Deregulating Communications in Europe

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The Starting Point

- **Piecemeal liberalisation throughout 80s and early 90s (equipment, value-added services, basic services), leading to uneven development of competition.**

- **Progressive development of regulatory framework through Directives on Interconnection and Universal Service, Licensing, etc.**

- **Acceptance of 1998 as liberalisation date.**

The Standard 1998 Model

- **Licensing:**

  no obstacles in theory, but delays and unnecessary requirements in practice.

- **Retail pricing:**

  price caps widely used, with free prices in some markets; tariffs still unbalanced

- **Interconnection:**

  cost-oriented rates required, but considerable variation tackled by 'benchmarking'.

- **Universal service obligations:**

  consistent level of obligations with low estimated net costs; US funds allowed but rarely used.

The Institutional Framework

- **Federal system: enactment of general principles implemented by national regulatory authorities (NRAs)**

- **Concurrent operation of competition law (at a national and EU level)**

- **Commission can initiate legal proceedings against member states for failure to implement Directives or Regulations (e.g. UK on local loop unbundling)**

Perceived Weaknesses of 1998 Package

- **Lack of overall coherence.**
- **Too prescriptive for more liberalized markets.**
- **<u>Ad hoc</u> approach to market power.**
- **Failure to take account of convergence.**
- **Need for consistent regime for access (to the consumer) as well as for interconnection (of networks)**
- **Poor record of enforcement (of Directives and competition rules).**
- **Concern about North American supremacy in e-commerce, etc.**

The Review

- **Initiated in November 1999 by Commission**
- **Consultation in early 2000**
- **Publication of Proposals for Directives in July 2000**
- **Legislative process in 2001/2**
- **Effective start 2003 - for rest of decade?**

Principles and Structure of New Proposals

- **Principles:**

  Framework should be based on clearly defined policy objectives, be limited to achieve those objectives, provide legal certainty, be technologically neutral, and be enforced at lowest level.

Structure:

Framework Directive, plus Directives on Authorisation (licensing), Access and Interconnection, Universal Service and Consumers'Rights and Privacy.

Treatment of Market Power

A. Current regime

Operators with significant market power - SMP (effectively 25% share of pre-specified markets) have obligations to supply at cost-based pricing, for separate accounting, etc.

Widely regarded as ad hoc means of controlling fixed link incumbents, though with effects in mobile markets too.

Treatment of Market Power

B. The November 1999 Proposal

Two thresholds:

SMP - 25% of 'economic' market, with obligation to negotiate.

Dominance - 50% of 'economic' market, with obligation to supply interconnection services at cost-based prices, and non-discrimination obligations.

This was widely criticised as too restrictive

Treatment of Market Power

C. Proposed Directives

- **SMP defined as dominance ('power to behave independently of competitors, customers and, ultimately, consumers'); this implies 50% market share - by analogy with competition law.**
- **Commission will issue Decision on Relevant Product and Services Markets.**
- **NRAs will undertake analysis to identify SMP, and impose obligations as appropriate.**
- **Where a market is found to be effectively competitive, no specific regulation can be imposed or maintained.**

Ex ante versus Ex post

- **The proposal involves ex ante application of competition law principles (market identification, dominance, etc.) usually applied ex post.**

- **The justification for this hybrid system is that it acknowledges the prospect of effective competition but accepts the reality of significant bottlenecks or 'essential facilities'.**

The Importance of Market Definition

NRAs undertake analysis of markets defined (on a regular basis) by the Commission.

If markets, especially for new products, are narrowly defined, there may be a risk of over-regulation.

Convergence widens some markets (e.g. through the proliferation of delivery platforms), but also creates new bottlenecks (technical services, programming), and raises risks of vertical integration

Conclusions

The proposals set out a path of progressive deregulation at different speeds in different member states.

They fit (rather uncomfortably) into the regime for division of labour between Commission and NRAs.

They represent a step towards generic competition law, but retain major sector-specific features.

Their Achilles Heel is likely to continue to be enforcement.

