

# The 'good' reform of the Spectrum Management System: the Italian challenge

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# 1. The EC legislative framework

# 1.1. The reform

## ➤ **Today framework constraints**

- Decisions taken by national spectrum managers agency (“SMA”) are often bureaucratically and not oriented towards efficiency and market needs
- This situation leads to increased costs, lost market opportunities, and slow take-up of innovative applications (e.g. wireless broadband GPRS, WAP, EDGE, UMTS, HSDPA, HSUPA, Wi-Max and Wi-Bro)

## ➤ **The steps of the Reform (COM 2007 (50))**

- **First step – for specific bands.** Introducing flexibility (lest restrictive technical conditions) in UHF Band (“DD”), 900-1800 MHz (from GSM to IMT2000/UMTS, 3.4-3.8 and 2.5 GHz, and for bands used for SRD, RFID and UWB.
- **Second step – for all bands.** The “2010 Reform”.

# 1.2. The 2010 Reform

- Centralization of the management system inside and outside the EC (**2002 objectives key-enabler**)
  
- Strengthening the principle of neutrality (i) technological neutrality and (ii) service neutrality (**convergence key-enabler**)
  
- New balance between Command and Control, Market Mechanism (“Property”) and License Exempt (“Commons”) models of management (regime) achieved either
  - (i) through hard-harmonization of allocation of some specific bands, or
  
  - (ii) through soft-harmonization of the logic that should guide the creation of ‘spectrum title’ frequencies bands injected into the market.



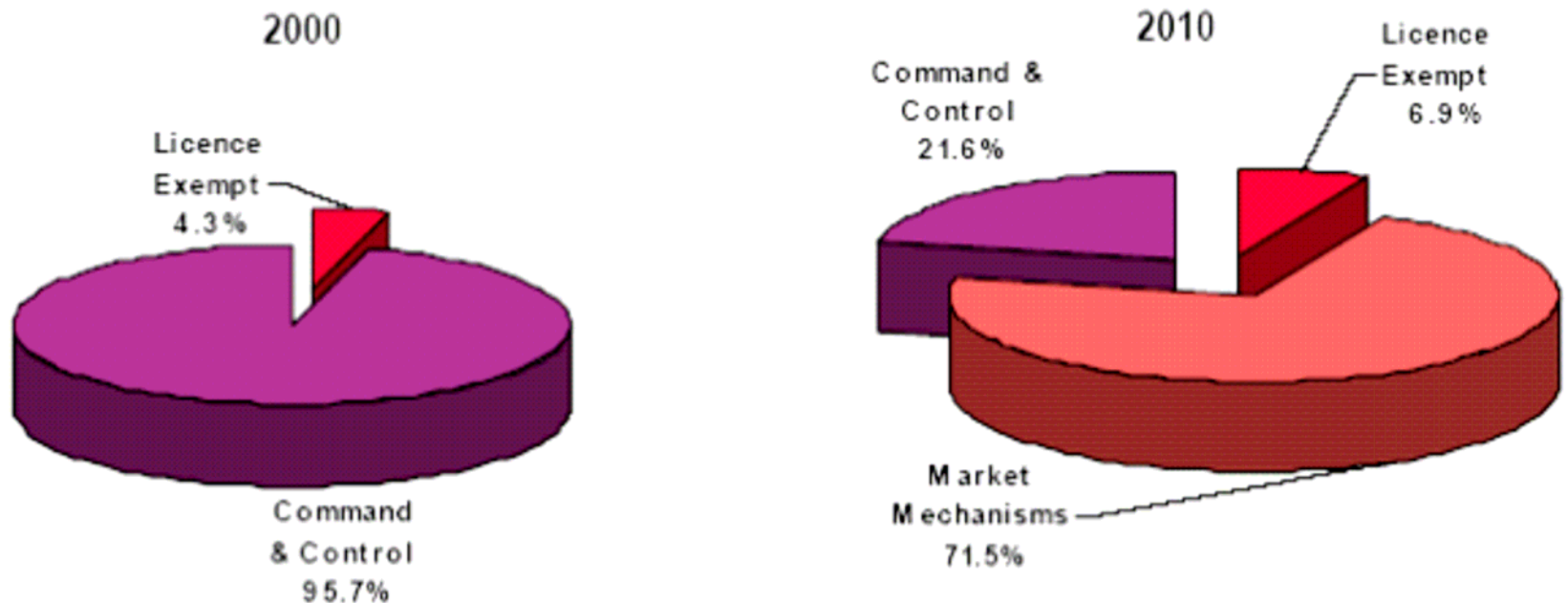
# 1.3. Criticalities affecting the Reform

