Empirical Evidence on the Effect of Broadband Regulation

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LESSONS FROM THE TELECOM WARS

Broadband Deregulation & Network Neutrality

Information Economy Project * Mini Conference * George Mason University

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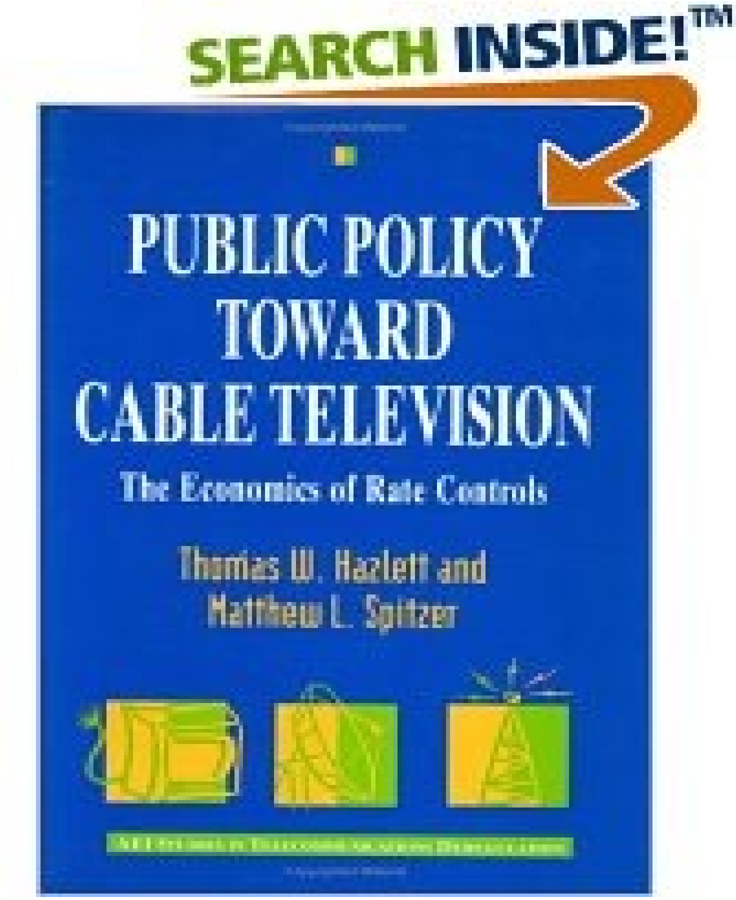
Amazon.com

- Neutral?
- Or priority conscious?



- **Amazon.com Sales Rank:** #1,864,863 in Books (See Top Sellers in Books)

Net Neutrality: Market Evidence

- Assessing the horribles
  - Business models developed via unregulated transactions
  - Unregulated transactions now a threat to those business models
- Diagnosis
  - Are exclusive ISP deals anti-consumer?
- Cures
  - Collateral damage?
  - Antitrust insufficient?

3 Quick VoIP Calls

- VoIP QoS Regulation
  - mandate power, 5 9s ➔ kill VoIP
  - E911?
- Digital Phone service
  - dedicated cable LAN bandwidth
  - pro-competitive in voice market
- Clearwire
  - blocks Vonage
  - pro-competitive in broadband, voice

Gains from Trade

- Market transactions discover efficient business forms
- Internet: not “open” end to end
- Internet: negotiated by contract end to end
  - “end to end” not an architecture
    - design principle…. case by case
    - an engineering principle
  - the economics: exclusive ownership
    - negotiated cooperative agreements
    - tons of exclusivity

Exclusivity

- Essential ownership regime
- Empowers quest for innovation
- Service providers seek gains by claiming advantageous turf not available to rivals
- “Openness” a policy aimed at reducing some other firms’ degrees of freedom

Evidence

- Natural experiment
- U.S. regulation of broadband networks
- “open access” rules
  - “walled garden” prophylactic
  - innovation choked by vertical integration

The Broadband Race

- Cable broadband a “closed platform”
  - Vertical integration (cableco + ISP)
  - No mandatory third party access
  - Regime upheld in Brand X case (June 2005)
- DSL (recently) an “open platform”
  - ILEC must allow colocation for data switch
  - ILEC must rent local loop at regulated price
  - Dereg in Feb. 2003 – end of ‘line sharing’
  - Dereg in Aug. 2005 – end of access rules

Feb. 20, 2003: Partial DSL Dereg

- FCC ends “line sharing”
- dCLECs pay full cost of local loop
- “High-Speed Service May Cost More”
  --*NY Times* headline (Feb. 21, 2003)

Aug. 5, 2005:
Full DSL Dereg

"I hope next year the commission will put its money where its mouth is to see if the assumptions yield the results. And if it doesn't, I hope it will admit that and take appropriate action. I'll be keeping tabs."

