

Network Neutrality: A global issue, or U.S.-specific?

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Network Neutrality: A global issue, or U.S.-specific?

- What is meant by Network Neutrality?
- What are the economic implications?
- Why has it emerged as an issue at this particular time, and why has the debate been so much sharper in the U.S. than in Europe?
- What policy initiatives might be effective in dealing with it?
- What are the implications for European policymakers?

Market power and interconnection

- A new market power challenge has appeared, primarily in the U.S.: the *network neutrality* issue.
- The ongoing migration to NGN will not necessarily eliminate SMP.
 - Market power (SMP) associated with last mile bottlenecks will continue to be a significant regulatory concern for the foreseeable future.
 - New forms of market power may emerge – potential violations of network neutrality are largely in this category.

What is meant by “Network Neutrality”?

- *Network neutrality* means different things to different people:
 - The possibility that an integrated ISP might offer better performance to some Internet sites than to others;
 - The possibility that an integrated ISP might assess a surcharge where a customer wants better-than-standard performance to certain Internet sites;
 - The fear that the integrated ISP might permit access only to affiliated sites, and block access to unaffiliated sites;
 - The fear that the integrated ISP might assess surcharges for the use of certain applications, or of certain devices;
 - The fear that the integrated ISP might disallow outright the use of certain applications, or of certain devices, especially where those applications or devices compete with services that the integrated ISP offers and for which it charges; and
 - The fear that the integrated ISP might erect “tollgates” in order to collect unwarranted charges from unaffiliated content providers who need to reach the integrated ISP’s customers.

What is meant by “Network Neutrality”?

“The chief executive of AT&T, Edward Whitacre, told *Business Week* last year that his company (then called SBC Communications) wanted some way to charge major Internet concerns like Google and Vonage for the bandwidth they use. "What they would like to do is use my pipes free, but I ain't going to let them do that because we have spent this capital and we have to have a return on it," he said.” *NY Times*, March 8, 2006

What are the economic implications?

- Many U.S. scholars view this as merely a *potential* threat going forward.
- Others experts (especially Lessig and Wu) have argued that current U.S. practices already systematically violate network neutrality:
 - Charging extra for a static IP address.
 - Cable access agreements that restrict the duration for which IPTV can be provided.
 - Restrictions on encryption (VPN) over broadband Internet access, unless the consumer subscribes to more expensive (“business”) service.

What are the economic implications?

- Many of the concerns that have been raised in regard to network neutrality relate to behaviors that, in the absence of market power, would tend to *enhance* consumer welfare.
 - Some would appear to represent legitimate price discrimination.
 - Others enforce the economic property of *excludability* (the ability to prevent someone from using a service that he did not pay for) in support of price discrimination.
- Other violations of network neutrality, however, could imply some form of economic foreclosure, which should be viewed as being anticompetitive.

What are the economic implications?

- The form of market power that could potentially be exploited in anticompetitive ways in connection with network neutrality relates to network externalities (where the value of a service depends on the number of users of the service).
 - In markets where network externalities play a strong role, where the market share of the leading player is small in total or in relation to its major competitors, all firms will prefer good interconnection and interoperability.
 - Where one firm has sufficiently strong market power, overall and relative to competitors, that firm will prefer less-than-perfect interconnection and/or interoperability. Perfect interconnection would reduce the leading firm's ability to exploit its market power.
- References: Katz and Shapiro (1985), Farrell and Saloner (1985), Cremer Rey and Tirole (CRT) 2000.

What are the economic implications?