Points of comparison with Australian Review

- **Proposed Directives are designed to be flexible: ex-ante regulation is discretionary and subject to review, not mandatory;**
- **Under proposals, ex ante regulation is confined to dominant firms;**
- **Non-dominant firms are not regulated;**
- **Regulation of dominant firms is rigorous and predictable;**
- **Proposed Directives are concerned with leveraging by vertically integrated incumbent.**

Convergence, Network Economics and Regulation

Prof. Jeffrey MacKie-Mason
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US convergence

- Last 5-10 yrs emerging convergence in technology & services
  - Voice: extensive wireless, quality & price not competitive
  - Video: coax extensive (~90% pass), copper in test, satellite competitive
  - Broadband Internet: coax dominant (70%), copper coming (DSL), limited trials for fixed wireless, satellite (but lower bandwidth & not cost competitive)

Economics of convergent telecoms and info services:

- Persistent pull toward horizontal concentration
- Persistent pull toward vertical integration
- Persistent opportunities to raise entry barriers through consumer lock-in

Lessons

- 1) Persistence of local loop monopoly power surprisingly strong
- 2) Tech convergence slowly introduces some competition, but competitive outlook less rosy than expected
  - **Costs** of alternative access higher
  - **New services face same problems** as local loop
  - Convergence encourages **vertical integration** with new market power problems

Two views:

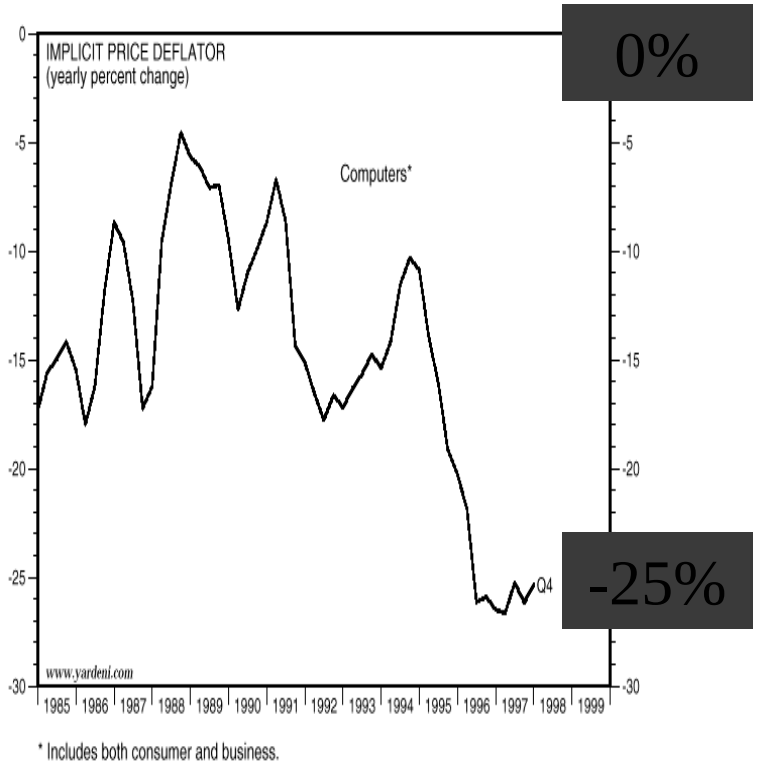
- **Convergence Utopians**:
  Technological convergence eliminates natural monopoly problems

