The question of market structure in Telecom markets

BITS seminar on industrial policy and telecom regulation

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Industrial policy and market structure

- Industrial policy consists of a mix political objectives…

    - Innovation, investment, consumer choice, competitive prices, jobs, etc. to maximise social welfare

- … and a mix of measures and tools to achieve those objectives

    - Access regulation (fixed, mobile, spectrum) and Competition law are the two main policy tools that shape the telecom landscape (although also state aid, net neutrality, taxation, etc. impact on policy objectives)
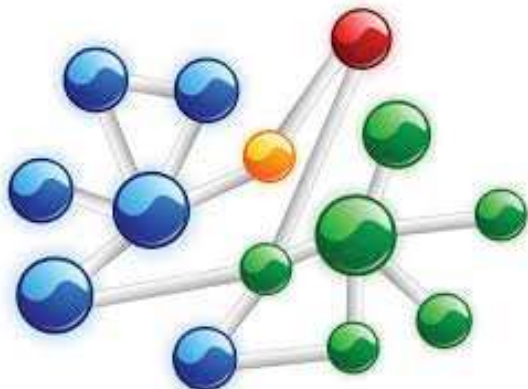
- Market structure (number and type of players, market shares) should not be a policy objective, but rather an outcome

Current regulatory practice

- The EC, NRA and NCA use economic regulation to pursue a market of perfect competition by eliminating supposed "market power"

- Persecution of market power is driven by considering perfect competition as an ideal for consumer welfare*

- The theoretical model of perfect competition has no entry barriers, information is transparent….

- … the model also assumes that there is

  - no product / quality differentiation

  - no innovation / investment

  - no economies of scale

  - time is not a relevant factor (equilibrium is achieved instantaneously).

Model leads to policy focused on:

- **price competition**

  - **maximizing number of players**

* Mitos sobre la regulación para la competencia, Instituto de Estudios Económicos, Fernando Herrera, 2012

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Dynamic nature of telecom market

- Telecom markets, especially mobile, are characterised by dynamic features which are welfare enhancing:

  - High pace of technological change (short innovation cycles) -> network, product and service differentiation and improved quality

  - High capital intensity (margins make a difference…) even in already existing networks -> allows for increased data usage and better quality in a data centric world (speed / indoor coverage)

  - Economies of scale (density and usage) -> increased productivity and lower unit costs

Static models lead to remedies that risk to eliminate those social welfare enhancing features

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The perfect competition model is inappropriate … why do we keep using it?

- Trade-off between static and dynamic efficiency is not captured by static models

- In industries were those dynamic factors are important the antitrust and regulatory decisions based on perfect competition often sacrifice long term efficiency which may lead to a loss in social welfare

The EU lacks of ex post assessment exercises of cases.

Economist don't have the tools to measure the dynamic efficiencies in mergers. It [dynamic efficiencies] is nevertheless what the Commission wants, ie higher speeds.
We should ask the questions that even if prices would go up, could that be compensated by an increase in speed?
This debate is missing and we do not have tools nor studies on demand for speed.

Massimo Motta, DG Comp and Tommaso Valletti, Imperial College at CRA conference, Brussels December 2013

Telefónica's contribution to the debate

A quantitative model to assess the effect of innovation and time in market dynamics

Innovation

Innovation Period (t_{RI})

The average time between two innovations with radical impact in an industry

Time

Relaxation time (τ)

The time it takes for a system to return to equilibrium after a perturbation

Case	Outcome
$\tau > t_{RI}$ (Highly innovative industries)	Market *never reaches equilibrium*
$\tau \approx t_{RI}$ (Innovative industries)	Market is *out of equilibrium* most of the time
$\tau \ll t_{RI}$ (Mature industries)	Market is *in equilibrium* most of the time

Source: TPRC 2013, Bruno Soria, Fernando Herrera-González, Telefónica

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Example: Telecommunications market are unlikely to reach equilibrium

Relaxation time

Market development	τ (years)
Analog UK licenses	> 3
GSM 1800 UK licenses	> 2
GSM 1800 Italian licenses	3
UMTS UK licenses	10
Minimum	3
Maximum	10
Average	**6.5**

Innovation period

Market	t_{RI} (years)
Fixed telephony (1969-2004)	4.4
Fixed telephony after liberalization (1984-2004)	2.9
Mobile services	3.1
Data communications	2.2
Average	**3.1**

- The analysis shows that static equilibrium models are inappropriate as innovation cycles are shorter than the time to reach equilibrium

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Still a lot of work to be done?

