

ITU-D Regional Seminar on Spectrum Management and Broadcasting for Europe and CIS

1

Spectrum Pricing

Administered Incentive Pricing (AIP)

30 May 2017

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The Vision

"The [spectrum usage] fee should remain a tool for rationalizing the utilization of spectrum and in no event be employed as a source of recurrent additional income for the state."



Source: A. M. Youssef, E. Kalman, L. Benzoni, "Technico-Economic Methods For Radio Spectrum Assignment", in IEEE Communications Magazine, June 1995, p.93

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Vision's Implications

Models

Stable financing of spectrum management founded on

- Administrative charges paid by spectrum users
 - Strong connection to costs caused to administration
 - Fairness & transparency for spectrum users
 - Judiciary control
 - Promotes cost-efficiency of spectrum management
 - Need for cost-accounting instruments



• General budget of the State (income from taxes)

Terminology

Administrative charge

- Payment for services provided by the administration to a beneficiary
- Height limited by general cost-coverage and proportionality principles

Tax

- Monetary contribution to the general budget of the State without any direct service or advantage in return
- Parliament determines height (tax law)

Distinction based on

 Payment associated to a particular service, advantage provided by the State



Spectrum Usage Fee

Models

Payment for a particular advantage (\approx admin. charge), and height detached from costs of activities of State (\approx tax)

 Spectrum is there per se (natural resource)

The fee is a counterpart for

- Right to use a public good, the public domain more extensively or exclusively
- License to exercise a regalian right



Objectives of AIP

Models

For an efficient spectrum management

- Send clear signals to users about valuable nature of spectrum
- Influence their behaviour
 - Disincentive to hoard spectrum
 - Consideration of alternative frequency bands
 - Investment into more performing technologies
- Comprehensible fees
 - Non-discriminatory, objective, equitable, reasonably simple, and transparent structure



Formula

• "Universal" spectrum fee calculation model

Bandwidth factor

- * Frequency band factor
- * Reuse factor
- * Exclusivity factor
- * Congestion / location factor
- * Time factor
- * Tariff unit (TU)
- Selection of relevant factors depending on specificities of radiocommunication applications

What Spectrum Price Is « Right »?

- Economists' view
 Price is function of the marginal costs of spectrum usage at the social optimum
- Speaker's suggestion
 Price set thanks to estimation and experience
 - What is financially bearable for users?
 - What is acceptable to common welfare, political organs?
 - What are the financial needs of the spectrum management authority?



Establishment of Spectrum Usage Fees

- Steps
 - 1. Determination (**qualifying**) of the relevant factors
 - 2. Evaluation (**quantifying**) of factors
- Practical aspects
 - Compilation of the necessary numerical data
 - Quantity and structures of licenses, present income, ...
 - Estimation of financial implications

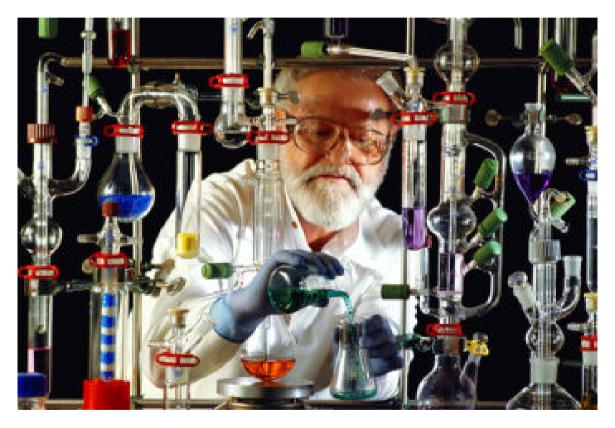


Some Practical Considerations when Introducing AIP

- Height of fees set under due consideration of economic realities
- Benchmark fees with comparable States
- Resolution despite opposition from spectrum users
 - But good reasons may call for adaptation of height of fees
 - Different spectrum "price" / spectrum "value" ratio for spectrum management authorities than for spectrum users
- AIP inapplicable in license-free frequency bands
 - Because spectrum users unidentifiable individually
- Periodical adjustments of fees very probable
 - Need for monitoring of incentive effect of fees over time
- Arrange stable financing (recurrent administrative charges)

Implementation

Thank you for your attention



& Good luck with your experimentations !

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