

Florence School of Regulation: workshop on spectrum management in Europe

# Market-based mechanisms of spectrum management

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**Sometimes the market doesn't anticipate everything...**

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## Context: EU

- Framework Directive 2002/21/EC
  - Article 8. The national regulatory authorities shall contribute to the development of the internal market by *inter alia* . . . encouraging efficient use and ensuring the effective management of radio frequencies . . .
  - Article 9. Member States shall ensure the effective management of radio frequencies for electronic communication services in their territory in accordance with Article 8. They shall ensure that the allocation and assignment of such radio frequencies by national regulatory authorities are based on objective, transparent, non-discriminatory and proportionate criteria. . . . Member States may make provision for undertakings to transfer rights to use radio frequencies with other undertakings.

## Context: UK

- Communications Act 2003
  - Section 3(1). It shall be the principal duty of OFCOM, in carrying out their functions—  
(a) to further the interests of citizens in relation to communications matters; and (b) to further the interests of consumers in relevant markets, where appropriate by promoting competition
  - Section 3(2). The things which, by virtue of subsection (1), OFCOM are required to secure in the carrying out of their functions include, in particular, each of the following—(a) the optimal use for wireless telegraphy of the electro-magnetic spectrum; . . .

## Why market mechanisms?

- Ronald Coase (1959)
  - Property rights a more efficient method of assigning spectrum than state licensing
- Cave (2002)
  - Trading
  - Liberalisation
  - Auctions
  - Pricing
- Ofcom (Spectrum Framework Review 2004 etc.)
  - Promote efficient spectrum use by allowing it to be transferred to, and used by, those who value it most highly
  - Promote competition by increasing the availability of spectrum for use in the most valuable services
  - Facilitate innovation as new providers enter the market to offer new services.

## What market mechanisms?

- Trading
  - Processes?
  - Leasing?
- Liberalisation
  - To what extent?
- Auctions
  - Design?
  - Broader social value?
  - Public-sector participation?
- Pricing
  - Necessary if all the above?
  - How to calculate?
  - Ability to respond?
- Security of tenure
  - Tension with flexibility?
- Information
  - Inventory?
  - Confidentiality?

## What have we done?

- Trading
  - Extended widely (e.g. business radio)
  - All auctioned licences
- Liberalisation
  - Extended widely (e.g. business radio)
  - All auctioned licences
- Auctions
  - GSM/DECT guard bands
  - 412-414/422-424 MHz
  - 1785-1805 MHz (Northern Ireland)
  - 10-40 GHz
  - L-Band
  - Interleaved (Manchester and Cardiff)
- Pricing
  - Started to extend more widely
  - Public sector
- Security of tenure
  - Most auctioned licences 15-20 years
  - Rolling notice periods
- Information
  - Environmental Information Regulations

## Next steps

- Streamline trading and introduce leasing
- Extend liberalisation to mobile licences
- More releases to the market
  - Civil and public sector
  - International harmonisation where appropriate
  - Clearing spectrum where necessary
- Conclude strategic review of spectrum pricing
  - Extend pricing and review existing fees where appropriate
- Better understanding and further extension of band management
- UK spectrum inventory

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