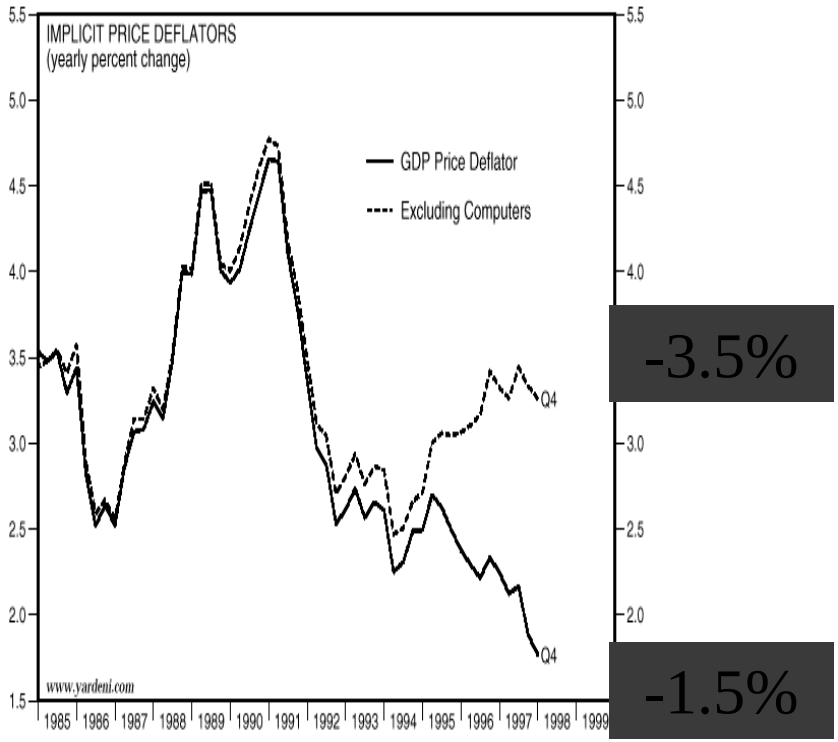
- **Convergence Pragmatists**:
  Convergence solves some problems, exacerbates some, creates others

Convergence utopians: “Silicon and sand will set us free”

- The secular religion of the ‘96 US Telecom Act
- Natural monopolies will be eliminated by entrepreneurial innovation, unleashed by exponentially decreasing costs of silicon and sand

