

Séminaire régional de l'UIT sur les coûts et les tarifs en coordination avec la réunion du Groupe régional de la Commission d'études 3 de l'UIT-T pour l'Afrique (SG3RG-AFR)

Methodologies for regulating wholesale and retail prices

The case of roaming

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March 2010

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1. Introduction

What about the Roaming Service:

- How the prices of roaming should be set?
- Wholesale roaming is the sum of an access, a transit and a termination, although the operator know what are the costs of termination, the access and the transit might differ depending on the origin...
- Up to what extent the users who are roaming are willing to pay a premium for that service?

Regulatory policy applied to the setting of wholesale prices is a key issue for guaranteeing the level playing field competition in the different markets where the designated SMP operator is operating.

The model followed by the NRAs to set the wholesale services could eventually affect the investment decision, in this regard, there are at least a couple of questions to be discussed and clarified:

1. Should we apply a bottom up rather a top down?
2. Should we recognize symmetric or asymmetric prices?

These questions are part of the debate that we have had in Europe regarding the FTR/MTR, and the regulation of bitstream and wholesale broadband services

Can we shed some of light on it?

2. Trends in roaming: *Country cases*

The case of Europe: European roaming regulation



There are two key rules in the European roaming regulation:

- 30 June 2007: the high cost for for voice roaming abroad were regulated if those were called between customers in another EU Member State
- 1 June 2009: The Comission reviewed the previous regulation and decided to include text messages and data services.

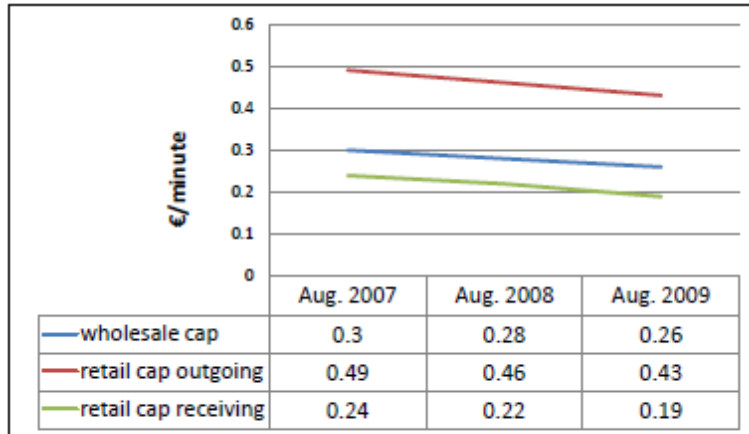
The main aspects were the following:

- 1.Mobile **roaming calls** with a maximum tariff of **€0.43 for making a call and €0.19** for receiving one.
- 2.Limits the price for **sending a text message** while abroad at **€0.11**. Receiving an SMS in another EU country will remain free of charge.
- 3.Reduces the cost of surfing the web by introducing a maximum wholesale cap of **€1 per megabyte** downloaded.
- 4.There will also be introduced a **cut-off mechanism once the bill reaches €50**, unless they choose another cut-off limit
- 5.Per second **billing introduction** after the first 30 seconds for calls made and immediately for calls received.

The new rules had an important effect in European mobile operators. The following table shows the effect in Spain which was one of the countries with higher roaming tariffs.

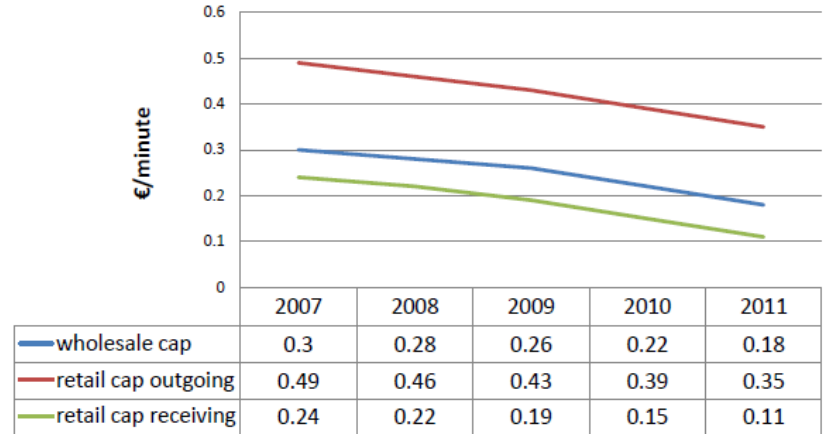
	Sent calls	Received calls		Sent calls	Received calls
Vodafone	0,75 €/min	0,5 €/min	After regulation →	2007	0,49 €/min
Orange	0,75 €/min	0,51 €/min		2008	0,46 €/min
Movistar	0,79 €/min	0,5 €/min		2009	0,43 €/min

EU Roaming I



(retail price exclude VAT)

EU Roaming II



(retail price exclude VAT)

The European Commission has defined a glide path for regulating the originating and receiving calls when roaming as well as a cap for the wholesale services when the customer is roaming.