- **Harmonization v. flexibility: the MS' argument.**
  - The IMT band: the English case (OFcom, *Spectrum framework Review: Implementation Plan*, 2005; ECC/DEC/05/05).

- **Efficiency v. social objectives: the Commission's view on the re-configuration of the spectrum management and the Parliament's critique.**

# 1.4. The Commission view: optimizing spectrum usage

The criteria that should guide MS for selecting the right regime for each band should be purely economic variables. Optimization of spectrum usage (i.e. internalization of opportunity costs) has been estimated to add €10 billion to GDP growth. **Commission Staff Working Document and Impact assessment, Brussels, 28 June 2006, SEC(2006) 816 and 817).**



Source: Ofcom Spectrum Framework Review, June 28, 2005.



# 1.5. The Parliament's view: the 2010 Reform as i-2010 key-enabler

- The 2010 Reform objective is a **multipurpose one**...It should **boost economic and technical efficiency** as well as **the usefulness to society** of this valuable resource
- It should **drive innovation, create jobs, foster productivity growth and enable citizens to access new technologies more cheaply**
- European Union needs to adopt a **sustainable approach to spectrum**
- This should **facilitate** cultural and linguistic diversity, **freedom of expression, and media pluralism** and permit **Member states ("MS")** to take into account their technical, social, cultural and political needs

*(EP Resolution 2006/2212/INI final edition, Towards a European policy on the radio spectrum, February 14, 2007)*



## **2. The Italian spectrum management system on trial**



## 2.1. The property & commons models first failure

- The **State discretionary role** inside the spectrum management **cannot be replaced completely, it can be constrained**. A margin is needed to take into account the super-individual interest attached to the usage of the resource (extreme situation: revocation of the usage right without compensation).
- **Within the property system it resides in the allocation phase** – e.g. construction of the “band plan”.
- **Inside the commons, it resides in the *ex-ante* State intervention** needed for scrutinizing the formation process of standards.