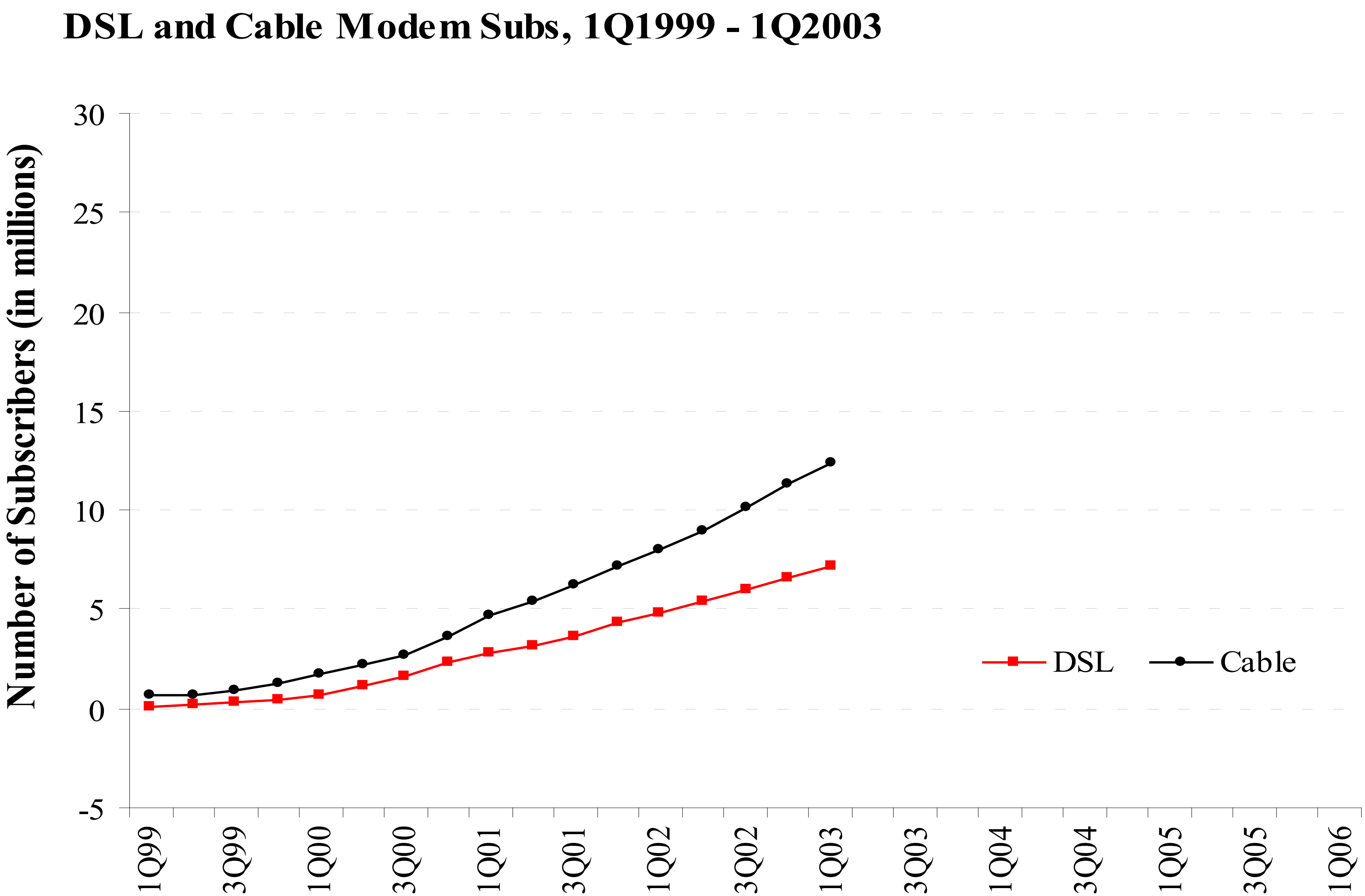
-- Commissioner Michael Copps

NN as Re-regulation

- The New Republic:
  - net neutrality is needed because "last August, George W. Bush's Federal Communications Commission (FCC) exempted telcos that provide Internet connections from [open-access] restrictions, dealing a blow to both entrepreneurship and political discourse."