The aim is to decrease the price of voice while roaming in more than a 70% and the price of SMS while roaming in a 62%

For FCC, “roaming” occurs when the subscriber of one provider utilizes the facilities of another provider with which the subscriber has no direct pre-existing service or financial relationship to place an outgoing call, to receive an incoming call, or to continue an in-progress call. Roaming therefore occurs when a subscriber places or receives a call while physically located outside of the service area of its “home” provider.

There are basically two forms of roaming – manual and automatic. With **manual roaming**, the subscriber must establish a relationship with the host carrier on whose system he or she wants to roam in order to make a call. Typically, the subscriber accomplishes this in the course of attempting to originate a call **by giving a valid credit card number to the carrier providing the roaming service**. With **automatic roaming**, instead, the roaming subscriber is able to **originate or terminate a call without taking any special actions**. Automatic roaming **requires a pre-existing contractual agreement** between the home and the roamed-on host system.

Notice that an alternative to such [Calling Party’s Network Pays] arrangements, however, is a “**bill-and-keep**” arrangement. Because there are no termination charges under a bill-and-keep arrangement, each carrier is required to recover the costs of termination (and origination) from its own end-user customers. This situation leads to **changes in the pricing policy** and provoke the entrance of **flat rates**.

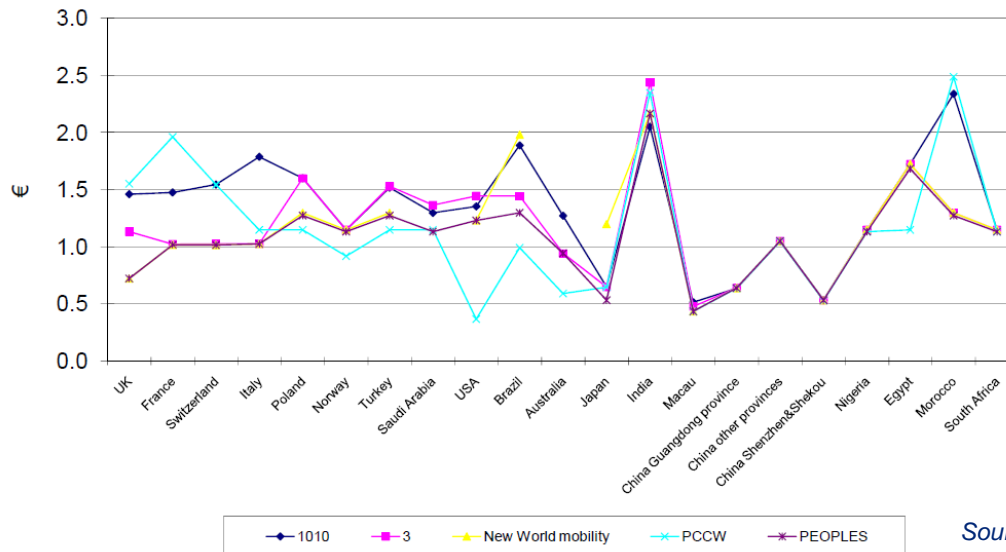
In recent years, **roaming** has emerged as **an issue because of some merger transactions**. Despite the Commission’s approval, a number of smaller carriers asserted that the mergers are detrimental to roaming. **Roaming arrangements can only be made with a technologically compatible network**, and the mergers resulted in a **reduction in analogue carriers** in many geographical markets, reducing the competition at a wholesale level and **increasing the risk of anticompetitive roaming practices** carried out by the big operators. In contrast to national roaming, the **international is the most expensive** due to lack of competition and lack of international regulation.

The case of Hong Kong

The Hong Kong mobile market is highly developed. Cellular mobile telephone subscriber numbers have increased from 0.29 million (1993-1994) to 9.37 million (2006-2007), while population coverage has increased from 4.9 per cent (1993-1994) to 135.4 per cent (2006- 2007), with an average yearly growth of 10 per cent.

The Hong Kong telecommunication regulator OFTA (Office of the Telecommunications Authority) does not normally regulate the roaming service. The regulatory framework that OFTA adopted does not entail price capping of roaming charges, but instead aims to set fair competition rules (on an *ex post basis*) in the market. To ensure fair competition in the Hong Kong mobile market, OFTA has adopted a technology-neutral approach in licensing (1996) to facilitate customer switching to alternative networks, to process consumer complaints and examine the fairness of retail practices.