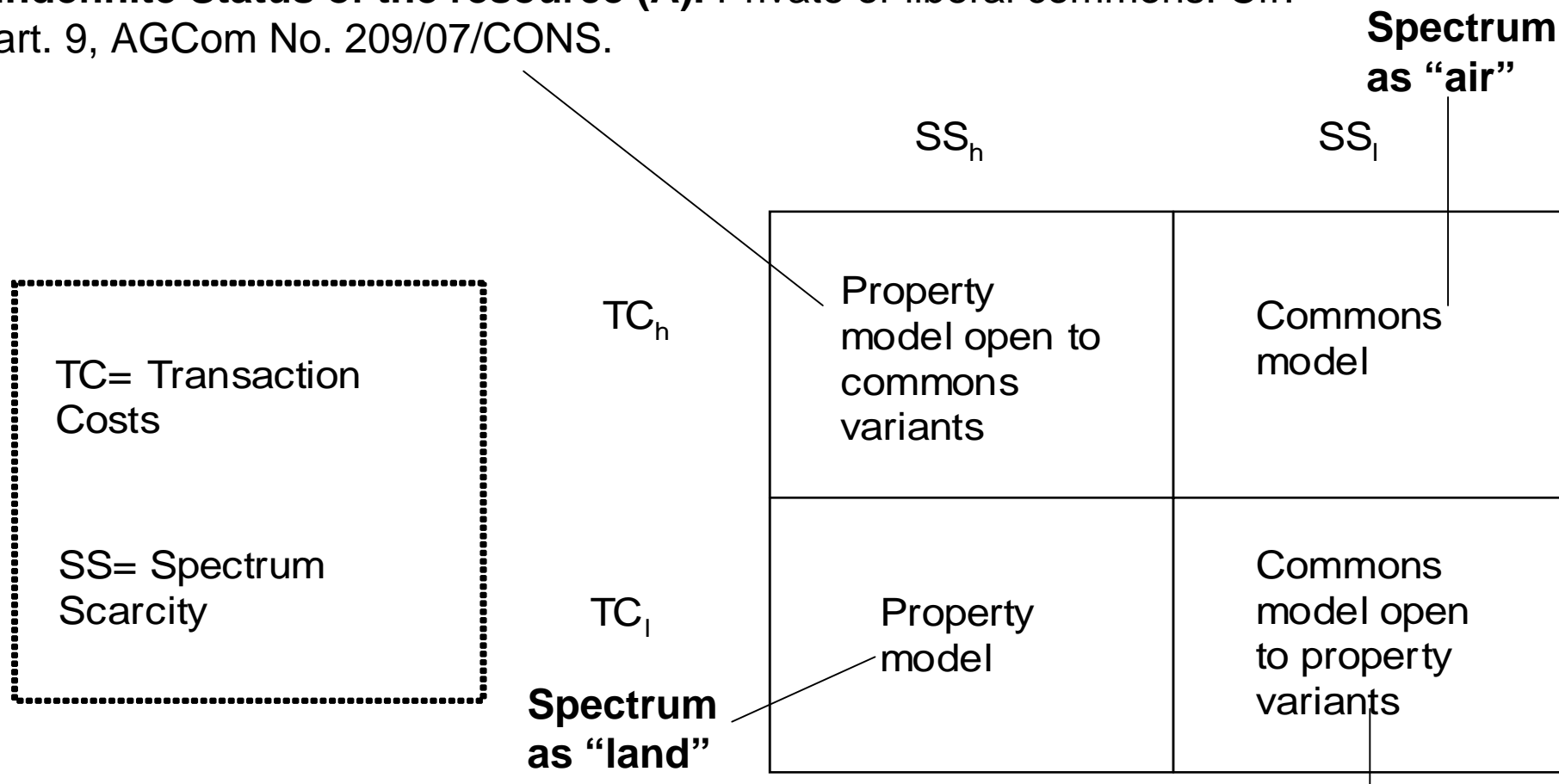


## 2.2. The hybrid management system.

### (i) Optimizing spectrum usage.

- The new management system backbone has to be provided by the State which through its SMA (Spectrum Management Agency) shapes for each spectrum band a different regime with regard to 'spectrum title' ("property" alike, "commons" alike or a mix of them) that permits the most efficient resource usage.
- Canceled the "big bang" assumption (one simultaneous and omni comprehensive auction of spectrum) economic studies demonstrated that most of the time "hybrid regime" are more performing than pure ones (Faulhaber, 2005; Kwerel, 2001; FCC 2002; Cave, 2002; Mott MacDonald Ltd et al, 2007).
- Especially in these blurring (corner) situations SMA are called to well define the process of selection of the hybrid regime and the "property right" created. Transparency is the key for the creation of (secondary) markets.

**Indefinite Status of the resource (A).** Private or liberal commons. Cfr. art. 9, AGCom No. 209/07/CONS.



**Indefinite Status of the resource (B).** Native commons. cfr. OFCom, Award of available spectrum: 1781.7-1785 MHz paired with 1786.7-1880 MHz, July 28, 2005)

**Source: FCC, SPTF Report, ET Docket No. 02- 135, November 2002**



## (ii) Democratizing the Italian wireless environment.

### A) The counter argument

- Between economic efficiency and democratic pluralism – “internal” and “external” components - there can be only a “shy or an accidental consonance” (Pardolesi 1988; Catricalà 2007)
- Transaction costs economics explained us that markets are governance mechanism among others – firms - and no atomistic competition after a certain contingent political threshold has been achieved is better than some blend of cooperation and competition (Easterbrook, 1984)

## B) A rebuttal

- **Many spectrum management systems** present around the world appear **severely biased in favor of static efficiency**. This is due to:
  - the 'quantification' trap – regulators' lack of capability to assimilate sufficient information about future spectrum uses (Cave Report, 2002);
  - The 'reliability of information' trap - only information available comes from incumbents which have a strong interest in maintaining the *status quo* (Cave Report, 2002).
- A **spectrum management system able to give a better balance between static and dynamic efficiency** (that is sustainable - e.g. able to optimize spectrum use over the time) will be **more prone in rendering this 'consonance' at least more probable to happen** (at least with regard to the external component of plurality).

