

# Digital television and telecom

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## Outline

- Key concepts and mechanisms
  - Network effects
  - Emerging market structures
- Telecom markets
  - Which changes has the telecom sector gone through the last decades?
  - What are current challenges for the telcos and in telecom markets?
- Digital television
  - What does digitalization mean for the future of television?
  - Which implications may this have for public and private television?

## Network effects

- Network effects:
  - When the value of a product to one user depends on how many other users there are.
    - Real networks: Phone, fax, internet etc
    - Virtual networks: Users of macs, windows etc

*It is better to be connected to a bigger network than a smaller one.*

## Emerging market structures?



- Dominant firm model
  - size and scale economies gives it a cost advantage over smaller rivals - enhanced by network effects and lock ins (Microsoft)
- Differentiated product market
  - firms competing producing the same "kind" of information (films, series etc)

## Telecom monopolies

- 1899 Norwegian monopoly adopted by parliament
  - Private companies are bought over the next decade
  - 1974 state buys the last private telco
- Arguments in favour of monopoly:
  - Ensure interoperability
  - Telecom - a natural monopoly
  - Ensure universal distribution

## Telecom lib

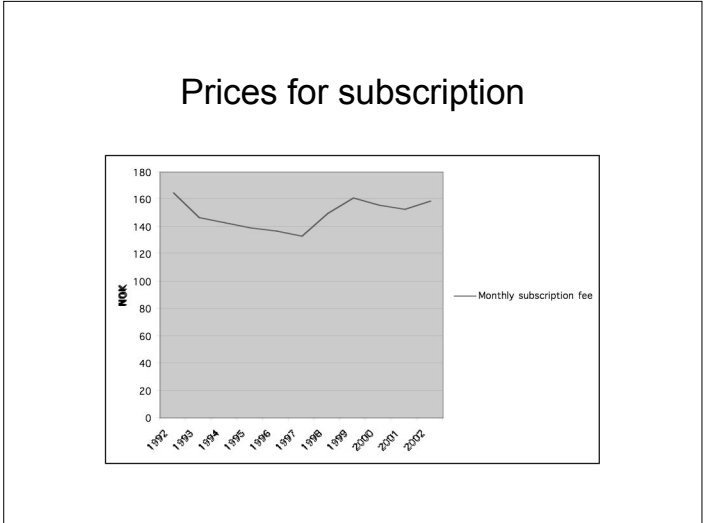
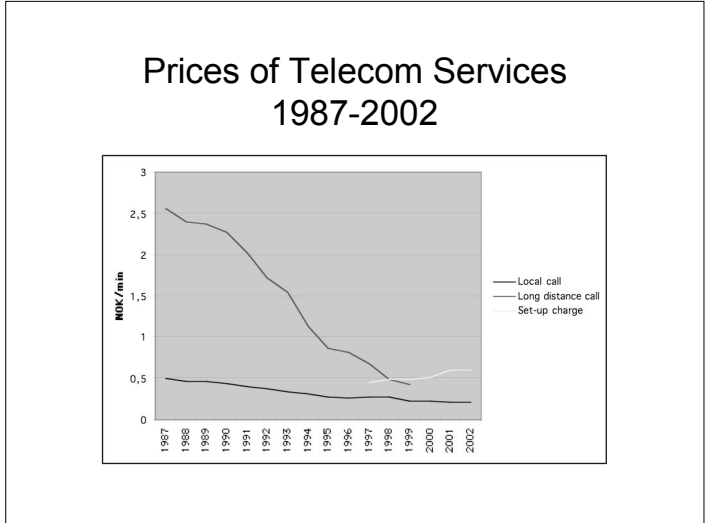
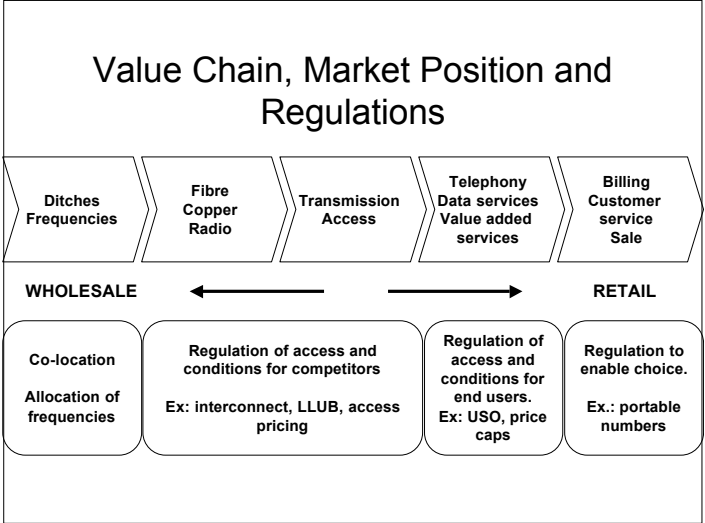
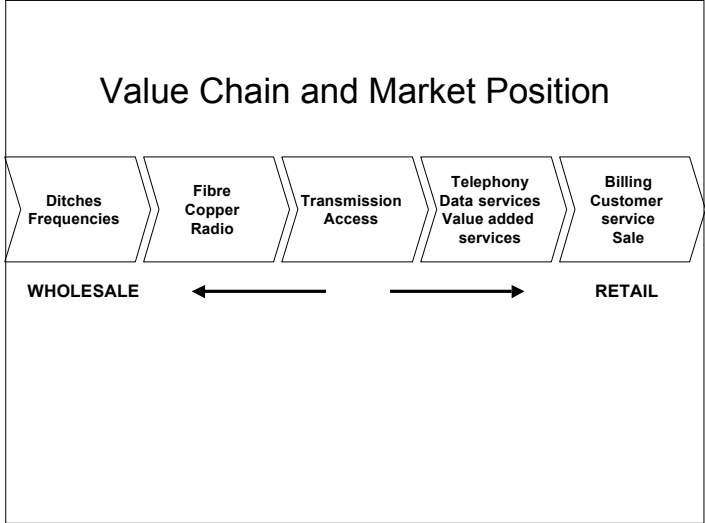
- Liberalization
  - From late 1980s: Terminals, in-house networks, cable tv networks
  - Early 1990s: GSM, datacom
  - 1.1.1998 remaining monopoly privileges abolished
- Arguments in favour of liberalization
  - Liberalization <sup>™</sup> competition <sup>™</sup> cheaper and better services.