"Open Net," The Editors (June 19, 2006)

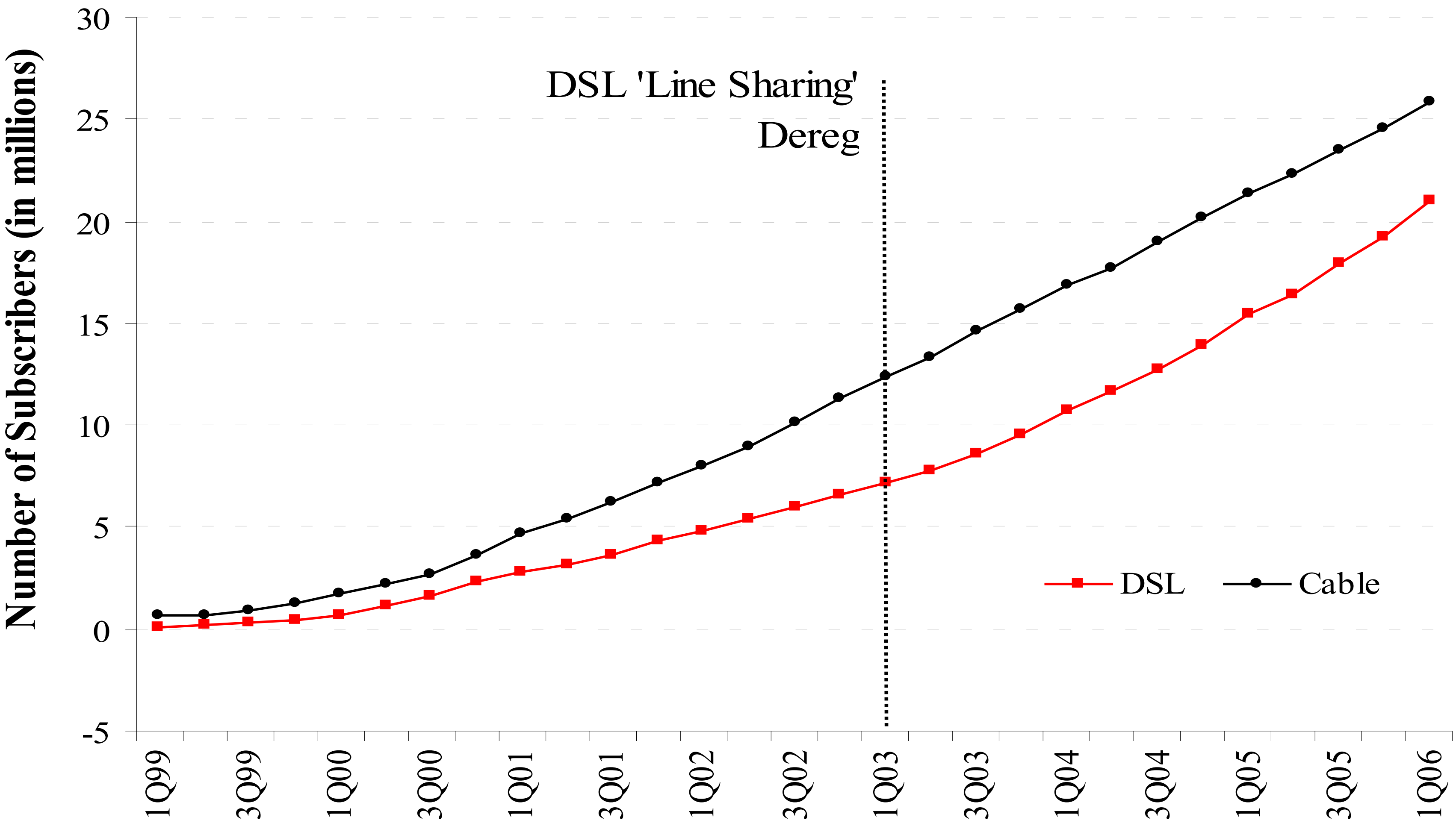
The Broadband Test: Two Regimes



Source: Legg Mason

The Broadband Test: Two Regimes

