Trends in Telecommunications: Implications for Regulation
20 September 2017

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Introduction
Rapid sector evolution is changing the way it is (should be) regulated

- Sector evolution
  - Financial performance
  - Technology change
- Regulatory implications
  - Changing public expectations
  - Changing market definitions
  - Positive vs negative regulatory objectives
Globally, performance varies by region and product

Emerging markets are small but growing fast

Recent “recovery” in European telecoms markets

Reported mobile revenue growth –Top 5 European markets

Source: Enders 2017
UK sector revenues

UK telecoms revenue

Source: OFCOM

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Who is winning? Big = profitable

$$R^2 = 0.82$$

Note: M2M revenue is excluded. Excluding markets with extremely high concentration: i.e., HHI above 4,300 (company controlling more than 2/3 of market)
Revenue does not tell the whole story

Telecoms operator share performance by region

Source: EY
A broader view of sector performance

Total market cap

US$ billion

Telecoms operators
Network vendors
Terminals vendors
Internet companies
IT vendors
Media companies

Source: Altran
Industry response: consolidation

European MNO consolidation

Source: Enders 2017
Industry response: retail bundling

Take up of bundled services in the UK

Proportion of households

Source: OFCOM
Industry response: new lines of business

Operator confidence in digital service revenue development

Q: Which digital services represent the best opportunities for incremental revenue growth?

- **TV and video service**: 54
- **Enterprise cloud**: 51
- **Advertising marketing, e-commerce**: 36
- **Mobile financial services**: 29
- **Infotainment services**: 26
- **Enterprise mobility**: 23
- **Smart home**: 17
- **Unified communications**: 14
- **Smart City**: 11
- **Security services**: 11
- **Health services**: 9
- **Digital identity services**: 6

Source: EY
Key trends: summary

- Financial performance
  - Revenue, margin, capex
  - Market cap
  - Distribution of performance within the industry

- Convergence
  - Technology
  - Business models/market structure
  - Retail strategies

- Industry consolidation
  - Within the telecoms sector
  - Within the broader media/communications sector

- Business models
  - Sharing
  - Outsourcing
  - Partnering
Regulatory implications

- Changes in public expectations
- Market definition: product, geography
- Positive vs negative regulatory objectives
Public expectations: a moving target

Source: GSMA, Akamai State of the Internet
Notes: Population weighted averages for 15 large developed and emerging markets
Public expectations: benchmarking

Ultrafast broadband (at least 100Mbps) household penetration, 2016

Source: Europe's Digital Progress Report 2017 – Connectivity
Market definitions: geographical

Source: Europe's Digital Progress Report 2017 – Connectivity
Mark definitions: product

Total outgoing voice call volumes

Source: Ofcom 2016
Positive vs negative regulatory objectives: co-investment

- Most definitions: co-operation between players in a market to develop new network infrastructure in order to reduce capital costs and to limit commercial risk.
- Recent focus on fixed networks. Commercial and policy priority of getting more investment into superfast broadband networks.
- Extension of well-established model of network sharing in the mobile industry.

![Diagram of co-investment models: JV model, Reciprocal access model, One-way access model.]

- **Operator A**
- **Operator B**
- **Wholesale customer**
Examples of co-investment

**Fixed**
- Spain
- Portugal
- Italy
- France
- UK(?)

**Mobile**
- Peaked in 2009: 22 deals globally, 17 of which were passive sharing arrangements.
- 2010-2014 - average of 17 deals per year globally.

**Non-telecoms**
- Microelectronics and Computer Technology Corporation
- New United Motor Manufacturing Inc. (NUMMI)
- Electric Power Research Institute
- United States v. Minnesota Mining and Manufacturing Co. et al
- DX Imaging
Potential regulatory concerns

**Coordinated effects**
- Information sharing effects, cost commonality
- These make it easier to operationalize the “monitor-detect-punish” mechanisms for achieving coordination in the downstream market.

**Unilateral effects concerns**
- A co-investment structure can mimic the effects of an upstream merger
- Cost-sharing rules could soften unilateral expansion incentives
- Co-investment could create joint dominance or enhance single-firm dominance (e.g. where one party is a dominant firm).
- Sharing of existing assets may forestall competitive facilities-based entry.

**Foreclosure and leveraging concerns**
- Some commercial access offers may by object or effect “lock-in” potential network competitors and thereby foreclose entry
- Restrictive entry rules for potential subsequent co-investment partners could effectively foreclose future market entry
Potential benefits

**Efficiency gains associated with new networks**

- Perceived societal benefit from investment in a new platform for innovation
- Reduction in variable costs
- Efficiency gains recognised in EC merger review, but even more explicitly in Article 101 analysis

**May not be a significant adverse impact on competition**

- Market definition is key. Regardless of JV structure, a competition analysis may not find competitive concerns if the overall market is sufficiently competitive.
- Relevant product market may be broader than products using the technology that a co-investment network provides (e.g., fibre-based broadband products constrained by copper and cable products)

**May increase competition**

- Could represent an increase in the number of players able to supply at wholesale
- Could increase end-to-end competition and provide more operators with full control of their costs
Conclusions

• The sector is changing very rapidly
• The regulatory tool box has been very successful in delivering performance to date
• But, regulators are reluctant to make major changes to the way that they analyse and regulate, despite changes in the market realities
• The regulatory framework is not well designed to achieve positive sector objectives