## C) Re-balancing static and dynamic efficiency

- In a phase of convergence to IP, the **opening** of the spectrum management system **toward a commons model**
- permits the **SMA to gather better quality information** (enhanced benchmarking, etc.) since it **promotes alternative innovation paths**, and this unbiased approach
- enables the wireless market to reap the full advantages spurring from “**cooperative gain**” (Reed 2002, Werbach 2002, Cooper 2005) and therefore from the enhanced **combinatorial innovation process** (Varian 2003)
- Indeed the pure property model can achieve only “antenna gain” and “processing gain”. The pure command and control model only “antenna gain”.



# 3. Conclusions



# 3.1 Enhancing legal certainty inside the creation process of ‘spectrum titles’

- Artt. 27<sup>1-2</sup> and 29<sup>1</sup>, lett. a) and d), D.lgs. 259/2003, leave too much discretion to SMA (risk of non sustainability of the system)
- Italian SMA (AGCom and Ministry) should make Guidelines for
  - (i) restricting their discretion (risk of inefficient outcomes), and
  - (ii) giving more transparency to incumbents and newcomers about the methods they will use for selecting the type of regime for ‘spectrum titles’ (pursuing transparency and completeness of rights at the moment of first assignation).





## 3.2. Balancing static and dynamic efficiency

- The Guidelines could be built on the above-mentioned matrix considerations (TC and SS variables)
- But they should also implement a built-in mechanism for correcting the management system bias in favor of static efficiency...

## 3.2. Balancing static and dynamic efficiency

- To accomplish this task right **SMA** should be aware they are called to draw a resource **qualification migration path for spectrum** which **resemble somehow the inverse trajectory historically made by the jurisprudence on property land right** (in that case: from individuality to solidarity; now: from solidarity to individuality).
- This is to say that SMAs can take **useful insights from the logic underpinning the jurisprudential evolution of art. 844 cc.** (cfr. Mattei, 1998 on “property and liability rules”), **the transfer of cubature and, in general, the urbanisation legislation principles.**