DSL and Cable Modem Subs, 1Q1999 - 1Q2006



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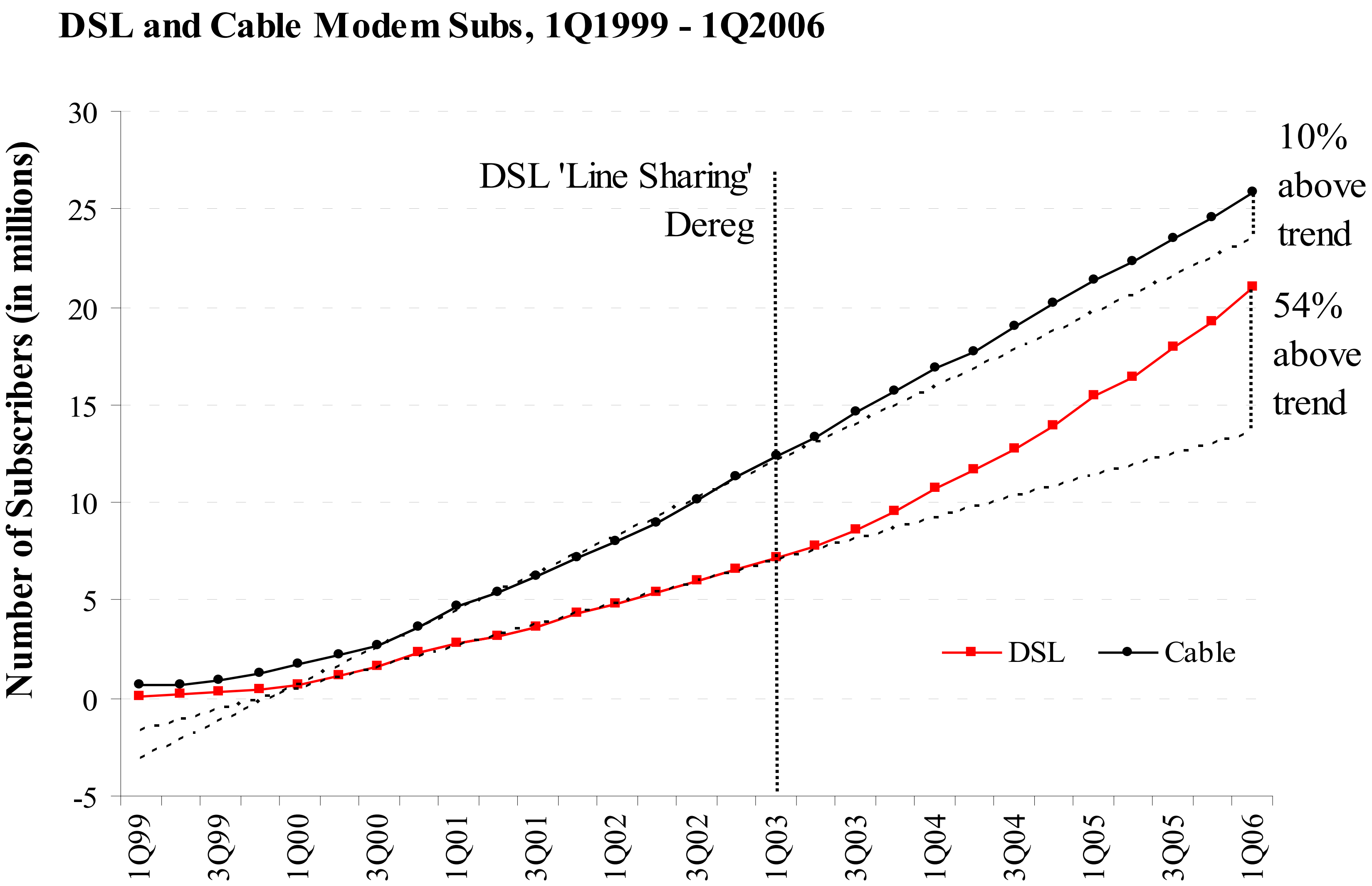
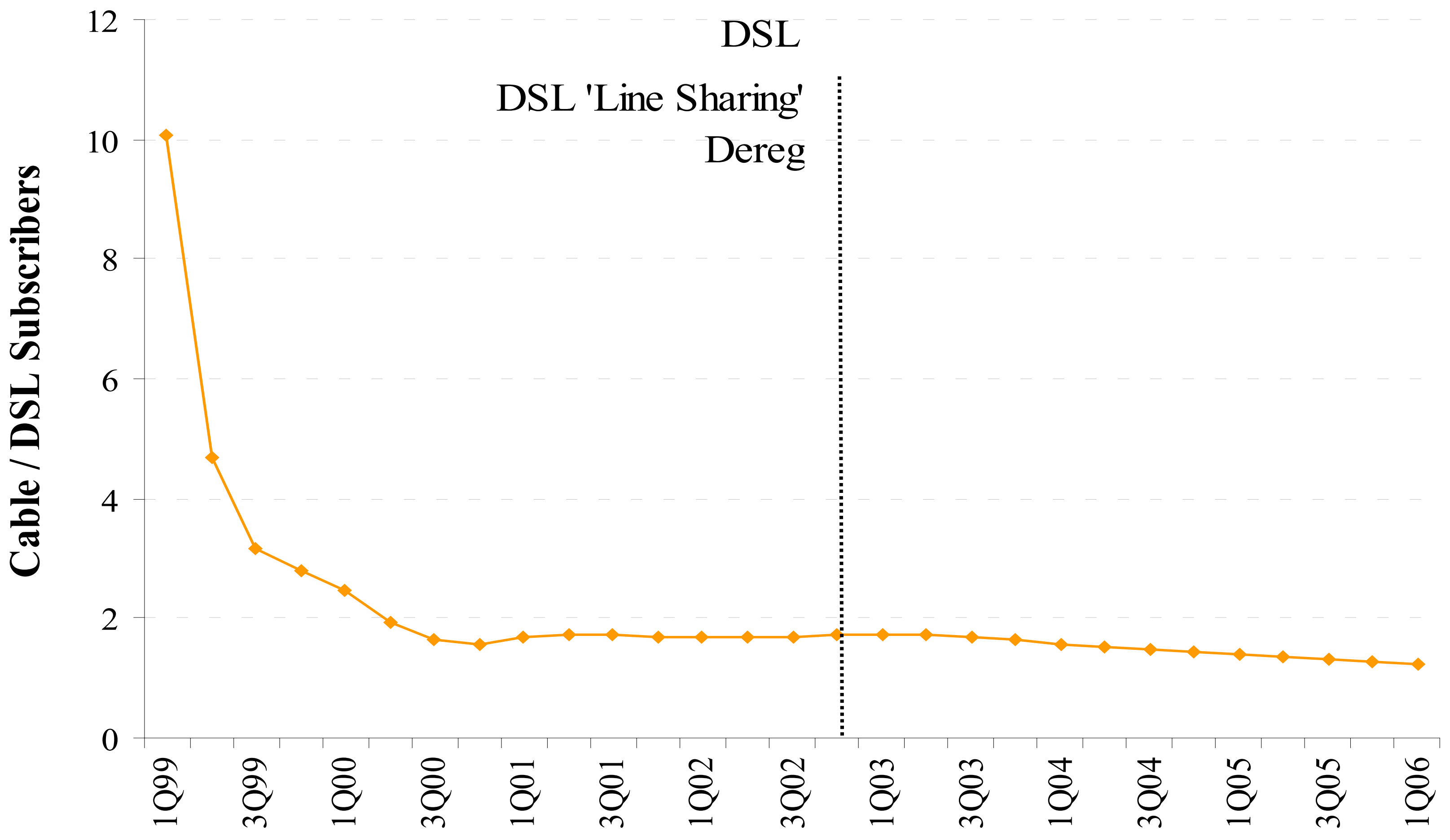
The Broadband Test: Two Regimes