- This model can be run as a first step in market analysis. And discard static equilibrium models when they find a market to be innovative

- Keeping static models as a best proxy may lead to false positives (need to intervene to reduce prices) and interfere with dynamic factors (innovation, investment, product and quality differentiation)

WORK IN PROGRESS

- Further work is needed:

  - to develop alternative dynamic models to analyse innovative and investment intensive markets for taking into account dynamic efficiencies

  - to measure the performance of markets where regulation drives dynamic competition relative to those in which static competition prevails

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Industrial policy and EU competition policy

- *How should a future industrial policy for telecom networks and services be articulated with EU competition policy?*

- Pursue social welfare and not a theoretical model

- Take into account dynamic efficiencies: in particular investment incentives and capacity in merger control (welfare enhancement by higher speed / quality / coverage is offsetting negative effect of eventual higher prices).

- Reduce legal barriers (eg. Initiative to reduce cost of broadband roll out) that obstruct efficient (welfare enhancing) allocation of resources

  - Avoid remedies that hamper dynamic competition

- Broad market definition to take into account competition from services provided by OTT players. Broad product market definition is important because relevant parameters for economies of scale are local density and usage of the services.

Assessment of relaxation time: UK mobile market
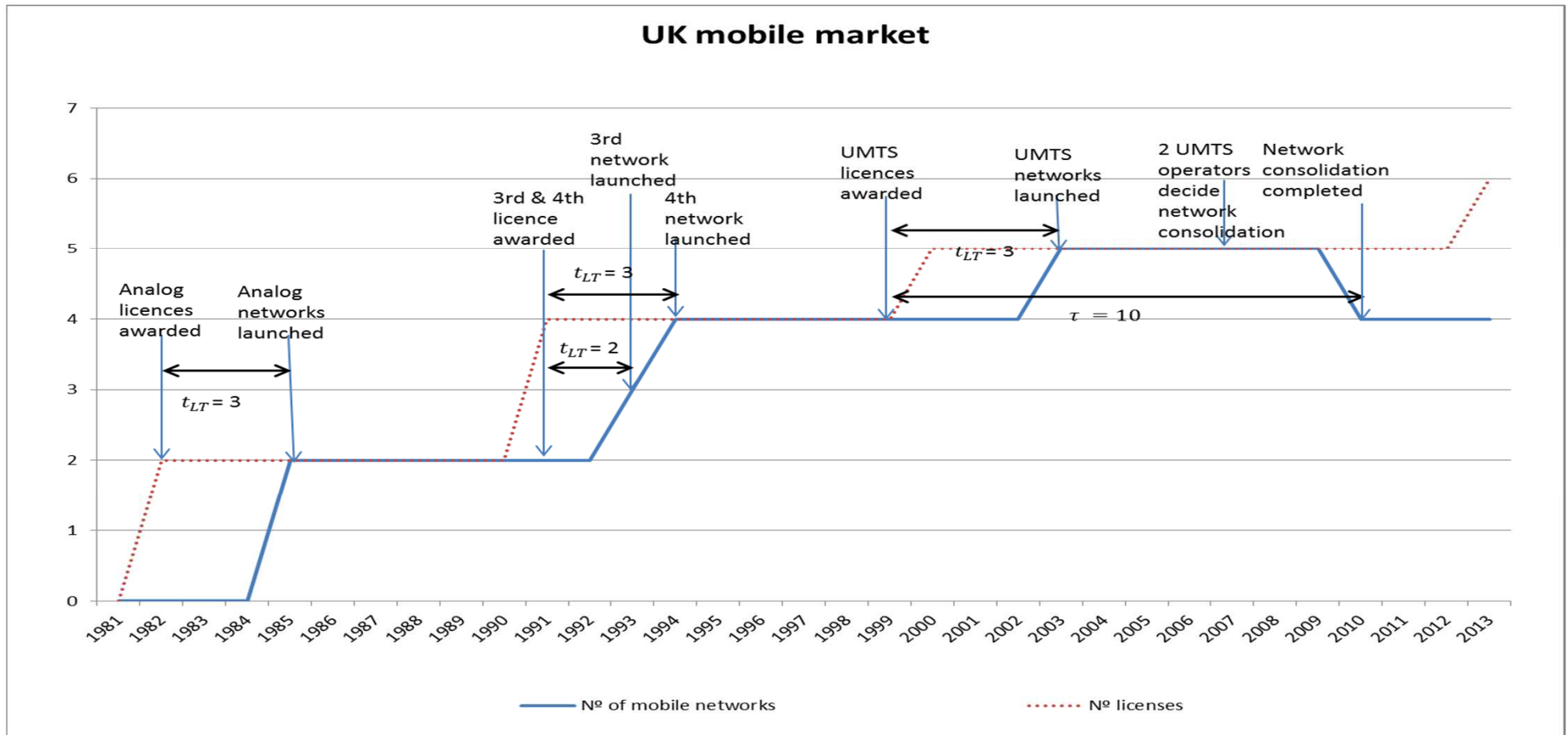
Development	τ	t_{LT}	t_{RC}
Analog licenses awarded (1982)	-	3	-
UMTS licenses awarded (2000)	10	3	7