Regional Seminar on costs and tariffs for TAL Group member countries

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"Study on the Application of Cost Models in Latin American and Caribbean Countries"

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NOTE: The opinions expressed in this document are those of the author and do not necessarily reflect the opinions of ITU or its membership.

The terms and definitions used are those of the author and in no way replace the official ITU definitions.

PURPOSE OF THE STUDY

To make a contribution to all TAL Group members on the cost structures used in the region as well as a comparative analysis of the methodologies applied in order to identify common elements and special features, taking account of the different types of telecommunication services.

This task called for information and opinions from administrations.

PLANNED OUTLINE FOR CONDUCT OF THE STUDY

- Preparation of questionnaires
  - Chapter I – Information on costs
  - Chapter II - Statistics
- Consultation of secondary sources
- Analysis of replies
- Progress report
- Cross-questions
- Final report

CONTENT OF REPORT (1)

- Chapter I – Background for price orientation and cost models:
  - Theory and cost models
  - Problem of asymmetry of information
  - Regulatory accounting
  - Intermediate reporting mechanisms
  - Preliminary conclusions

CONTENT OF REPORT (2)

- Chapter II – Diagnosis:
  - Observations concerning the regulation of cost-based tariffs
  - Use of cost models in the region
- Chapter III – Methodological guidelines:
  - Bases for regulatory body accounting information

CONTENT OF REPORT (3)

- Chapter IV – Status of telecommunication price regulation in the TAL Region:
  - General overview/main common approaches and new challenges

  Chapter V – Summary and conclusions:
  - Recapitulation and future work

  ANNEX:
  - Questionnaires

SURVEYS (1)

- In 70% of cases, the prices of services not subject to competition are regulated by a State entity.
- 82% of administrations reveal that they have undertaken tariff rebalancing, and almost two-thirds of that 82% consider rebalancing to have been completed.
- Services with free prices:
  - mobile telephony and PCS (excluding access or interconnection to mobile networks),
  - data provision and Internet.
- 60% regulate fixed-mobile interconnection.
- The majority finance universal service obligations (USO) by means of a contribution from the sales revenue of operators, paid into a specific fund.

Source: website http://www.itu.int/ITU-D/icteye/Default.aspx , replies received and secondary information.

SURVEYS (2)

- Virtually all administrations use the cost-based pricing methodology.
- 22% use acquired cost models.
- 44% rely on the results provided by operators.
- 82% base themselves on historical costs, and the remainder on the concept of current costs. There is a general trend towards the introduction of LRIC.
- Cost allocation criteria:
  - 56% use ABC (activity-based costing)
  - The remainder use FDC (fully distributed costs).
- The majority of administrations use price orientation for interconnection:
  - 50% of them set prices directly,
  - whereas in 30% of cases the amounts are derived from costs notified in accordance with a cost separation methodology imposed on operators.

COMMON APPROACHES (1)

It is noted in general that administrations set:

- Tariffs for the end user of fixed telephony services where there is no effective competition;
- Price caps for interconnection (access) to different networks payable between operators, especially for fixed and mobile telephony; and
- Prices for the lease of essential facilities on the public telephone network (local and long distance).

COMMON APPROACHES (2)

How they determine them:

- Cost-based and/or cost-oriented prices.
- Principle of cost causality, accounting separation between services and cost allocation.
- Regulatory accounting.
- From historical to current costs and from current costs to LRICs.
- Top-down to bottom-up engineering models.
- Generally speaking, administrations consider that cost models should be adapted to the characteristics of their respective territories, density, demand and topology, which results in the design of ad hoc cost models.

COMMON APPROACHES (3)

How they operate:

- Rebalanced tariffs
- Mandatory, non-discriminatory interconnection based on agreement between parties, reference prices and dispute resolution
- Price Cap Minus (efficiency gains)
- Benchmarking

RELEVANT PROFILES

- The use of cost models is generally provided for within regional regulatory frameworks, although the greatest progress has been made in the gathering of accounting information based on operator data.
- Some administrations have contracted or are in the process of contracting the creation of cost models for basic (fixed) and, to a lesser extent, mobile telephony.
- Exercises involving application of the COSITU model have been carried out in the region.
- In a handful of cases, specific regulations exist for the Voice over Internet Protocol (VoIP) service, while some administrations explicitly prohibit it.

COST INFORMATION METHODOLOGY (1)

(Handbook on accounts and accounting separation)

1. **Define the services covered** (local fixed telephony service, local mobile, national and international long-distance telephony, etc.)
2. **Allocate costs between activities of each service:**
   a) **"Directly allocatable" (**identified with the provision of a particular service)
   b) **"Shared costs":** costs incurred for the provision of more than one service; and
   c) **"Common costs":** costs concerning the entire company, e.g. general management, financial administration, etc., and unrelated to any particular service or group of services.