Silicon Prices



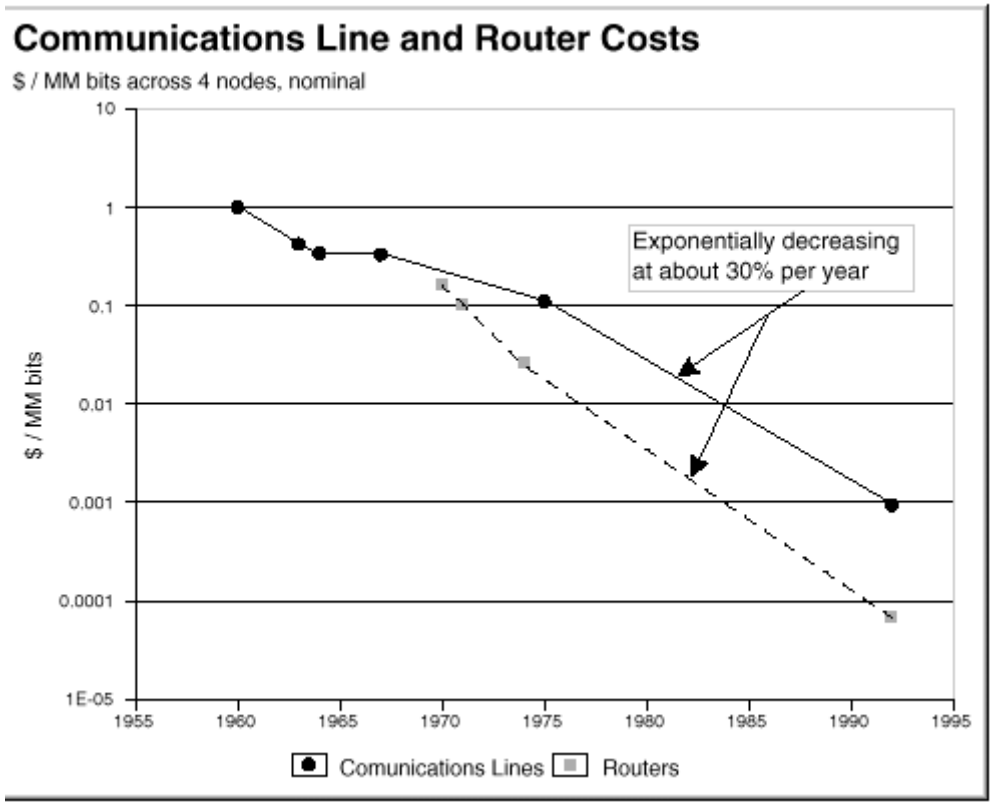


Computers: 5-20% price drop per year

GDP inflation: 3.25% without, 1.75% with computers

Source: Ed Yardeni, Deutsche Morgan Grenfell

Sand Prices



Source: MacKie-Mason and Varian 1995

Utopian implications for regulation: Don’t need it

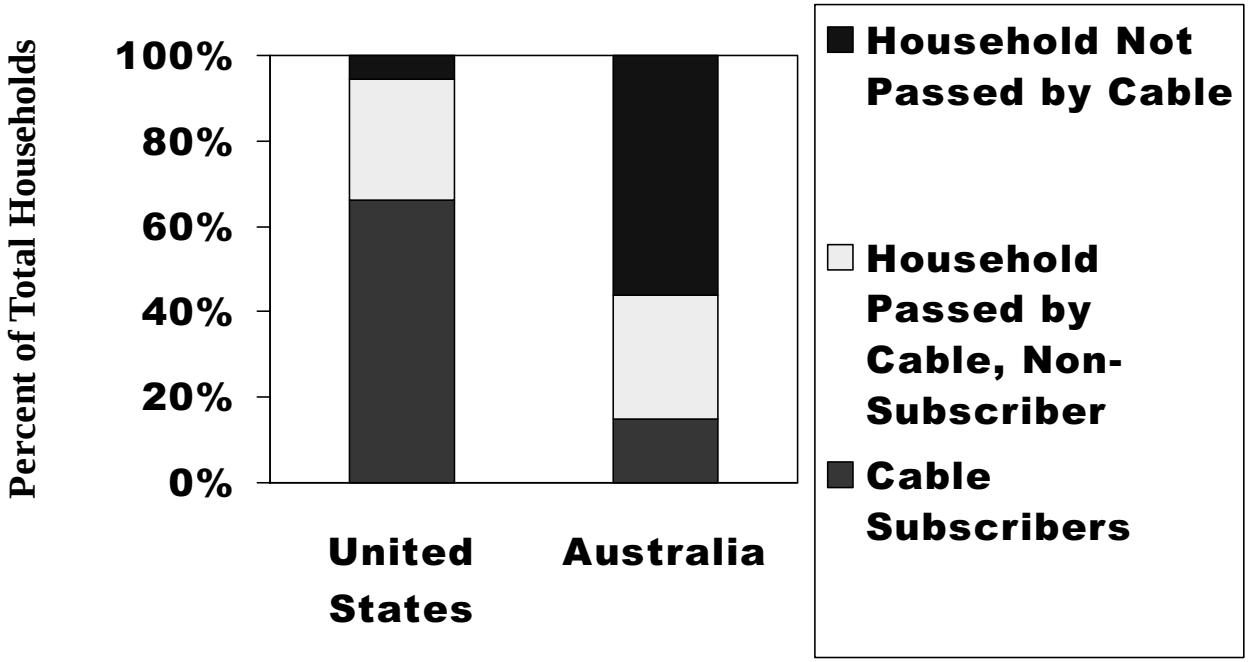
- Long distance is competitive
- Local telephony is (soon) competitive (wireless, coax)
- Broadband Internet (video, &c.) will be competitive (coax, twisted pair, satellite, wireless)

Convergence pragmatists

- Old problems not yet eliminated
  - local loop for voice in many places
  - customer data (number portability, usage data)
- Same problem arise for new services and technologies
  - email & other name portability
  - profile data
  - broadband local loop
  - standards / interfaces are critical bottlenecks

Example: Local loop not competitive yet

- Only 40% of Australian homes have choice of competitive local phone facility
- Telstra retains 95% local calling share
- Even in cable-based pay TV Telstra has 67% share



Why do we see similar problems for new services?