International (i.e., non-China) roaming charges are relatively high. (See the figure below)



Source: Europe Economics

3. Roaming Policy Options

1. No policy change

In this case the option of 'no policy change' would mean no regulatory intervention i.e. allowing market forces to work. By taking these option the problems related with transparency and high wholesale charges would likely remain.

2. Transparency regulation only

Transparency measures will help to address the problem of 'bill shock' by increasing consumer awareness of the retail charges and by giving consumers the tools to control expenditure.

3. Wholesale regulation

High wholesale charges combined with traffic steering difficulties for roaming, are causing difficulties with providing transparent retail offers and clear information to consumers. The problem is caused by the ineffectiveness of traffic steering which results in operators having to pay exorbitant rates for the remaining traffic. A wholesale cap combined with transparency measures would eliminate these excessive charges.

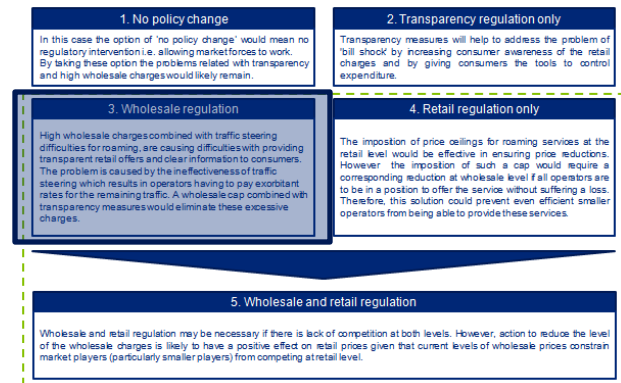
4. Retail regulation only

The imposition of price ceilings for roaming services at the retail level would be effective in ensuring price reductions. However the imposition of such a cap would require a corresponding reduction at wholesale level if all operators are to be in a position to offer the service without suffering a loss. Therefore, this solution could prevent even efficient smaller operators from being able to provide these services.

5. Wholesale and retail regulation

Wholesale and retail regulation may be necessary if there is lack of competition at both levels. However, action to reduce the level of the wholesale charges is likely to have a positive effect on retail prices given that current levels of wholesale prices constrain market players (particularly smaller players) from competing at retail level.

3.1 Regulatory policy applied to wholesale services



The steps to be taken prior to intervention can be summarized as follows:

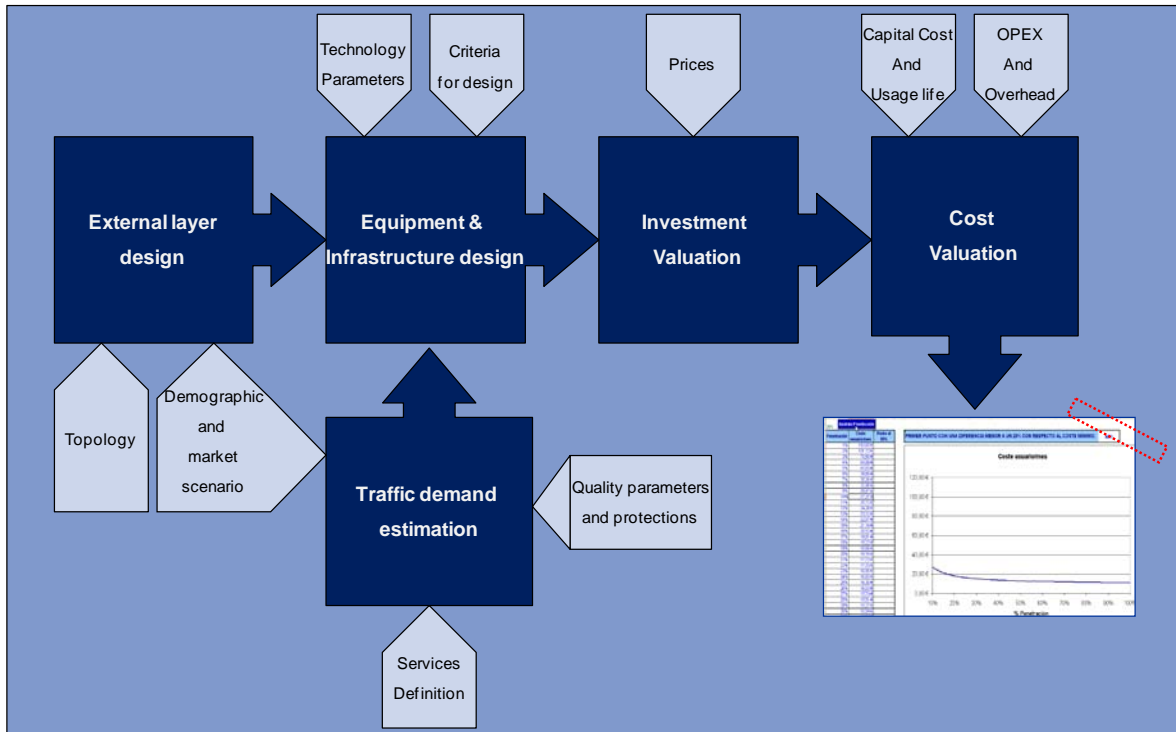
- Step 1: Define the relevant market from a product point of view as well as from a geographic perspective.
- Step 2: Identify the Significant Market Power Operator/s
- Step 3: Valuate the conduct followed by the SMP operator/s
- Step 4: Impose the obligation (ex ante/ex post) to stop that behavior and if needed fine the behavior of the SMP operator/s.

