Pricing Interconnection:
one regulatory economist's perspective

William Lehr

MIT

wlehr@mit.edu

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Session #3: Pricing Interconnection

- **Panel Discussion questions:**
  - What are the different ways of pricing Internet congestion?
  - What are the effects of data caps, pay-as-you-go pricing on Internet use?
  - How does zero-rating affect user demand for content or applications?

- **Clarifying questions about what real issues are:**
  - Congestion or Usage-based. Retail or wholesale?
  - Who pays for broadband access?
  - How does state of competition (practical regulatory options) impact answers?
  - *Is rise of traffic-sensitive costs the real question? Video & spectrum.*

"Congestion" or Usage-based pricing?

- **All pricing is demand sensitive, hence dynamic, Usage-based**
  - Typically multi-part : non-recurring, fixed ($/mo), usage ($/MB).
    - (Flat ($/mo) v. Usage ($/MB) is false price choice dichotomy…)
  - Dynamic: prices change w/ time, market conditions, but at what granularity (time, space, context)? Real-time pricing a special case.
- **Prices serve two broad functions:**
  - Recover costs (Rev≥Cost), including fair return on capital. Costs are overwhelmingly fixed and/or shared (not incremental to individual subscriber). Most of pricing is and should be about this.
  - Signal: induce efficient behavior. ("congestion pricing to recover incremental capacity costs at peak")
- **Are we talking about retail or wholesale pricing?**
  - Retail: consumer demand behavior
  - Wholesale: industry supply behavior (interconnection)
  - Either Retail rate or Wholesale interconnection (rate) regulation. They're substitutes.

Usage-based pricing? *Tiered pricing way to go.*

- **Pay-as-you-go, data-caps, (zero-rating), etc. are ways to do usage-based retail pricing.**
  - Tools for price discrimination (and usually unavoidable!)
- **What do consumers want?**
  - Lower prices, more choice, better quality (don't we all!)
  - Also, Flat rates ⇔ Simplicity (No hidden/unexpected charges)
  - Marginal cost per MB ~$0 (just use, don't think about)
- **What should consumers pay?**
  - Monthly bill should cover monthly cost of service. Most of that is contribution to fixed/shared costs (not incremental peak).
  - Solution (broadly): Tiered pricing. If consumers in correct tier, they should not be paying significant overage ($/MB) charges; *and* tiers should not be significantly priced above cost.
- **Regulatory concerns? The usual…reg oversight still necessary**
  - Fairness/Access: Are (certain) consumers paying too much?
  - Supply-side: investment, efficiency (natural monopoly?), competition

Zero-rating a good idea? *Yes, generally…*

- **Who pays how much for broadband?**
  - Internet is (at least) a 2-sided platform so reasonable that $ should flow in from both (all) sides potentially
- **Zero-rating can lower retail prices for broadband access**
  - Can spur adoption, but may limit choice to subsidized content.
  - A mechanism for price discrimination, but that is not generally a problem for economists
  - But, risk of abuse for monopoly pricing or foreclosure, and that might induce us to build wrong-kind of Internet…. So need regulatory oversight.
- **Which markets?**
  - Mature BB markets (US/EU)? Yes. Need scope to innovate in services. Want competition to work.
  - Developing BB markets (India, Brazil)? Yes. Need to increase access.

Do you want your Internet with or without Video?
(work-in-progress, with Doug Sicker)

- **How should Convergence proceed?**
  - Everything over IP (or single IP network) may not be right technical solution.
  - Everything over (one) Internet may not be the right regulatory or industry structure goal.
- **Do we want media entertainment economics to drive how we build the Internet?**
  - Hollywood v. IoT (smart healthcare, green energy, ...)
  - It's not that entertainment is not important, just that fundamental economic drivers are fundamentally different
    - Consumer attention/Liesure expenditures. Choice/taste ⇔ bundling.
    - Content v. Conduit competition (and regulation)
    - Etc.…
- **If all that entertainment video were NOT on Internet, would we be thinking about these pricing questions differently??**

Summing up…

- **Usage pricing ⇔ Tiered pricing (retail)**
  - Need price discrimination for universal service
  - Should not ban, but need to monitor
  - Real-time congestion for consumers? Probably not…
  - Real-time resource allocation for wholesale? Yes. SDX IXPs, etc.
- **Zero-rating ⇔ Content Providers & Consumers can both pay**
  - Innovative services need flexible business models. When Netflix used USPO, they were paying for delivery.
  - Content-subsidies can promote access.
  - Should not ban, but need to monitor.
- **Video driving Internet Traffic ⇔ Entertainment Economics**
  - What does accommodating video mean for Internet?
  - With convergence, be careful what you wish for...

Thanks for your attention!

Bill Lehr (wlehr@mit.edu)