Source: Legg Mason

Cable’s Lead Evaporates

Ratio of Cable Modem to DSL Subs, 1Q1999 - 1Q2006



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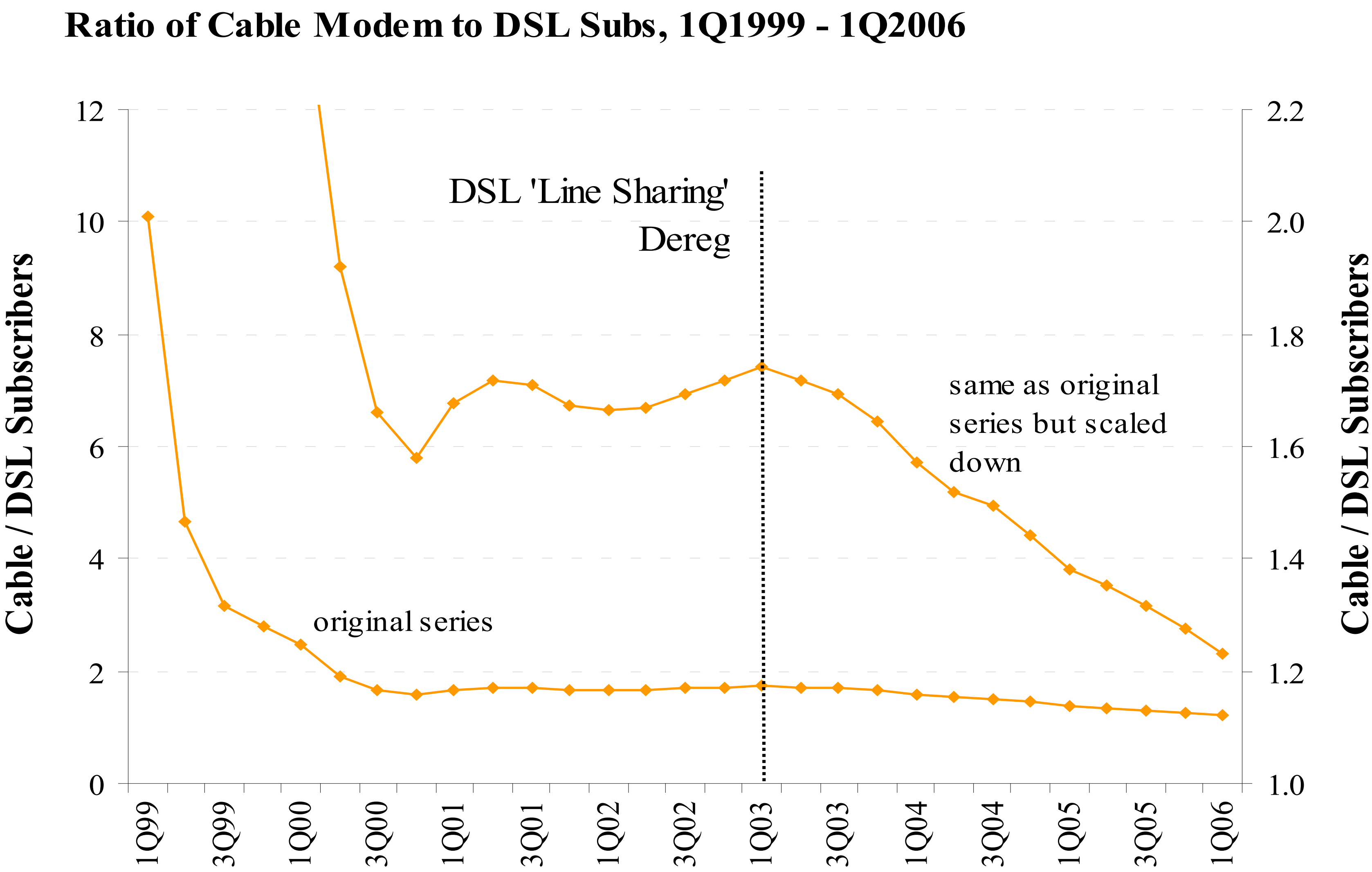
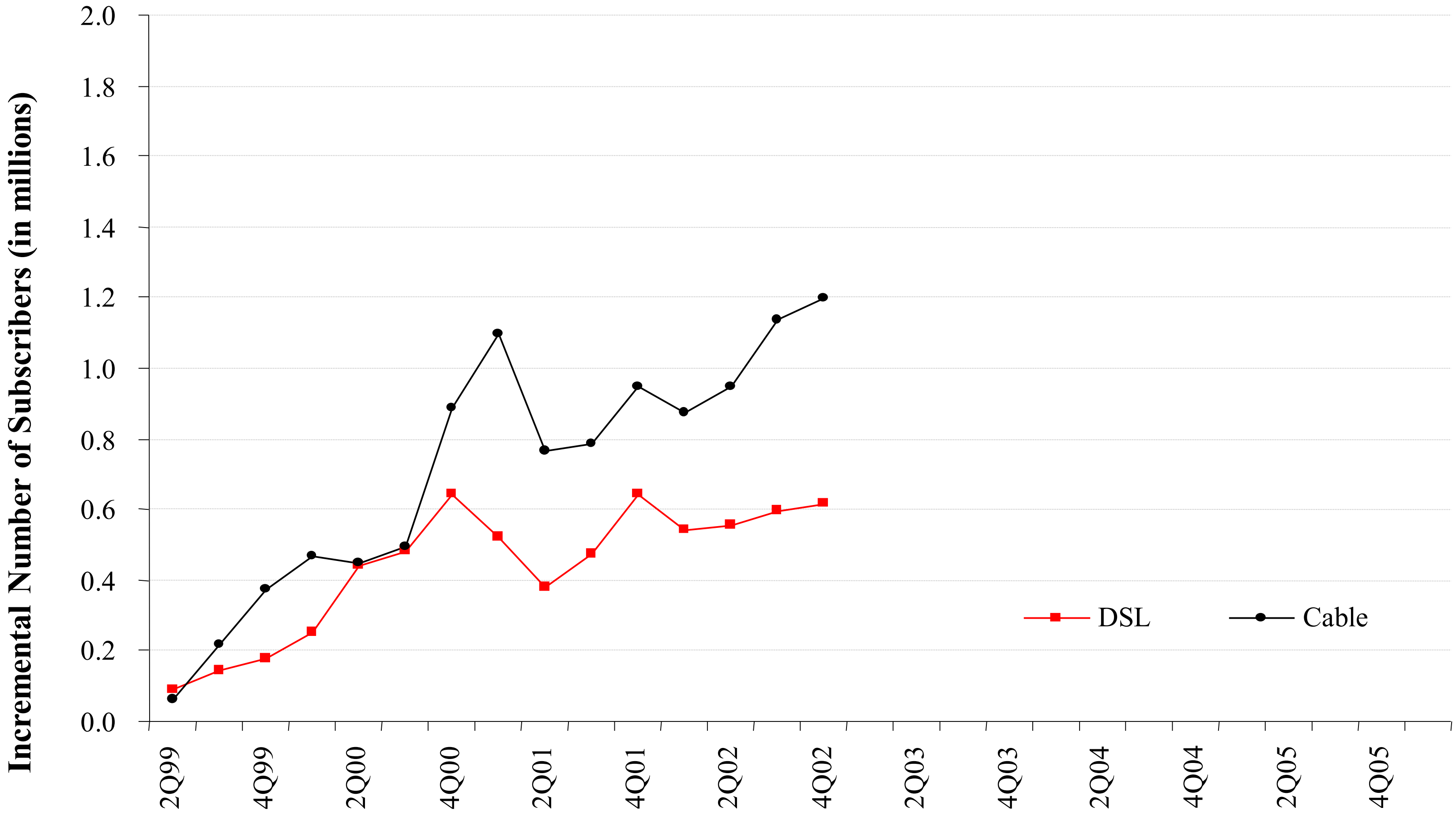
Cable Modem Lead Evaporates