Only by carrying out these steps the NRA would be able to identify, at sight of the possible anticompetitive behaviors, the type of remedies to be imposed.

Among others, the NRAs could decide to make the wholesale prices become cost based, or publish a reference offer to guarantee the transparency and non discrimination

Which costing models can be applied?

Bottom up Model



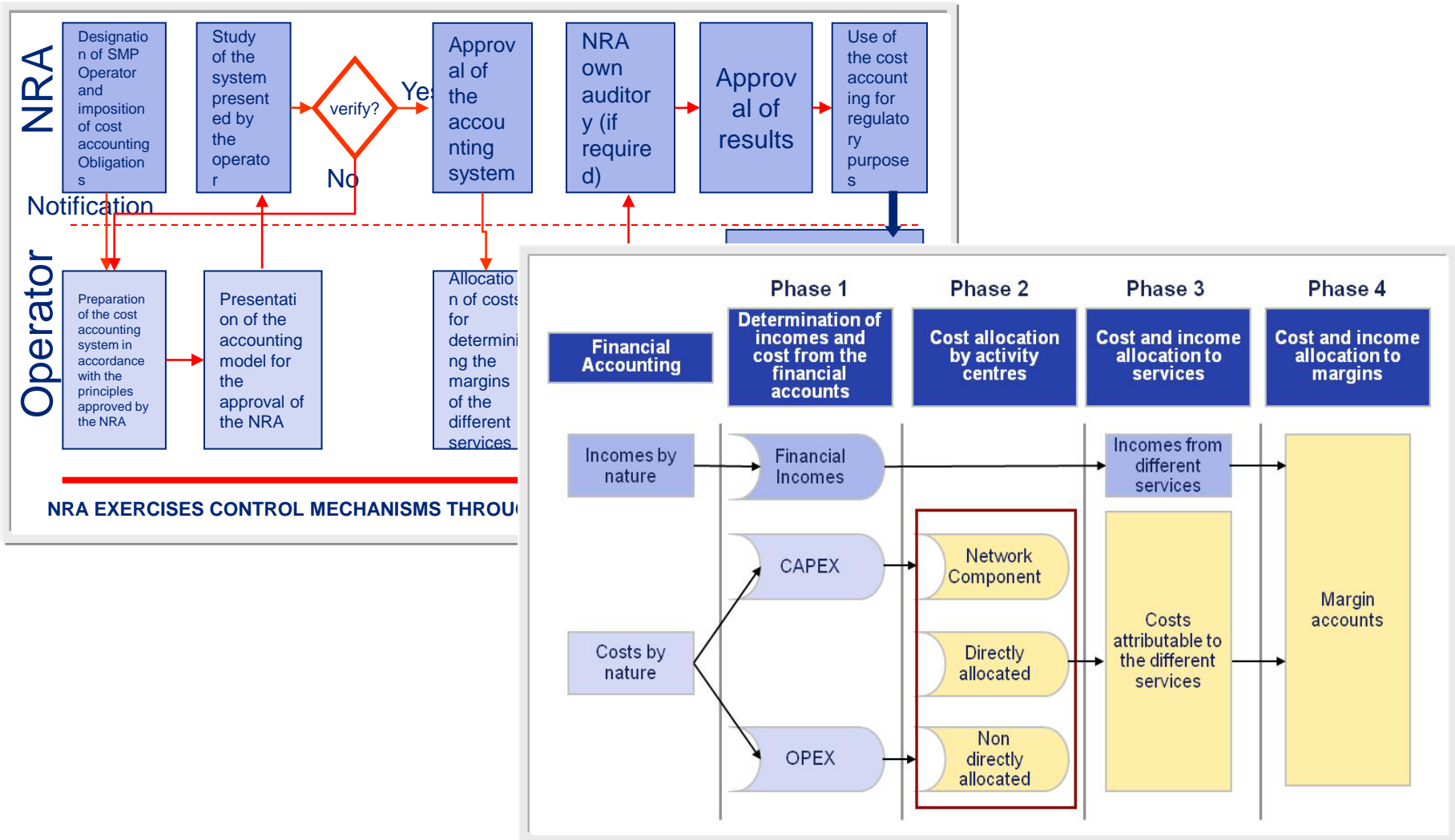