COST INFORMATION METHODOLOGY (2)
(Handbook on accounts and accounting separation)

COSTS DERIVING FROM COMPANY ACCOUNTING

- Personnel
- Materials and equipment
- Assets:
  - Outside plant
  - Switching equipment
  - Transmission equipment
  - Installations
  - Furniture and tools
  - Vehicles
  - Software
  - Buildings
  - Sundry
- Payments to operators and other service providers

COST INFORMATION METHODOLOGY (3)
(Handbook on accounts and accounting separation)

ACTIVITIES BY SERVICE

- Network deployment and operations
  - Includes connections (for customers), operation and maintenance. In the case of a conventional fixed network, activities can be opened up based on access/local loop (covering installation, connection, operation, maintenance), switching (opened up in a similar manner), transmission, signalling.
  - Other networks may offer similar activities, although they may require other means for opening them up, where for example there is no local loop for mobile telephony, but there are sites, cells and wireless access (antennas).
  - Technological evolution may call for constant effort from the different services to ensure that the activities are opened up appropriately.
- Customer care
  - Customer and marketing administration (customer services, billing and collection, etc.).
- General activities not allocatable to services or groups of services
  - General administrative tasks not related to services, and general, corporate-type tasks.

COST INFORMATION METHODOLOGY (4)

(Handbook on accounts and accounting separation)

ALLOCATION OF COSTS TO DIFFERENT ACTIVITIES

1. Costs are allocated directly by activity when they correspond to a single service.

2. Shared and common costs are to be allocated between services by establishing objective and reasonable cost drivers based to the extent possible on physical factors such as the use of each type of service (traffic, duration of use, etc.). Alternatively, we may find other criteria: participation in total cost or total income.

3. Capital cost: weighted average cost of capital (WACC) method, i.e. the weighted average cost of own capital and that of third parties (debt), incorporating the market interest rate for the debt (some administrations use the book value for the cost of the debt) and the market rate of return (risk-free market rate plus country risk rate) corrected by variability factor beta for the communication company share prices on the stock market.

COST INFORMATION METHODOLOGY (5)

(Handbook on accounts and accounting separation)

TABLE OF REVENUE AND RESULTS

Information on revenue, costs and investment and asset status for each service:

- **Revenue** is generally directly allocatable to services (with the exception of tied sales and packages, for which no price should be lower than their cost).
- In the case of **transfer costs and revenue**, i.e. services sold within the same company from one production line to another, the costs and revenue shall be imputed the same allocation as if they had been sold to/purchased from another provider at market prices.
- The information on costs, assets, revenue and investments attributable to each service is then set out in spreadsheets under the headings **"Revenue statement**" (revenue – costs), **"Investments**" and **"Statement of assets"** (values net of depreciation and current investments) **for each service**.
- Consistency analysis and audit.

TAL MODEL

ITU-T Recommendation D.400:

- General guidelines for pricing the termination of international telephone services on local networks.
- Not an engineering recommendation, but a set of best practices and standards.
- Recognized costs:
  - investment,
  - capital amortization,
  - operating and maintenance,
  - R&D,
  - administration and tax, allocated to the termination service.
  - An inefficiency factor is recognized.
- Recognized network elements:
  - international transmission and switching,
  - national extension (access and transport).
- Allocation of common and shared costs based on their “appropriateness” as defined by each administration.

REVISED TAL MODEL

- 15% additional capacity, taking account of peak-hour demand and with correction of the inefficiency factor assuming an efficient architecture: circuit-switched network, digital switches with maximum of two tiers (tandem and local), fibre in metropolitan areas and efficient transmission technology.
- Recommends ABC cost allocation for accounting separation and the use of current costs based on LEC historical costs and possible migration to prospective IEC costs for additional capacity.
- The regulator may exclude common costs in the termination cost.
- Adopts the WACC (weighted average cost of capital, between equity and debt) in determining the capital remuneration, taking account of the country-risk rate and factor beta.