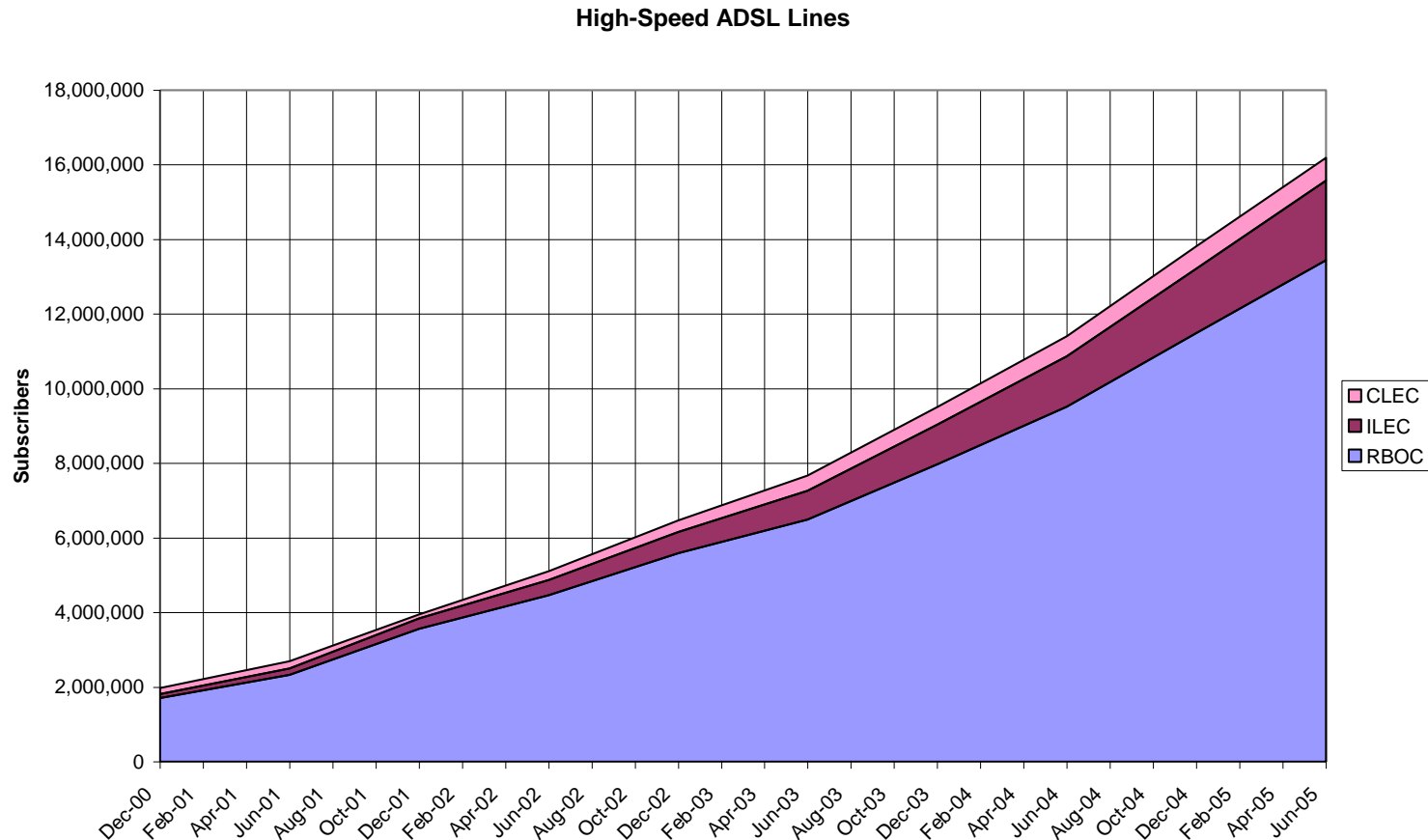
- Threshold question: Are market share in the U.S. broadband market such that Katz and Shapiro effects are on balance profitable?
 - If you believe, as Lessig and Wu do, that anticompetitive effects are already rampant, then the answer is clearly yes.
 - If you believe, as I do, that legitimate practices such as price discrimination can explain much of the current behavior, then the answer is not entirely clear.
 - Perhaps anticompetitive discrimination would not be profitable.
 - Perhaps the firms avoid anticompetitive discrimination for other reasons, e.g. because of the fear of regulatory action.

Why now? Why in the U.S.?

Three simultaneous developments: a “perfect storm”.

1. Collapse of the U.S. wholesale broadband Internet access market; consolidation into a series of non-overlapping geographically distinct duopolies.
2. A series of mega-mergers, with no meaningful undertakings imposed on the parties:
 - SBC/AT&T
 - Verizon/MCI
 - AT&T/Bellsouth
3. FCC withdrawal of regulation, including traditional obligations of nondiscrimination, with no economic analysis and no consideration of the implications of possible market power.