- Similar characteristics of demand and technology

Fundamental economic characteristics of info and telecoms

• Network effects	→	• Standardization, interconnect, demand-side monopoly
• Economies of scope	→	• Service aggregation
• Economies of scale	→	• Supply side natural monopoly
• Vertical complementarities	→	• Vertical integration and service aggregation

I. Network Effects

- Product value increases with number of consumers
  - Directly: fax; instant messaging
  - Indirectly due to ancillary markets (more software available for Windows than for Mac)

Network effects intrinsic to telecom

- Vast increase in the number of services
  - e.g., Internet telephony, email-to-fax, email-to-pager, voicemail-to-email, instant messaging, SMS, point-to-point video, virtual private networks, &c.
- These services depend on interconnection either physically or through standardized interfaces
- **Without access requirements, demand-driven tendency towards natural monopoly**

Standards: Potential access bottleneck

- Standards and interfaces play same role as local loop
- Access to the standard required for access to the network
- If a dominant provider controls a critical standard, it can control a market and harm competition

Examples

- SS-7, ATM
- TCP/IP
- Ethernet
- Windows OS
- MPEG/MP3
- HTTP

Leveraging standards to lock out competition

- A dominant firm in one market that controls the interface standard to another
  - Can make standard proprietary, leveraging one monopoly into two
  - Can hijack a standard to monopolize a second market

Intel leveraged interface standard

- Chipset connects CPU to rest of computer
  - Intel controls CPU-Chipset interface standard
- Pre-Pentium chipset market competitive (Intel 4%)
- With Pentium Pro / Pentium III, Intel made chipset interface proprietary
  - Intel share now 100% until it licenses some minor competitors

MS leveraged OS into applications

- IBM bundled IBM’s Lotus office suite on PCs it made and sold
- MS delayed IBM’s license to install Windows 95 on IBM PCs
- MS told IBM explicitly that the Windows 95 dispute could be easily resolved if IBM started bundling MS Office rather than Lotus software

MS leveraged OS into browsers

- MS forced PC OEMs to accept license terms requiring the OEMs to bundle IE
- MS penalized OEMs that continued to install Netscape by charging higher Windows license prices
- MS threatened Compaq with a site audit if Compaq continued to use Netscape internally

MS hijacked standards to extend power

- MS software used to generate much Java and HTML code in use
- MS modified implementation of these standards to favor MS products
  - MS-software-generated HTML fully compatible with IE, not with Netscape
  - MS in lawsuit for not following Java standard

II. Control of customer information databases

- Local number portability barrier to local telephony competition
- New services have same problem:
  - Email portability
  - Instant messaging address database
  - Personalized Internet information services (e.g., stock portfolio tracking, shared calendars)