## Liberalization meant re-regulation

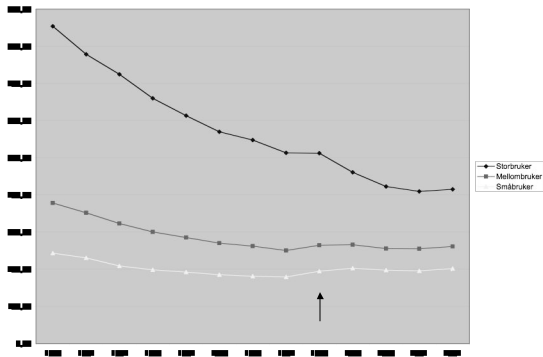
- In order to create competition
  - Incumbent <sup>™</sup> de facto monopoly
  - Network effects <sup>™</sup> advantage for large users
  - Without regulations - never real competition
- In order to ensure universal service provision
  - Markets may leave unprofitable areas unserved

## Value Chain





## Effects for user groups



## Effects on competition

### Entrants

- Want better conditions for access
- Dissatisfied with level of competition

### Incumbent + vertically integrated operator

- Want better incentives for investments
- Dissatisfied with level of regulation

## Emerging market structures?

A strong position in Scandinavia

	Telecom	Orange	Swedish
Mobile	No. 1	No. 2	No. 3
Broadband	No. 1	No. 3	No. 2



### Dominant firm model

- size and scale economies gives it a cost advantage over smaller rivals - enhanced by network effects and lock ins
- Telenor...?