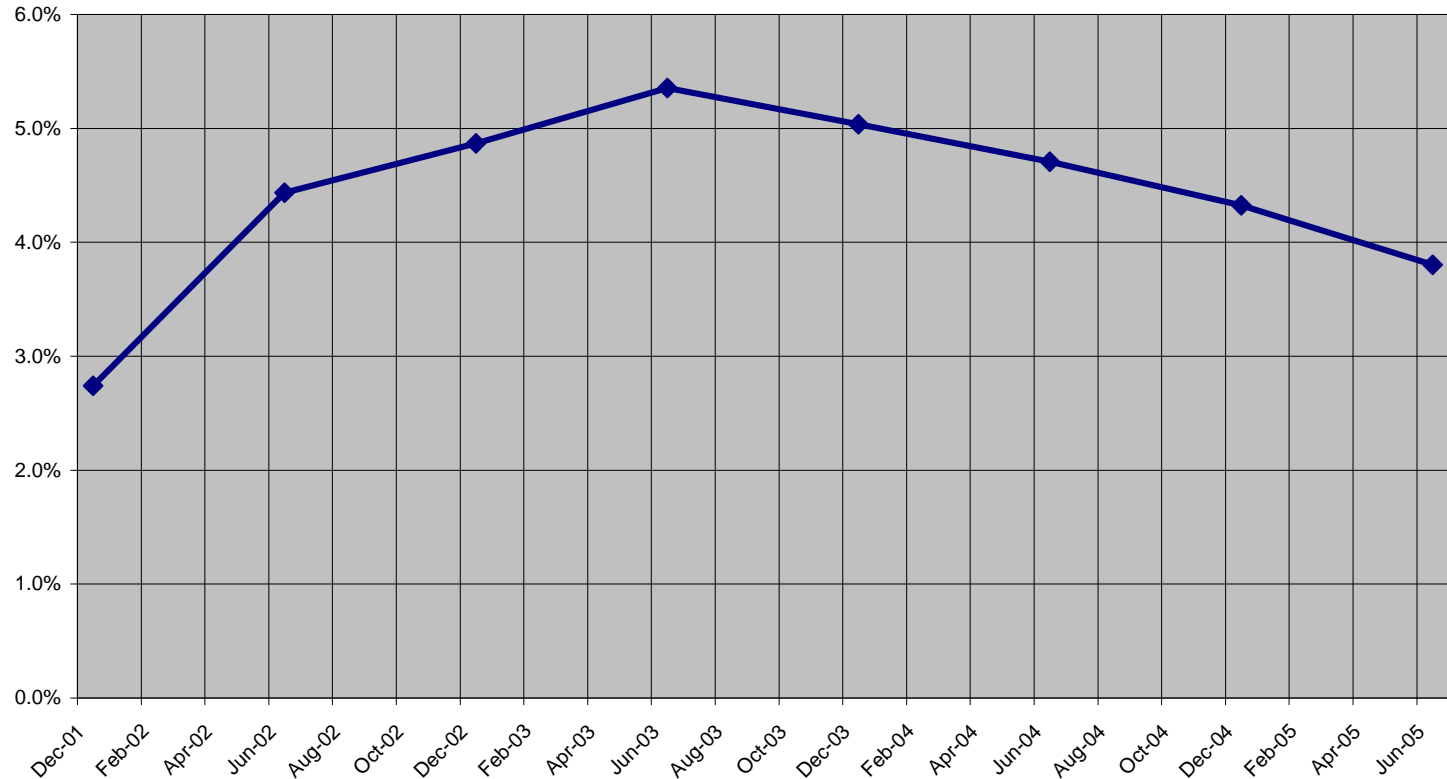
Collapse of the U.S. wholesale market for wired broadband Internet access services



Source: FCC reports based on Form 477 carrier data

Collapse of the U.S. wholesale market for wired broadband Internet access services