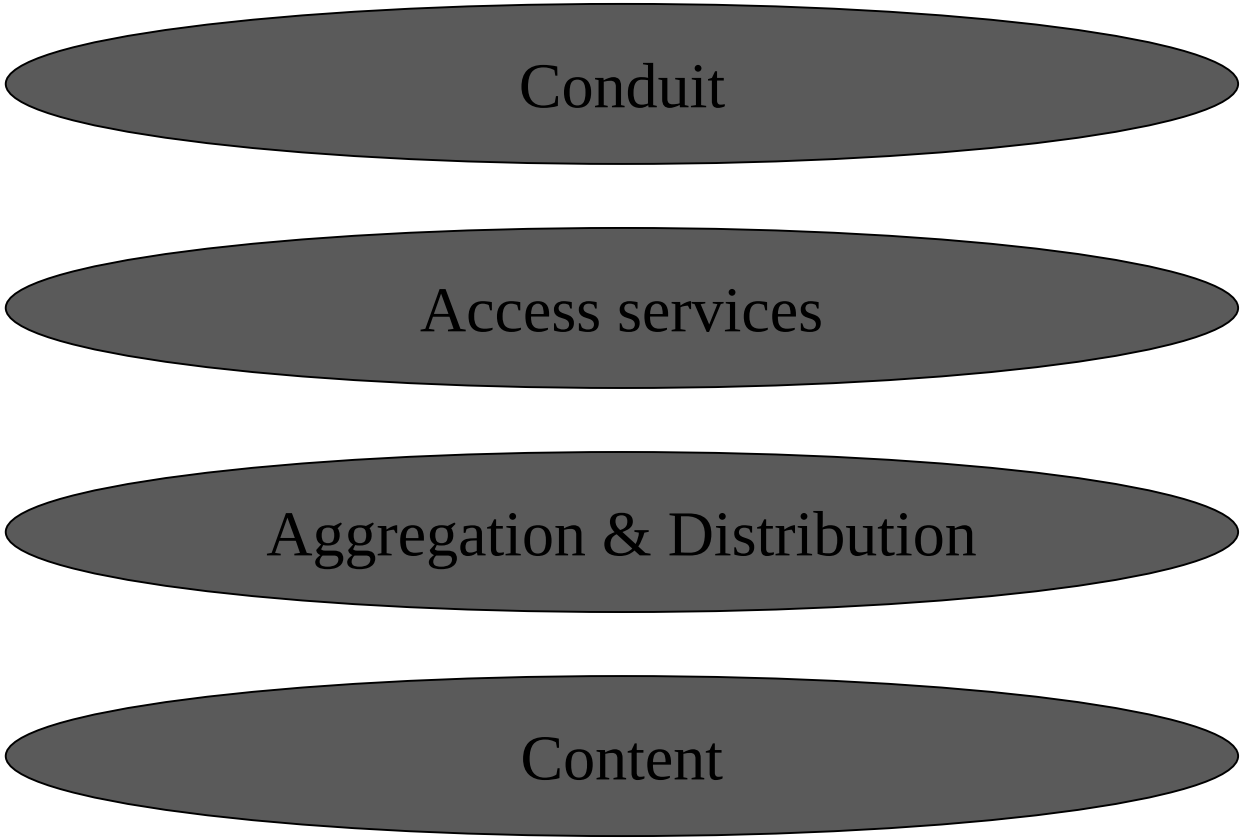
Example: AOL's Instant Messaging

- AOL has about 90% of instant messaging users in the US
- AOL has prevented Microsoft, AT&T and others from interconnecting

III: Pull towards vertical integration