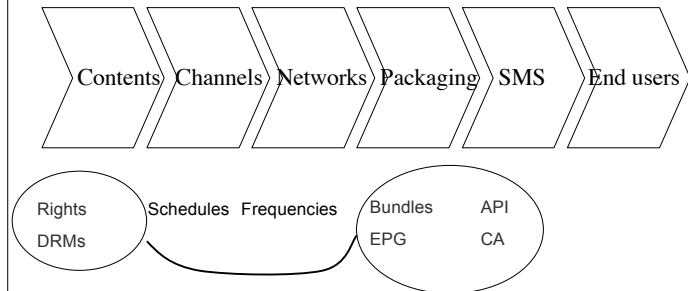
### Differentiated product market

- firms competing producing the same "kind" of information
- service providers competing on Telenor's networks?

## TV - political starting point

- Television regulation
  - Networks regulated as bottlenecks
    - Culture - NRK as public broadcaster + TV2's license to terrestrial television
    - Access - penetration of terrestrial networks + must carry in cable tv
- Telecom regulation
  - Regulation of access (wholesale + USO)
  - No cultural policy
- General regulations
  - Competition, industry, consumer etc.

## Power in digital TV networks



## Economic perspectives

- **Industrial development**
  - Enable strong Norwegian actors and a Norwegian media industry.
  - NRK (and TV2) as media industry locomotives
- **Bottleneck control as strategy**
  - Enables network effects and economies of scale and scope.
- **Competition policy**
  - Enable more actors in the television markets - in all parts of the value chain
  - “normalise” tv-markets
- **Bottleneck control as problem**
  - Enables networks effects and creates market structures with dominant firms.

## Cultural perspectives

- **Public sphere**
  - Secure the position of PSBs
  - Diversity within the channels
- **Bottleneck control as strategy**
- **Freedom of choice**
  - More opportunities for individual choice
  - Diversity in the market
- **Bottleneck control as problem**

## Dilemmas

	<b>Bottleneck control as strategy</b>	<b>Bottleneck control as problem</b>
<b>Economic perspectives</b>	Industrial developments	Competition
<b>Cultural perspectives</b>	Publics and PSBs - but limit commercial bottlenecks.	Freedom of choice

## NTV and political perspectives

### Industrial politics

- Flexibility in business models

### Competition policy

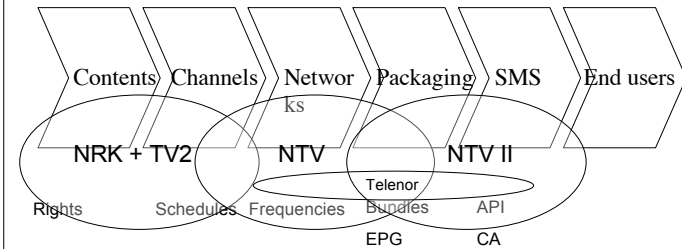
- Limits to dominance
- Prefer new actor

### Cultural policy

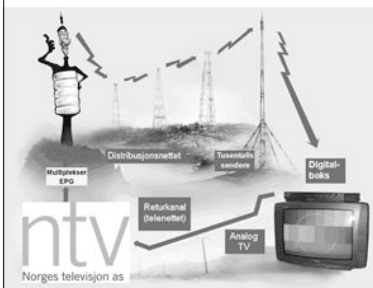
- Ensure PSB
- Promote diversity
- Limit commercialization

*NB: Main political argument for DTT has been PSB*

## NTVs potential power position



## Emerging market structures?



### Dominant firm model

- size and scale economies gives it a cost advantage over smaller rivals - enhanced by network effects and lock ins
- NTV...?

### Differentiated product market

- firms competing producing the same "kind" of information
- Multiple network providers and service providers...?