COSITU

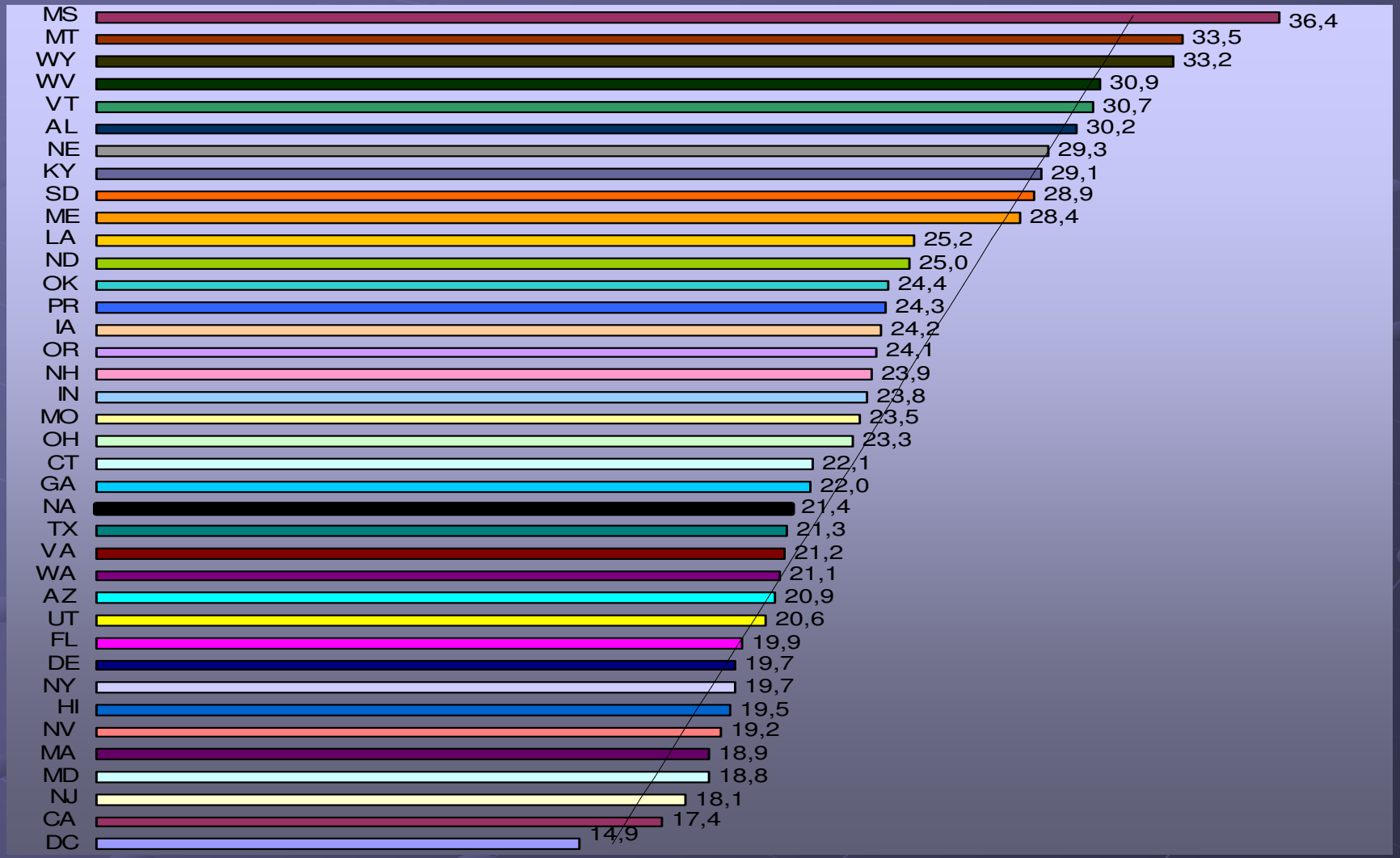
- Engineering-type model for calculating tariffs (regulators and/or providers) for all services; does not depend on the technology actually used.
- Input: accounting costs corrected to actual costs and top-down methodology adaptable to bottom-up scorched node methodology and existing demand (traffic).
- ABC allocation approach covering shared and common costs. Includes tax costs and universal service obligations.
- WACC, country-risk and beta factor.

REMARKS ON COST MODELS

- Administrations have stressed the specific characteristics of their networks and individual characteristics of their territories, densities and topologies, leading to the design of ad hoc cost models.
- Administrations sometimes find themselves up against political and social barriers to the adjustment of prices in response to major variations (including tariff rebalancing). Negotiation procedure and deferral. "Second best" type alternative.
- In the region, progress is being made in collecting information for handbooks on accounts and account separation and results by service. Compatibility with the general principles of the TAL model.