- Convergence enables firms strong in one market to vertically integrate
- Extends power into new markets
- May be able to raise entry barriers by necessitating multi-market entry

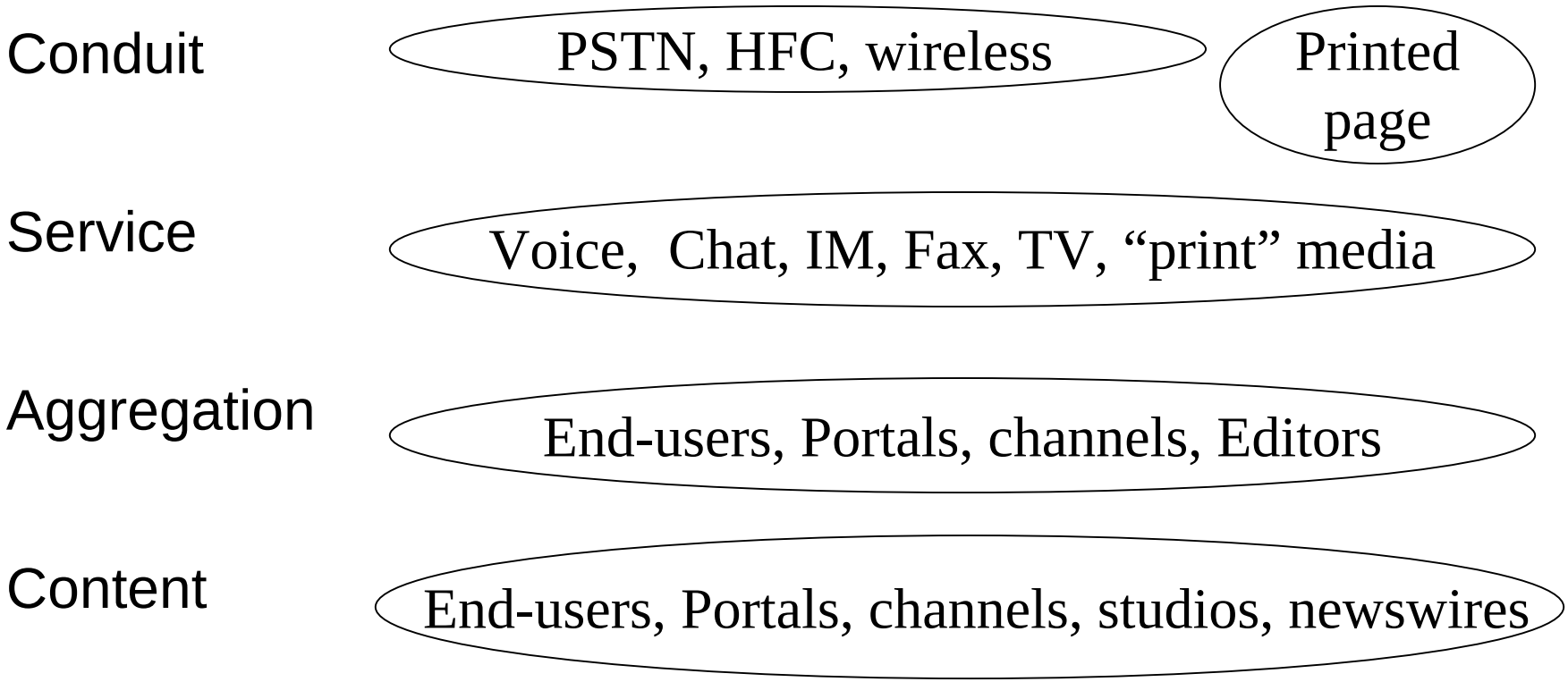
Model for analyzing telecoms & info markets