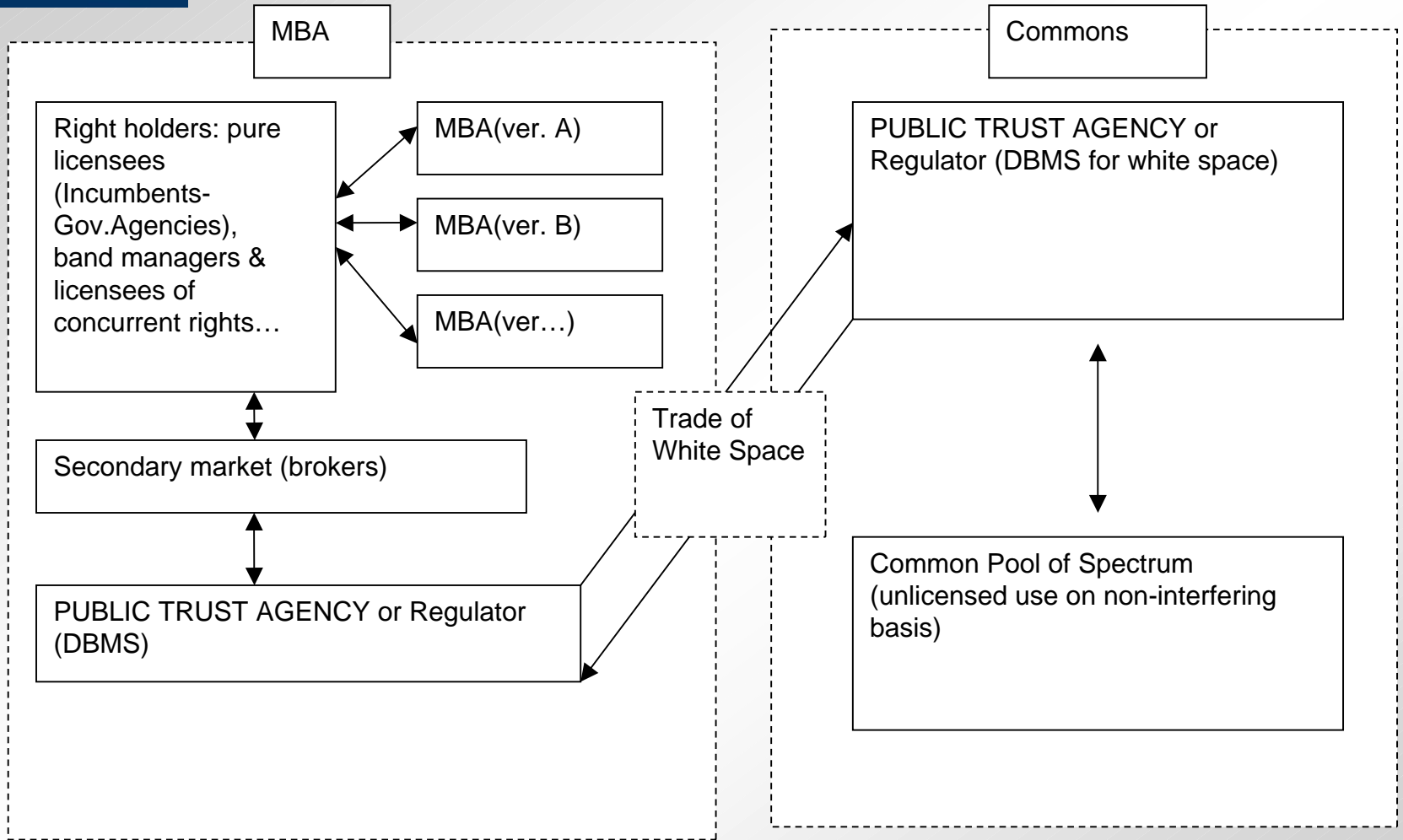
## 3.2.1. *An example*

- The protection of “innovative incubators” based on the commons regime can be structured as the protection for public parks in urbanization law (maintenance of a certain proportion between building and park cubature).
  
- Further, this protection can be completed by easements of “overlay” and “underlay” inside the pure property / liberal commons regime, as it happens for private property (land, building, etc.) or for public property (beach front, etc.)

## 3.3. A further correction

- Finally, the database of frequencies should be verified (checked with the operators' information) and a sort of “Conservatoria degli Uffici Immobiliari” / Borsa (spectrum as “land”/”air”) should be created.
- This is believed to stimulate the contractual autonomy of users (creation of spectrum sub-rights) either inside the same band implementing the same regime (internalization of actual opportunity costs) or between users located in bands for which a different regime is in place (Aspen Institute, 2004).
- The second above-mentioned feature can be thought as a system built-in mechanism which automatically balances static and dynamic efficiency (internalization of future opportunity costs linked with the innovation progress). Said differently: for enacting an automatic mechanism for performing usage rights completion over the time.

# 3.3.1. An example



Source: Aspen Institute, 2004



## 3.4. A final *caveat* ...

- Analogy with private property however should not mean that spectrum has to be considered a private good.
- Indeed, the privatization of the spectrum would imply the application of the “first come first served” principle (“*prior in tempore potior in iure*”) and the protection of the status quo (in economic terms: excess inertia situation).
- Qualification of spectrum as public good (art. 826 cc.) and applicability of art. 2598, 2600 cc. and art. 700 c.p.c. as protection from interference.

*“ [...] Too little attention is given to what is common to many, much more attention is given to what is private than what is in common or to what is in common, but only to the extent of each private interest satisfaction [However] Rightly the egoism is under accuse. It does not consist in loving himself and its property but in loving himself more than what should be, as the greedy man does with its property” (Aristotle, Politics, Vol. II, Ch. II and V)*

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Thanks!