

# Too expensive to meter: The influence of transaction costs in transportation and communication

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## *Outline:*

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- Fine-grained charging and control becoming technologically feasible
- Incentives to implement them are increasing (in standard economic model)
- Other, countervailing factors often dominate:
  - explicit costs too high
  - user costs (explicit or mental) too high
  - undesirable side effects
  - ...

## *Claimed goals vs. operative ones:*

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Tolls on Stockton and Darlington Railway, 1825:

|                               |                    |
|-------------------------------|--------------------|
| stone and gravel              | 0.5 pence/ton-mile |
| coal for export               | 0.5                |
| lime                          | 1.75               |
| coal for domestic consumption | 2.5                |

Revenue maximization (involving price discrimination) often key (but typically hidden) motivation

## *Basic dichotomy: Is usage to be minimized or maximized?*

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- Transportation: usually (but not always) to be minimized
- Communication: usually (but not always) to be maximized, to fill the growing pipes

Contrary to many claims, Internet traffic growth is declining: see MINTS project

<http://www.dtc.umn.edu/mints>

# *Telecom: Appalling lack of information*

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- Size of network
- Traffic
- Growth rates
- Connectivity

## *Long-haul is not where the action is:*

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### ▶ 360networks transatlantic cable

|   |                   |
|---|-------------------|
| <b>Construction cost</b>  | <b>\$850 M</b>    |
| <b>Sale price</b>   | <b>\$18 M</b>     |
| <b>Annual operating cost</b>                                    | <b>\$10 M</b>     |
| <b>Lit capacity</b>   | <b>192 Gb/s</b>   |
| <b>Fully lit capacity</b>                                       | <b>1,920 Gb/s</b> |
| <b>Ave. transatlantic Internet traffic</b><br><b>(mid-2007)</b> | <b>400 Gb/s</b>   |

# *It's not how much you charge, but how you charge, that matters:*

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1822 Parliamentary hearings on lighthouse dues:

“grounds of complaint ... as well on account of the amount to which they were levied, as the manner in which the levy of them was made”

## *Consumers' willingness to pay more for simple pricing:*

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What was the biggest complaint of AOL users? Not the widely mocked and irritating blue bar that appeared when members downloaded information. Not the frequent unsolicited junk e-mail. Not dropped connections.

Their overwhelming gripe: the ticking clock. Users didn't want to pay by the hour anymore.

Case had heard from one AOL member who insisted that she was being cheated by AOL's hourly rate pricing. When he checked her average monthly usage he found that she would be paying AOL more under the flat-rate price of \$19.95. When Case informed the user of that fact, her reaction was immediate.

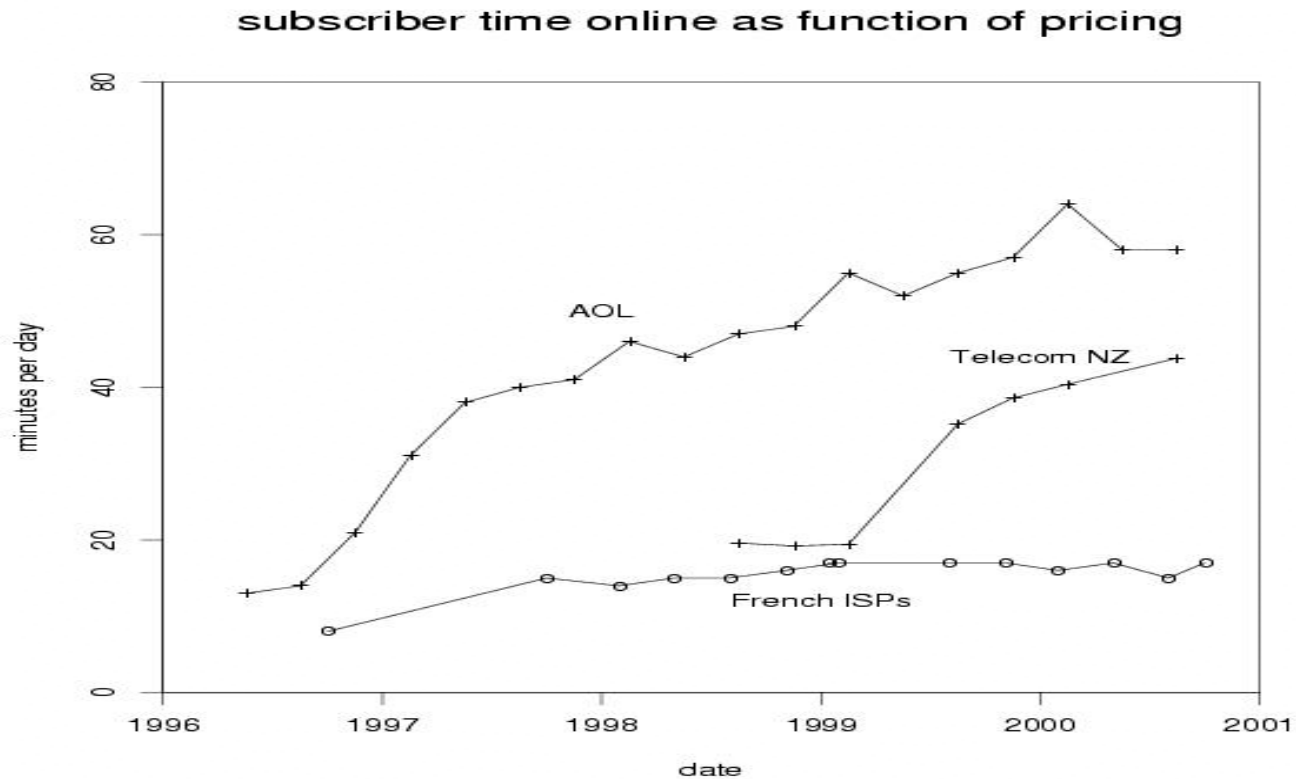
'I don't care,' she told an incredulous Case. 'I am being cheated by you.'