CLEC Percent of ADSL High-Speed Lines

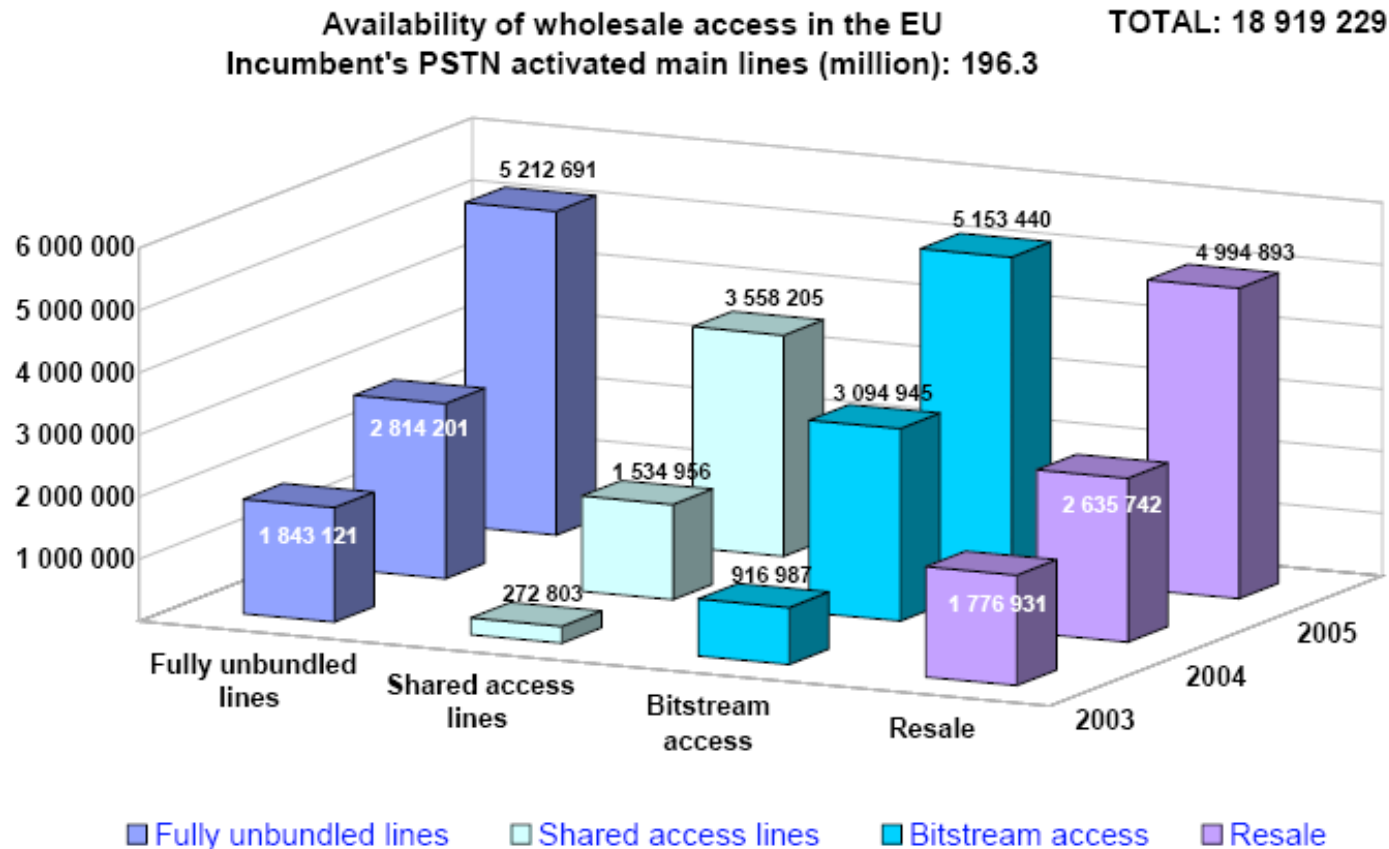


Source: FCC reports based on Form 477 carrier data

The European wholesale market for wired broadband Internet access services

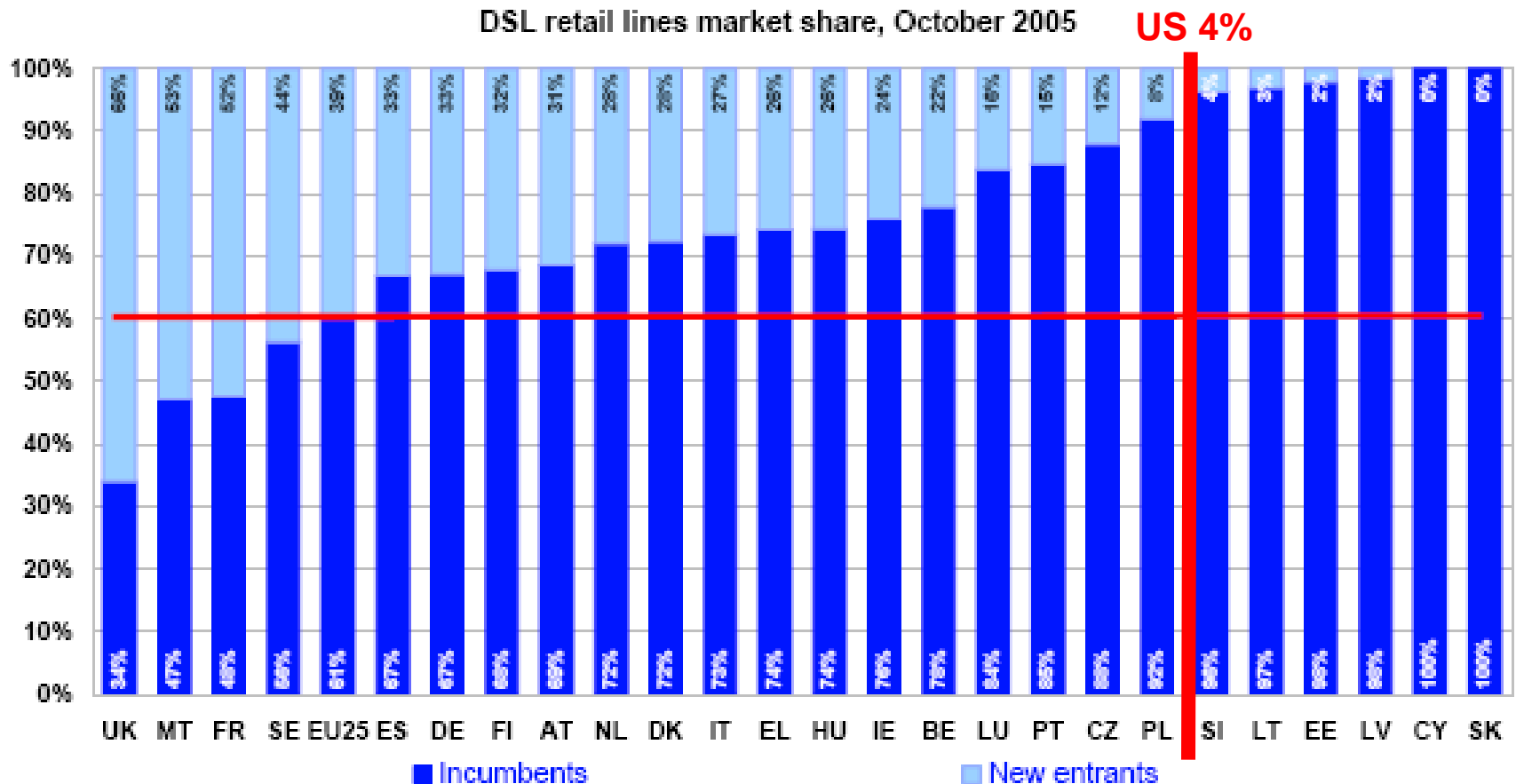
- European broadband adoption, by way of contrast, has been very successful from 2002 – present.
 - Local loop unbundling (LLU)