Source: Legg Mason

New Subs per Quarter

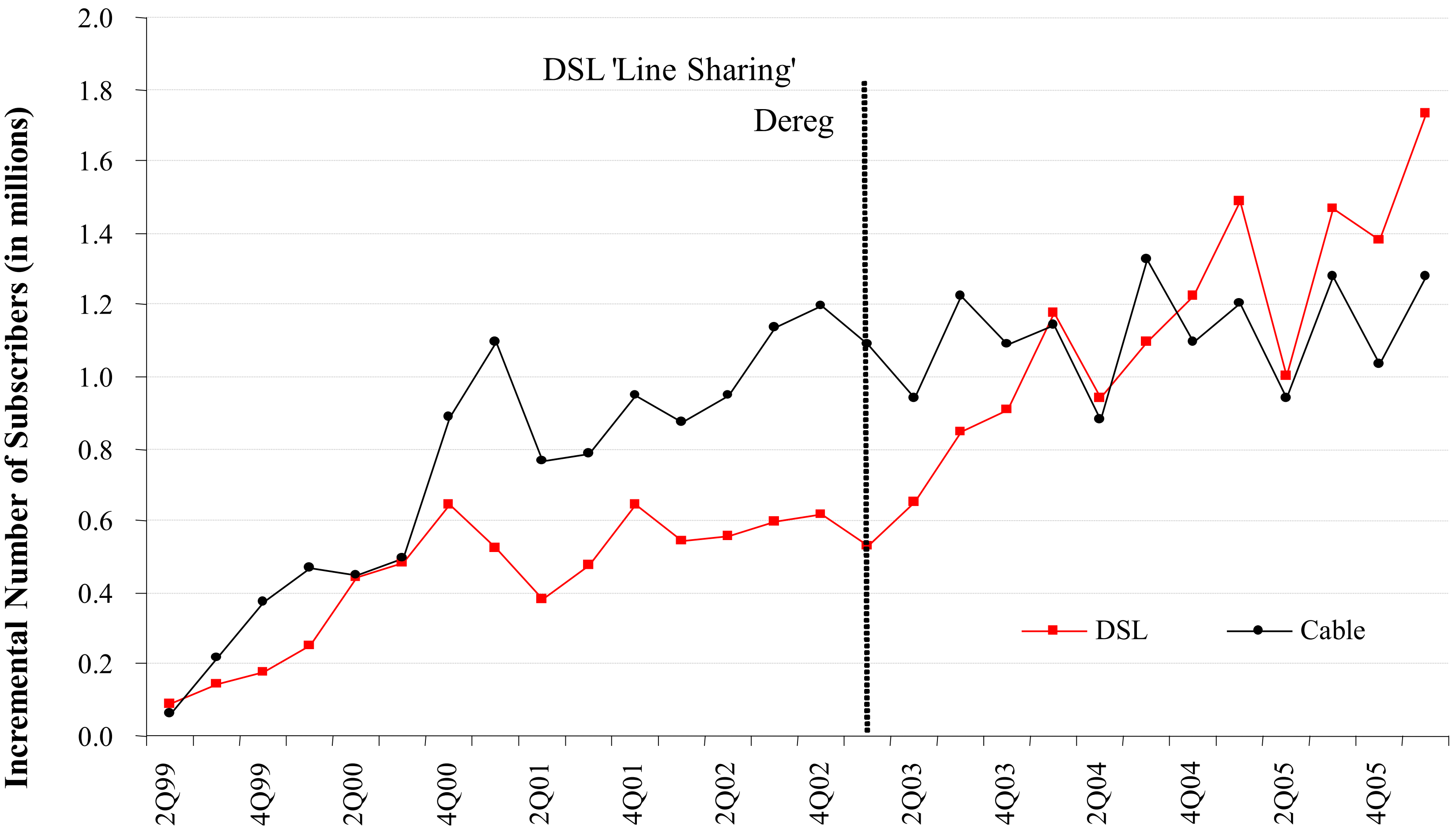
Quarterly DSL and Cable Modem Subscriber Additions, 2Q1999 - 1Q2006