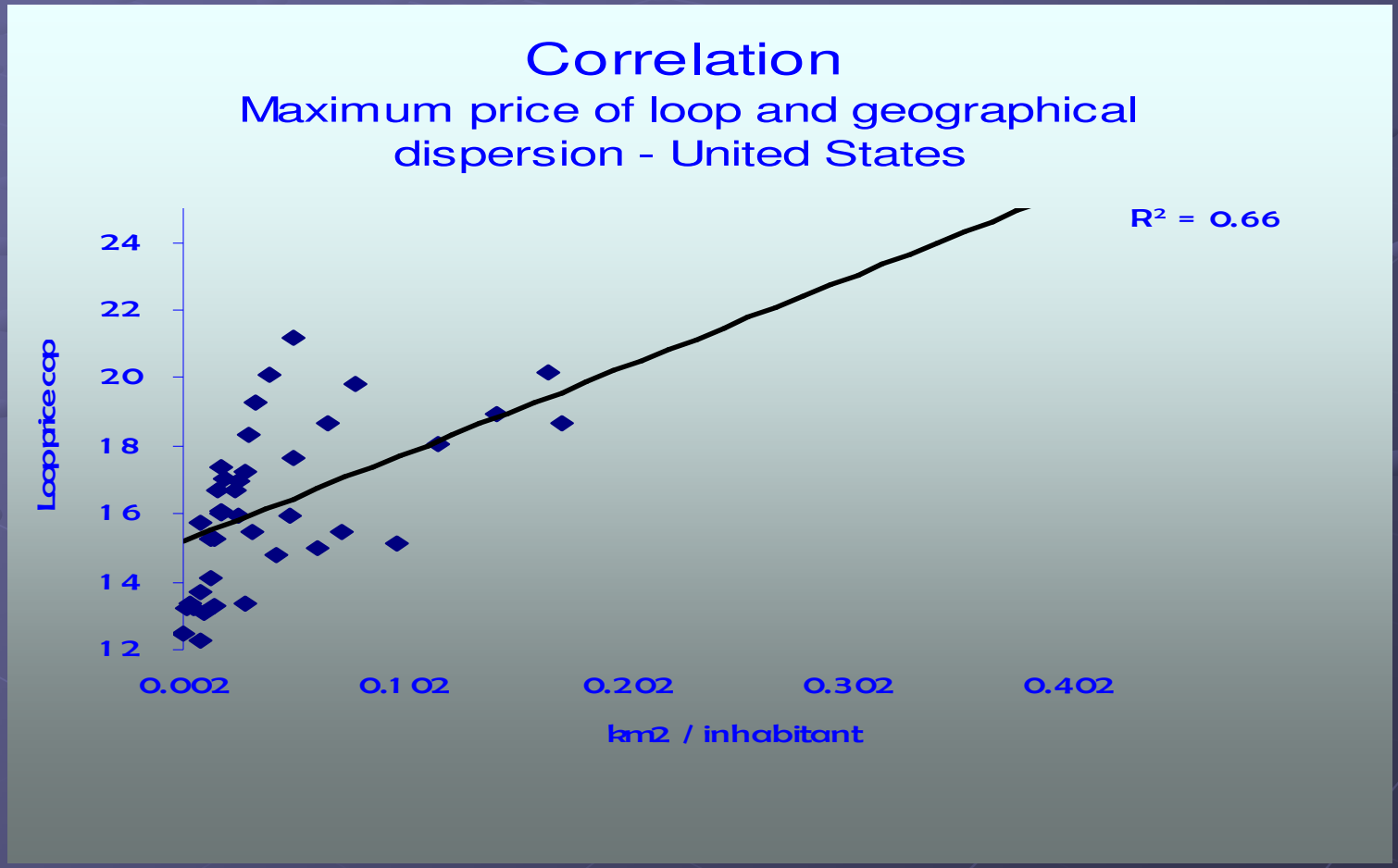
UNITED STATES: A GUIDE TO REGIONAL DIFFERENCES (1)

MONTHLY COST OF LOOP



Source: Drawn up by the author using FCC 2004 data.

UNITED STATES: A GUIDE TO REGIONAL DIFFERENCES (2)



Source: FCC data and author, 2002

THE GAP BETWEEN THEORY AND PRACTICE

OECD: “Models differ from the real world”

1) Asymmetrical information.
2) Unrealistic performance data on firm and regulator.
3) Economic theory tends to ignore relevant real costs (collection of information, presentation according to format, introduction of cost models, etc.).
4) Lack of synchronicity between decision-making and theoretical study, use of faster alternatives routes.
5) There is no theoretical framework capable of reflecting the complex and heterogeneous totality of all the phenomena involved.

A work by ITU’s T. Kelly and S. Tanaka, presented at the Paramaribo seminar (05/04), notes “that costs are only tools for determining prices, the setting of which is subject to a process of negotiation that takes other factors into account”. The final determination of prices cannot be based solely on the calculation of costs.

Networks are constantly evolving and new scenarios are emerging that change the Models.