 - Line sharing
 - Bitstream access
 - Resale
- They represent successive rungs on the “ladder of investment”.

The European wholesale market for wired broadband Internet access services



Source: European Commission 11th Implementation Report

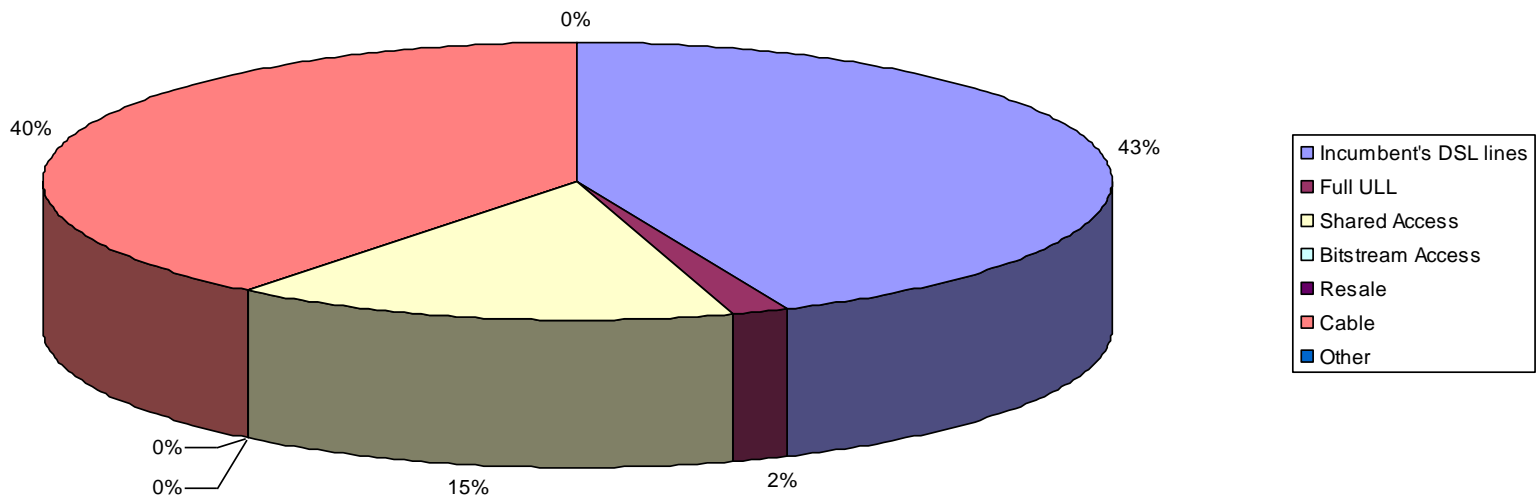
The European wholesale market for wired broadband Internet access services