Key variables and levers

- WACC
- Assets life span
- Assets valuation
- Routing factor matrix
- Identification of the Network used for the provision of the services

Taking in account the estimated costs obtained from the LRIC model, the NRAs eventually set the wholesale prices by summing a mark up which depends mainly on the playing level field competition

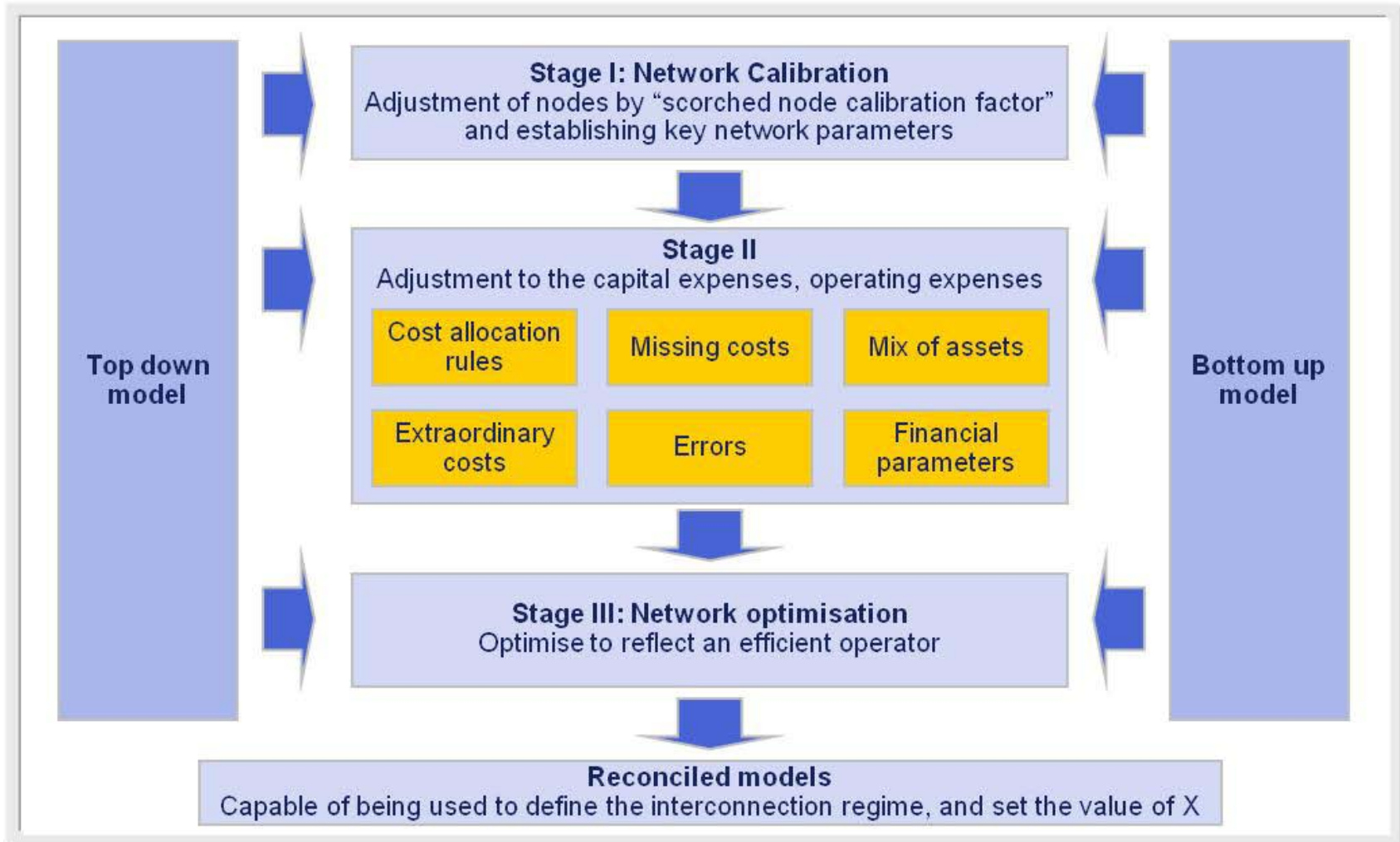
Which costing models can be applied?