*from aol.com: How Steve Case Beat Bill Gates, Nailed the Netheads, and Made Millions in the War for the Web, Kara Swisher, 1998.*



# *Flat rates as a way to stimulate usage:*

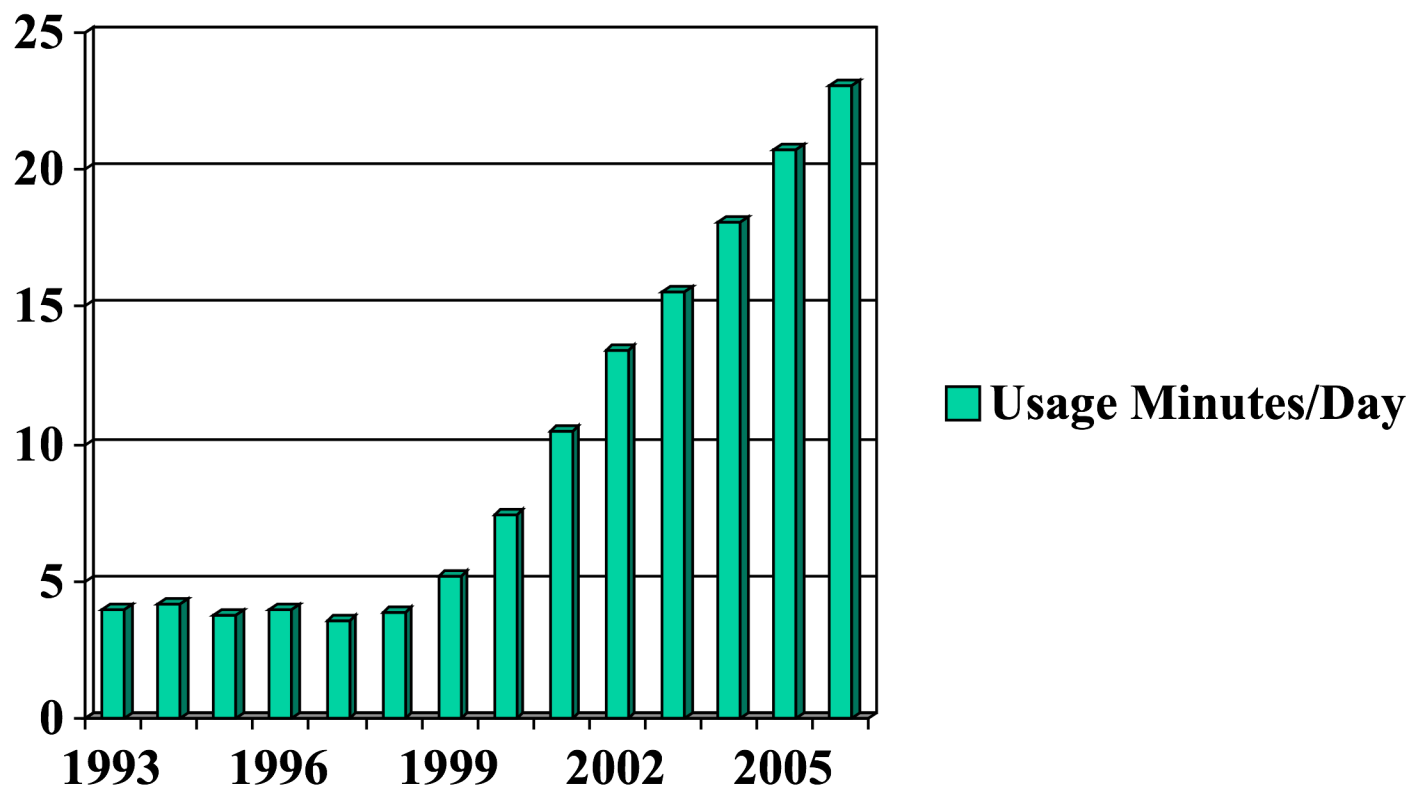
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## *Almost flat rates :*

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U.S. cell phone usage, minutes per day around June of each year.



## *Different levels of tolerance for complexity:*

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Example of postal system:

- Individual: simple “postal” rates
- Organizations: wide variety of rates depending on degree of presorting, time sensitivity, ...

## *It's not how much you charge, but how you charge, that matters (cont'd):*

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- If want to encourage use, use simple (flat rate) plans
- If want to discourage use, use intrusive and annoying schemes (for example, for London Congestion Charge, require separate prepayment of each day's fee, ...)

Full paper with more details, as  
well as related papers and  
presentation decks at:

<http://www.dtc.umn.edu/~odlyzko>