Source: Legg Mason

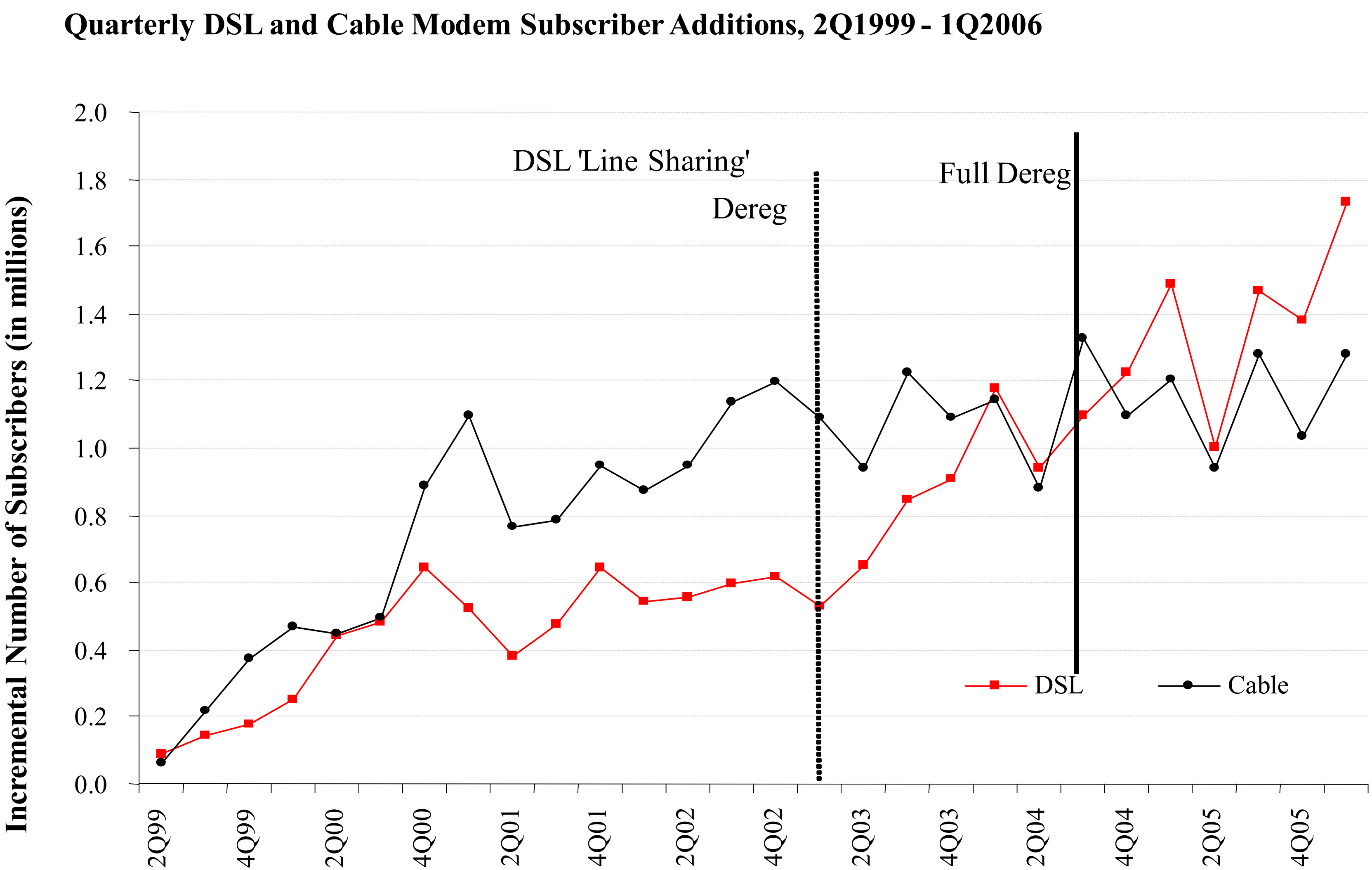
DSL Takes Lead Post Dereg

Quarterly DSL and Cable Modem Subscriber Additions, 2Q1999 - 1Q2006



Source: Legg Mason

“Keeping Tabs”



Source: Legg Mason

Summary

- Network sharing mandates not associated with broadband innovation
- Marketplace evidence on the effect of regulation

Useful Exclusivity

- Yahoo! 1999
- Yahoo! 2006
- Google’s big breaks
  – revenue extraction from advertisers
  – selected by Yahoo! as search engine
- Amazon as Sprint Wireless Web partner

Wireless Web

- DoCoMo Model
- Early success in wireless web
  - 37 million subscribers (2002)
- “At the heart of all this is a paradox: i-mode depends on outside providers for everything from handsets to content, yet it’s managed so carefully that nothing is left to chance.” (Wired, 9.01)
  - “walled garden”
  - blocks JPEG
- DoCoMo provides platform for content
  - provides billing
  - charges content providers 9% of revenue

Business Models

- Innovation good
- Artificial limits bad

Optimizing Spectrum Use

- Wireless carriers not agnostic wrt devices
  - Lengthy carrier approval process
- Even with wireless broadband, MB limits
  - see DirecPC's customer agreement
  - EV DO, HSPDA limits
- The limits extend the network, increase functionality, create value

NN Regulation

- Constrains market transactions
- Shackles existing business forms
  - Illegalizes the Clearwire bundle or the DoCoMo garden
- Fails to promote competition
  - As has deregulation of “open access”
  - As would more liberal policies wrt to broadband
    - More spectrum availability (exclusive rights)
    - Video franchise reform

THANK YOU.