Arbitrage opportunities involving the internet, and regulatory policy issues

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Mark Scanlan

M.Scanlan@WIK.org
Issues covered in the presentation:

- Arbitrage & its causes
- Real-time service over IP
- Identifying regulatory arbitrage opportunities
- Implications regarding the price structure of PSTN interconnection
- Regulatory flaws in the EU and USA
- Prices and rebalancing.
Arbitrage & its causes

Arbitrage:

1. Simultaneous purchase across markets trading perfect substitutes, which is always covered - no speculation - there is no risk.
2. Competitive advantaged gifted by way of regulatory asymmetry.

Regulatory arbitrage is based on a lack of: competitive neutrality, technological neutrality, structural neutrality, or neutrality in terms of application and content.

‘Competition’ based on arbitrage tends to replace more efficient with less inefficient business.
Arbitrage & its causes

- Root cause due to:
  - The authorities believing they can improve competition by gifting advantages to those they consider are less able to compete.
  - The authorities have been successfully lobbied.
  - By error / oversight of the authorities,
    - e.g. where industries / markets operate according to different legal/regulatory rules, but there is competition between them.

- To assess arbitrage opportunities (2) we have to go back to the details of existing regulation.
PSTN & Internet cost issues

- Internet is an unregulated nascent industry converging with traditional telephony, broadcasting, publishing, retailing….
  - VoIP and video streaming are beginning to be offered (on-net), and will grow rapidly in the near future.

- PSTN interconnection (i/c) is regulated according to the tariff structure of the incumbent with price per minute the main element.
  - ‘Busy hour’ capacity costs are distributed according to the tariff gradient of the incumbent.
PSTN & Internet cost issues

- This has the (intended) effect that competition does not disassemble the structure of prices and units of measure that existed prior to liberalisation.
  
  - Per minute (i/c) pricing has been helpful in minimising the sunk costs of new entrants.
  
  - Under a strict capacity-based charging structure
    - Operators would sell transport and switching capacity to those interconnecting.
    - Entrants’ cost structure would have little in common with the incumbent’s existing price structure.
Flat-rate pricing applies for internet services.

- Also appears to apply for transit and peering

Structure of internet costs:

- fixed costs (these don’t vary with usage).
- initial cost of connecting a customer to the internet
- congestion cost

No per minute costs here.

No solution to require ISP to price according to minutes.

- May not work anyhow e.g. PC to PC communications don’t touch the PSTN.
Asymmetric obligations

- If in the coming years, competition between IP based end-user services, and PSTN is not be based on the underlying costs and QoS - there will be regulatory arbitrage.

- Are either the EU or US thinking about reforming retail and interconnection pricing?

- Political masters have to be convinced.
Asymmetric obligations

- Firms may also bear costly obligations not imposed on competitors, or not imposed in a neutral fashion.
  - E.g. special industry taxes
    - Turnover tax (Italy)
    - USO taxes (Italy, France, USA)
    - VAT tax
    - access subsidies
    - R&D tax / contributions
    - Pricing access (unbundling) to essential facilities?
- Accounting rate system encourages by-pass through artificially raising the cost of call termination.
By-pass of international PSTN regulations

Country A

Country B

The internet

circuit

PSTN

ADSL Splitter

Y = international switch
X = domestic switch

PC

telephone
Regulatory asymmetries in EU and US

- In the USA and EU, law does not allow ISPs to be asked to contribute to net USO costs.
- USO contribution is typically a turnover tax paid indirectly by end-users.
- EU is moving to regulation based on market power (SMP).
  - Only addresses the ‘easy’ part of necessary regulatory reform
    - Does not envisage the consequences of high QoS real time services over IP.
Existing regulatory flaws in the USA

- In the USA internet transport is unregulated, while switched services, ATM, X.25, and Frame Relay, are regulated.

- Not application / content neutral

Mindel & Sirbu (2000)
Access charge schemes

- IP in USA - No unbundling, no access charges, no USO charges

- Some claim that access deficit contributions enable non-cost based tariffs to remain after liberalisation?

- ADCs are paid by all firms competing to provide (call) services.
  - Paid on a per time basis to subsidise residential access.
  - All competitors need to pay a similar amount per call type as the incumbent pays itself, less any efficiency adjustment warranted.
Access charge schemes

- Need to identify packets that are carrying VoIP and FoIP and levy an access charge on them.
  - May neither be possible or practical to police

- ADC schemes reward those who can avoid or evade the liability - they encourage arbitrage.

- Also, empirical evidence shows that widespread access subsidies have the opposite effect to that intended - ↑ subscription charge = ↑ residential penetration.
Concluding points

- Further convergence may happen quite suddenly as technico/economic solutions materialise.

- Regulatory arbitrage can be difficult to identify and analyse.

- No need to regulate the internet - it is the withdrawal / re-design of existing PSTN regulations that is needed.

- Do need to push the debate about the need to reform existing regulations, and prices.