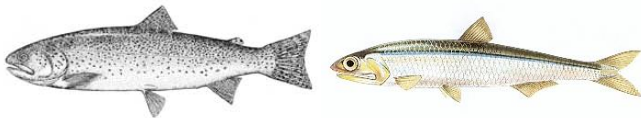
Hooks

- ▶ Assume now that fishers can put more than one hook on their line (Shouting to be heard)
- ▶ Many equilibria (I did not get much intuition on how do they differ)
- ▶ Then a possible equilibrium is that worse fishermen will hang more hooks to the line
- ▶ This will reduce the appetite of fish, and will crowd-out good fishermen



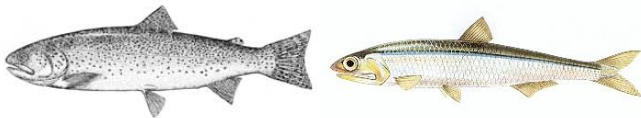
Why is the Research not about Anchovies ... but about Trouts?

- ▶ The problem is more complex than the tragedy of the commons in fisheries because



Why is the Research not about Anchovies ... but about Trouts?

- ▶ The problem is more complex than the tragedy of the commons in fisheries because
 - ▶ the cost of fishing is going down very fast in the advertisement/information sector



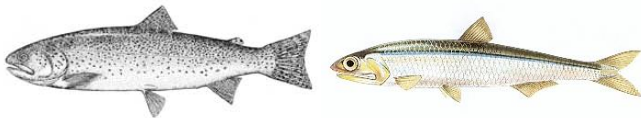
Why is the Research not about Anchovies ... but about Trouts?

- ▶ The problem is more complex than the tragedy of the commons in fisheries because
 - ▶ the cost of fishing is going down very fast in the advertisement/information sector
 - ▶ receivers are smart fish : they think before biting, and can refrain from biting



Why is the Research not about Anchovies ... but about Trouts?

- ▶ The problem is more complex than the tragedy of the commons in fisheries because
 - ▶ the cost of fishing is going down very fast in the advertisement/information sector
 - ▶ receivers are smart fish : they think before biting, and can refrain from biting
 - ▶ the Fishing Authority is generally one of many profit-seeking platforms that have their own agenda



Why is the Research not about Anchovies ... but about Trouts?

- ▶ The problem is more complex than the tragedy of the commons in fisheries because
 - ▶ the cost of fishing is going down very fast in the advertisement/information sector
 - ▶ receivers are smart fish : they think before biting, and can refrain from biting
 - ▶ the Fishing Authority is generally one of many profit-seeking platforms that have their own agenda
- ▶ This creates a lot more triangles than in the fisheries problem, and makes Simon and André research agenda very relevant



The Economics of Information Congestion

Discussion by Franck Portier
fportier@cict.fr

Toulouse School of Economics

September 2011



A smiling fish