Source: European Commission 11th Implementation Report

The Netherlands Broadband Market

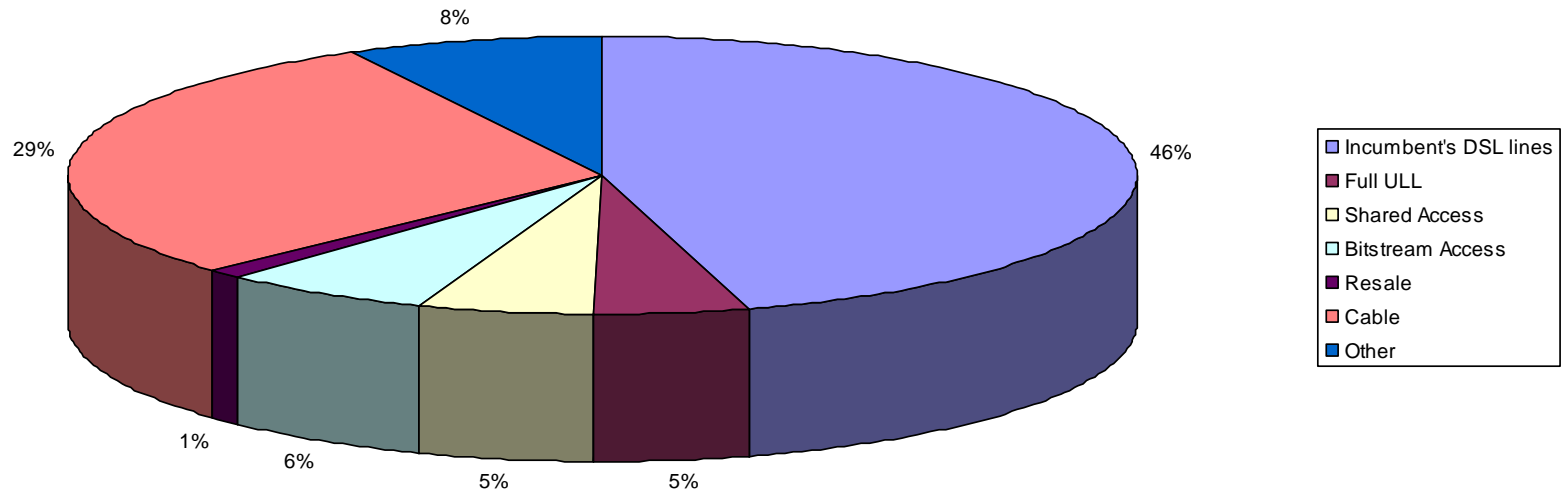
Netherlands Broadband Marketplace



October 2005 data from the *11th Implementation Report*

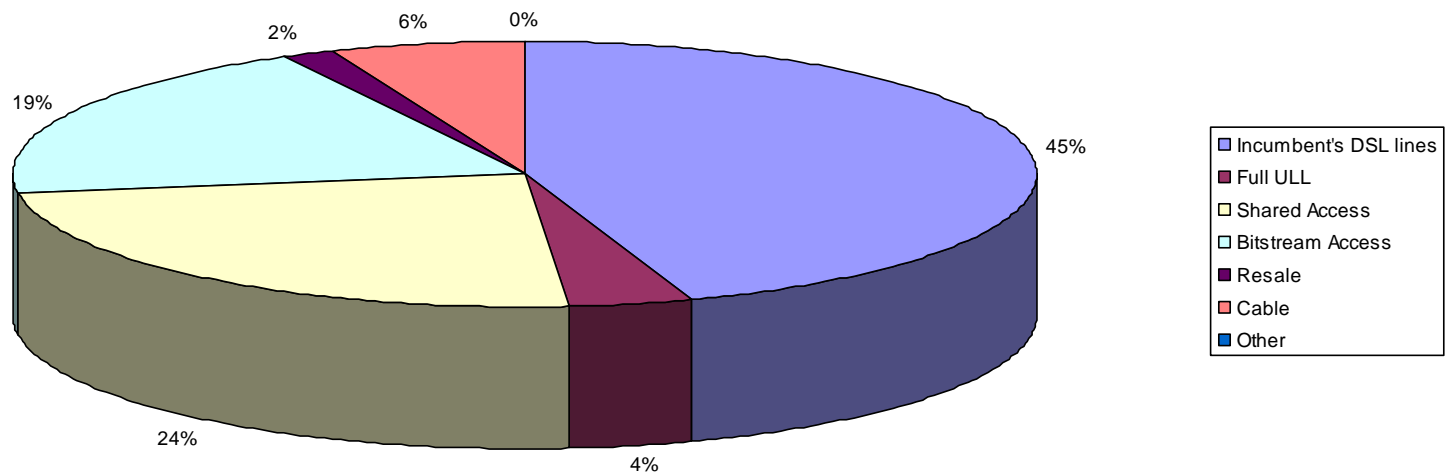
The Danish Broadband Market

Danish Broadband Marketplace



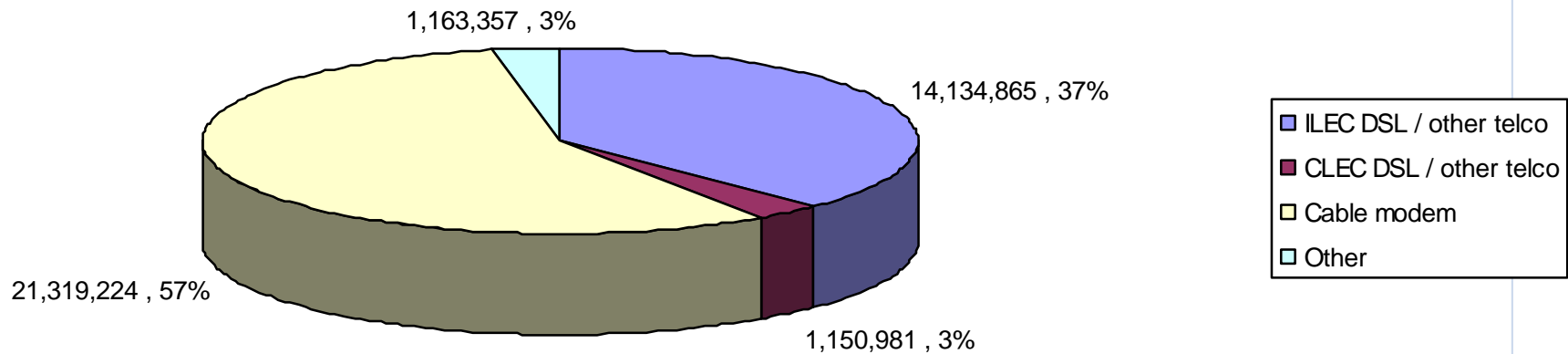
October 2005 data from the *11th Implementation Report*

The French Broadband Market



October 2005 data from the *11th Implementation Report*

The Duopolistic US Broadband Market



10/2004 data from FCC reports based on Form 477 carrier data

Why now? Why in the U.S.?

Three simultaneous developments: a “perfect storm”.

1. Collapse of the U.S. wholesale broadband Internet access market; consolidation into a series of non-overlapping geographically distinct duopolies.
2. A series of mega-mergers, with no meaningful undertakings imposed on the parties:
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Series of mega-mergers

- A series of mega-mergers:
 - Cingular / AT&T Wireless
 - SBC / AT&T
 - Verizon / MCI
 - AT&T / BellSouth (pending)
- No significant undertakings required.
- Strong tendency toward local geographically specific duopolies.
- Very few large electronic communications firms remain other than those that arguably have wired last mile SMP (either telco or cable TV).
- Very few procompetitive lobbying dollars left.