Top down Model



Which costing models can be applied?

Reconciliation process

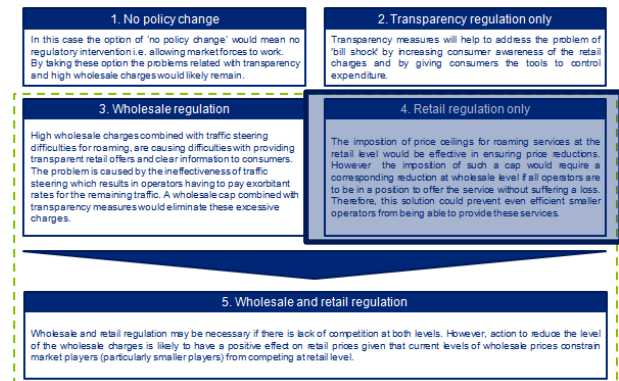


- Fixed termination rates (FTR) and Mobile Termination Rates (MTR)
 - Co-location
 - Leased lines
- Wholesale line rental (WLR)
 - Bitstream
- Unbundling local loop (totally and shared)
 - Intelligent network
- Wholesale broadband services
 - Transit
 - etc

Current debate on...

1. Symmetry vs asymmetry in FTR/MTR
2. Costing model to be applied to NGN
3. Recognition of additional risk premium for wholesale services provided under a NGN
4. Removal of the existing regulatory policy on the existing infrastructure

3.2 Regulatory policy applied to retail services



Price Caps

- Step 1: Identification of the regulatory period
- Step 2: Identification of the services included in the baskets and sub-baskets
- Step 3: Specification of weights according to the calling pattern
- Step 4: Specification of the unitary price in homogenous term

$$\text{Price of a standard call} = C_0 + C_p \cdot \frac{e^{\left(\frac{-T_0}{T_m}\right)}}{1 - e^{\left(\frac{-T_p}{T_m}\right)}}$$

- Step 5: Specification of the productivity parameter X
- Step 6: Verification of the fulfillment of the limit

$$RPI - X$$

This model was mainly used for regulating retail and wholesale prices. Particularly important was its application to reduce the access deficit.

Glide paths

- Step 1: Specification of timeframe
- Step 2: Specification of the objective prices: Previously it requires a cost model which supports the objective
- Step 3: Specification of the price variation path
- Step 4: Discussion on Symmetry vs asymmetry prices
- Step 5: Adjustment and verification process (semesterly, annually, etc)
- Step 6: Category of costs to be included (Ex. 3G)

This model was mainly used for regulating MTR and wholesale Roaming services.

4. Treatment of bundles of services

Roaming offers examples

Orange (France)

- In May 2008, Orange/France Telecom appealed to its customers who travel frequently within the EU by introducing some new plans. **“Data pass”**, aimed at users of data roaming, enables Orange customers to connect to the internet from any country. Depending on the country, he or she will see **price reductions of up to 90 per cent off the official tariff**.
- The **“preferred country” plan** allows frequent EU travellers to pay €5 per month and realise savings **between 18 and 60 per cent off** of the official tariff in his or her **country of choice**.

3/Hutchinson 3G (UK)

- The popular **“3 Like Home”** offers **monthly minutes and texts to standard home numbers at the exact same rates and charges when abroad**. Travellers going between Austria, Australia, Denmark, Hong Kong, Ireland, Italy, the UK or Sweden (countries where 3 shares sister networks) to use their mobiles abroad as they would do at home.

Transatel (MVNO France)

- Transatel offers **“multi-country” plans which are either generic or customised by the subscriber**. In addition to its call and text packages, Transatel offers a flurry of innovative services which are tailored for the globalised mobile user. These include **local tariffs in several countries, savings on international calls, “Unified Messaging Services”**, and **multilingual customer service**.