Pre-Convergence

Conduit	PSTN	Dedicated line	Free-to-air	Printed page
Service	voice	Teletype	Single-channel TV	Newspaper, magazines
Aggregation	na	na	Channel licensee	Editor
Content	end-users	end-users	channels, studios	Staff, news wires

Convergence Dream: Services Multiply, Multiple Media

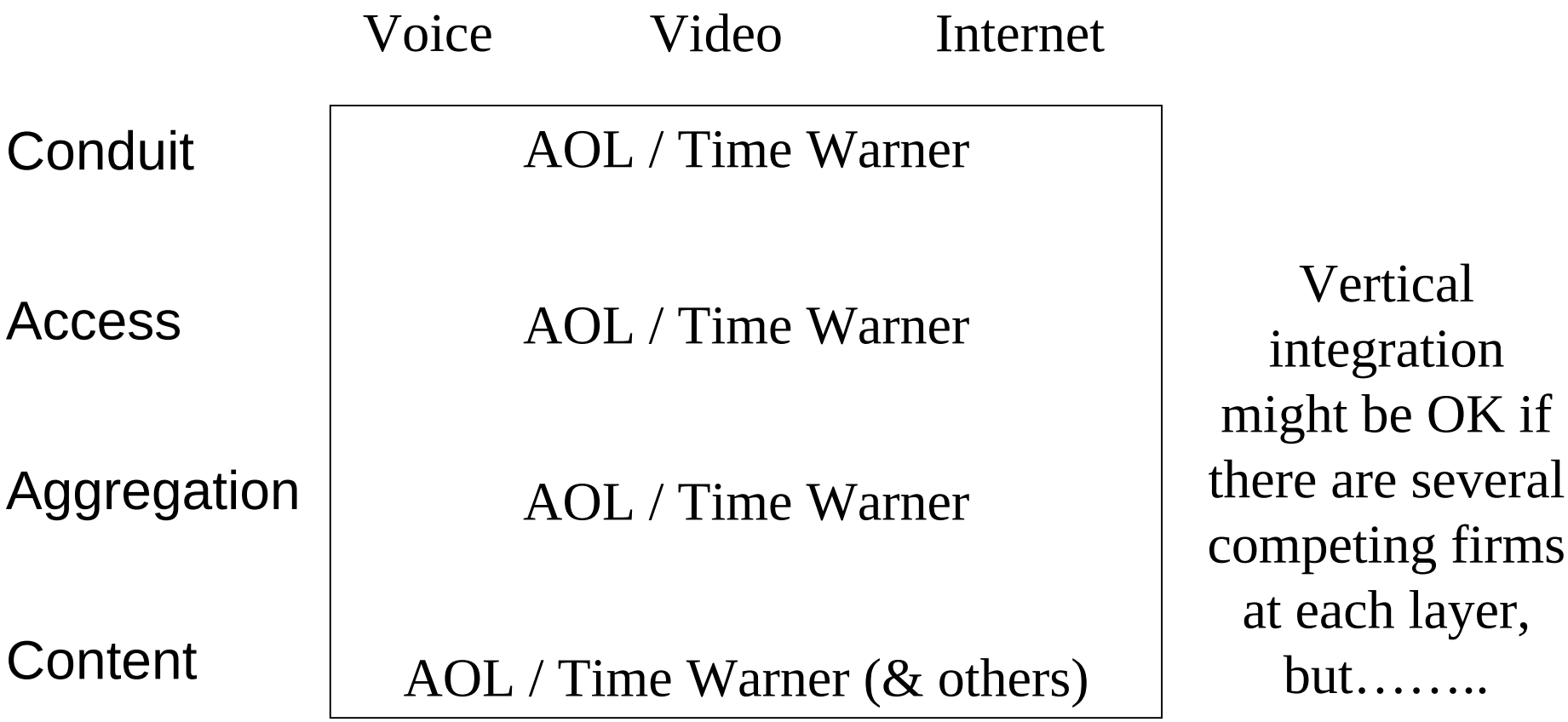


Convergence reality: Before

	Voice	Video	Internet
Conduit	Local telco	MediaOne	Local telco
Access	Local telco, AT&T	MediaOne	AOL
Aggregation	na	MediaOne, channels	AOL
Content	end-users	studios	Time Warner, Reuters, &c.

Different providers for many or most layers

Convergence reality: After



Vertical integration might be OK if there are several competing firms at each layer, but……..

Horizontal convergence but with vertical integration

Convergence reality: After

	Voice	Video	Internet	
Conduit	AOL / Time Warner			70% of local broadband
Access	AOL / Time Warner			70% of local broadband
Aggregation	AOL / Time Warner			45% of subscribers
Content	AOL / Time Warner (& others)			World's largest

Example: US cable restricted content distribution

- Series of lawsuits by U.S. and essentially all State Attorneys General against Primestar Partners (big cable operators)
- Blocked content to disadvantage distribution competition from satellite providers
- Also, e.g., Time-Warner / Turner

Implications for Industry-Specific Regulation

Why *ex ante* competition rules?

- Communications and info services have **common, predictable and persistent** characteristics that pull towards concentration and vertical integration
  - Strong network effects in demand
  - Centrality of standards
  - Strong vertical complementarities between dependent services

Ex post repair

- Vertically-based harms can be hard to undo
- Once standards are established, can't unscramble the eggs
  - Behavioral remedies ineffective or require extreme *ex post* intervention
    - e.g., dictating terms of contracts; dictating what content or services can or cannot be bundled together; price controls
  - Structural remedies are inherently drastic

Principles for *ex ante* regulation

- Don’t disrupt already-competitive areas
- Induce competition when a firm dominates an access interface or standard
- Discourage leveraging market power across layers by addressing layer interfaces
  - Must have competition on both sides of bottlenecks OR
  - Must have non-proprietary standards
- Be more wary of vertical integration than usual (if firm has power in one of the layers)

Example: ex ante competitive test for US telecom

- Specific hurdles relating to local competitive conditions must be met before an RBOC can enter long distance market
- E.g. Verizon (Bell Atlantic) can offer long distance in New York only; SBC can offer long distance in Texas only

Summary

- Convergence has not eliminated traditional single-provider bottleneck problems
- Even as technology convergence reduces the problems for maturing services, the same problems arise for new services
- Ex ante industry competition rules wise:
  - Problems are peristent and predictable
  - Reliance on technical standards and strong network effects make it very hard to fix the problem after it occurs