FCC withdrawal of regulation

- Characteristics of the US regulatory system:
 - No explicit integration of market/SMP analysis into regulation, but implicit recognition of SMP.
 - No over-arching technological neutrality.
 - Competition law mutually exclusive with regulation.
- My FCC white paper in 2002:
 - Different process
 - Similar objectives
 - Generally reach similar conclusions
- Subsequent events do not support that assessment.

FCC withdrawal of regulation

- Effective permanent exemption from SMP remedies for cable modem service and for DSL when integrated with Internet access.
- No obligation to unbundle Fiber to home or MDU.
- Elimination of shared access for DSL.
- Elimination of wholesale ***and nondiscrimination obligations*** for wired broadband Internet access.

FCC withdrawal of regulation

- Is this a regulatory holiday?
- Or is this a regulatory retirement?

What policy measures might be effective?

- Madison River consent decree
- FCC “Broadband Policy Statement” of September, 2005
- Attempted legislative fixes

Madison River Consent Decree

- In March, 2005, the FCC investigated “... allegations that Madison River was blocking ports used for VoIP applications, thereby affecting customers’ ability to use VoIP through one or more VoIP service providers.”
- The practice could be viewed as anticompetitive, effectively a form of economic foreclosure.
- Madison River agreed to discontinue the practice, and to pay a small fine.
- Enforcement actions are generally suitable where a firm has “willfully” violated some rule. In this case, since there was no rule, it is difficult to understand how the violation (whatever it was) could have been willful.

Madison River Consent Decree

- This well-meaning order could be viewed as a valuable “shot across the bow”, but it leaves a confused legacy.
- The consent decree did not unambiguously identify the source of statutory authority. The primary source mentioned in the order, section 201 of the Communications Act, would probably not be applicable today due to subsequent FCC deregulatory measures.
- The order fails to identify why Madison River’s actions were a violation, nor to distinguish acceptable behavior from unacceptable. Those who drafted the order at the FCC clearly did not understand the difference.
- In the nature of a consent decree, the matter was closed. These questions will remain unanswered.

FCC “Broadband Policy Statement”

“... to ensure that broadband networks are widely deployed, open, affordable, and accessible to all consumers, the Commission adopts the following principles:

- ... consumers are entitled to **access the lawful Internet content of their choice**.
- ... consumers are entitled to **run applications and use services of their choice**, subject to the needs of law enforcement.
- ... consumers are entitled to **connect their choice of legal devices** that do not harm the network.
- ... consumers are entitled to competition among network providers, application and service providers, and content providers.”

FCC “Broadband Policy Statement”

- A commendable statement of principles. But what does it mean?
 - No specific rules were adopted.
 - No enforcement mechanisms were identified.
- It is not clear that the FCC fully understands the inherent tensions and ambiguities in these principles, nor that it has the ability to craft meaningful rules to properly address them.
- A Policy Statement reflects current views of the Commissioners. Two of the five FCC Commissioners are new. Will their votes on future proceedings be the same as those of the commissioners who signed the Policy Statement?

Legislative Initiatives

- There is enormous confusion over this set of issues, and a substantial risk that legislation would do more harm than good.
- The current Congress would have been far more likely to serve industry than to address the needs of consumers.
- The incoming Congress may reflect a better balance, but is unlikely to find consensus on the network neutrality issue.

What policy initiatives might be effective?

- It would be very difficult to craft meaningful rules to enforce network neutrality.
 - Difficult or impossible to distinguish between welfare-enhancing discrimination versus anticompetitive discrimination.
 - Lack of sophistication on the part of decision makers would inevitably lead to subjective and imprudent decisions.
- Political economy problems
 - Large firms with SMP have vastly more lobbying dollars than U.S. consumer advocates.
 - Substantial risk of legislative/regulatory capture.
- Once marketplace competition erodes to the point where regulation is necessary, all of the choices tend to be unattractive.

What are the implications for European policymakers?

- Europe today enjoys a far more competitive broadband market than does the United States.
 - On the average, more than half of all retail DSL lines in Europe are provided by competitive entrants.
 - Most consumers have access to more than two providers.
 - For these purposes, service-based competition is sufficient.
- Trying to address network neutrality challenges through *ex ante* regulation is likely to prove extremely difficult.
- The first line of defense for European policymakers should instead be to avoid the problem altogether by maintaining the competitiveness of the underlying markets.
- Occasional or sporadic problems related to network neutrality might be addressed *ex post* through the exercise of competition law.



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