T – Mobile (Germany)

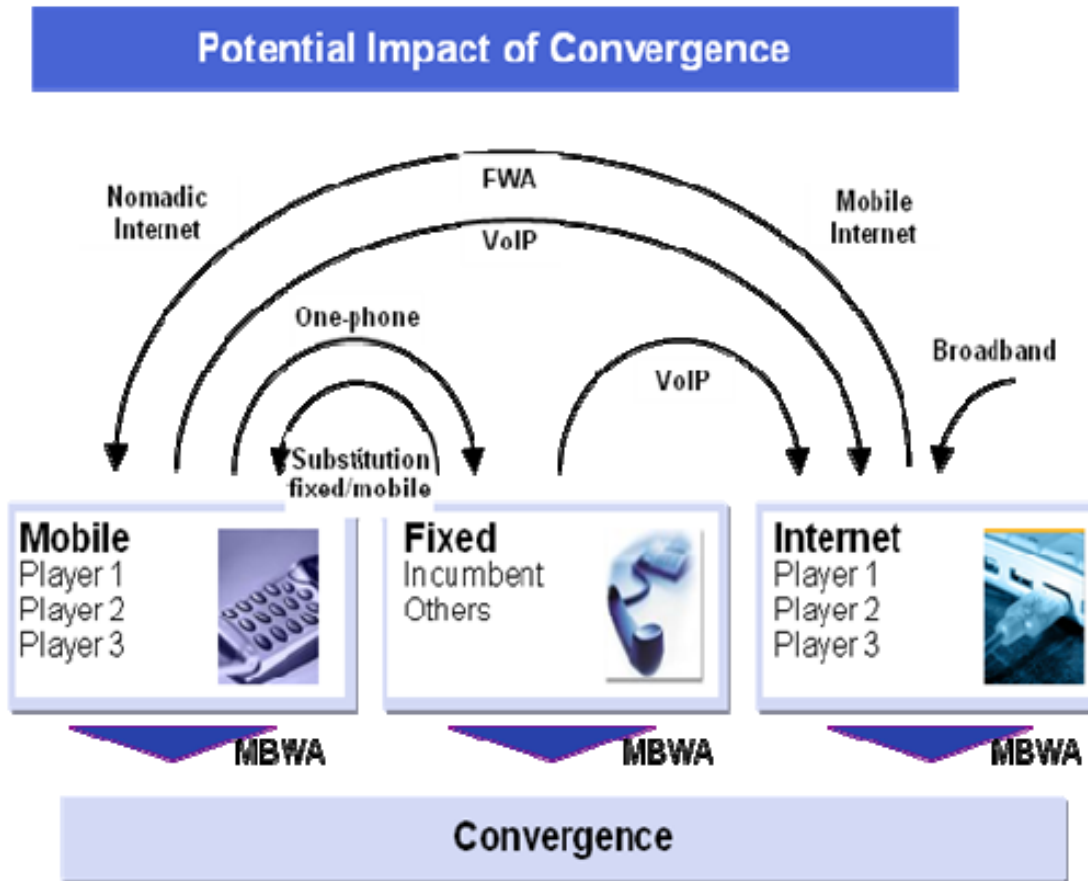
- T-mobile is targeting frequent business travelers by providing a **“World-class International Roaming” mechanism for reduced roaming charges**, which certain users on pre-pay contract can activate from their phone at no charge. Rates and countries on offer are available through the T-Mobile website. For Austrian T-Mobile subscribers, for example, 100 minutes of outgoing calls cost €29 per month.

Vodafone (UK)

- The Vodafone **“Passport”** offer, now on offer in a number of countries, enables Vodafone users to take their mobiles abroad and, for a **fixed “connection charge”**, speak at domestic rates.
- For example, in the UK this non-trivial connection charge is £0.75 and in the **Euro area it is typically around €1**. Regardless of the visited network, this offer applies 31 countries, both in and outside the EU.
- It does **not apply to SMS or data charges**.

Telefónica / O2 (Spain)

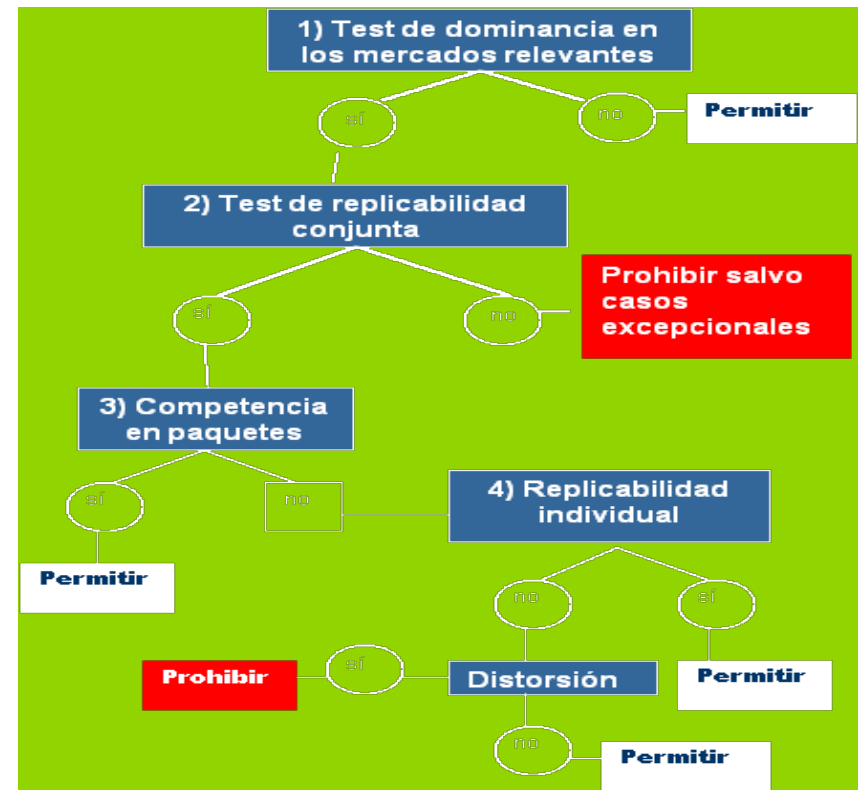
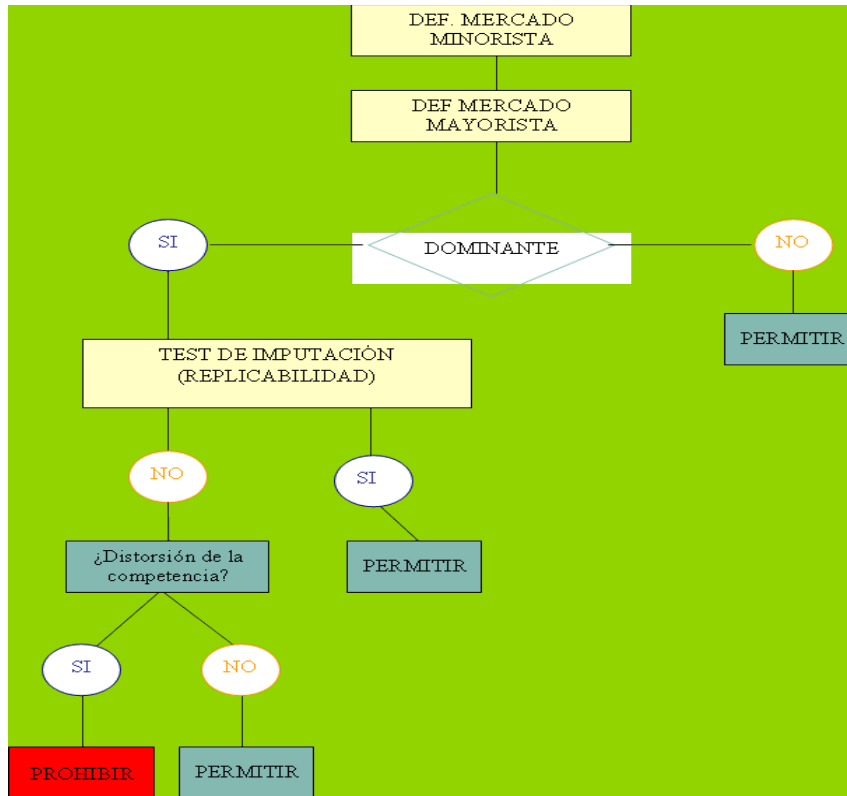
- The roaming package **“My Europe”** offers roaming customers reduced and flat-rate monthly voice roaming rates across the EU (and across networks) during the summer months. According to Telefónica / O2, the My Europe package amounts to **savings of over 60 per cent** when compared with previous tariffs.



Network and service converge is changing the scope of the telecom sector from different perspectives: (i) competition, (iii) regulation, and (iv) customer demand.

In this regard, NRAs should adjust their regulatory framework and revise the boundaries of the defined markets since there is not anymore a direct relationship between the services provided and the markets in which they are commercialized.

How the existing regulatory framework should evolve to guarantee the level playing field competition despite changes in the pricing policy of both the incumbent and the entrants operators?



The imputation test requires the fulfillment of the following expression:

$$p \geq w + C_{net} + C_{retail}$$

Other aspects to consider:

- Difference between offer and promotion
- Specification of a methodology of analysis and information requirements to periodically check the possibility for other operators to retort the SMP offers/promotions

6. Recommendations

1. There is not a clear regulation on roaming due to the fact that it is supranational markets.
2. Roaming charges can be estimated as the sum of an origination and a termination. In this regard, although termination might be known, the origination is totally unknown for the regulator of the visited network.
3. Having costing models is key to at least have an understanding on what the costs of termination are.
4. Sometimes NRAs, as it has happened in the case of the European Commission, have designed and implemented retail and wholesale caps and also a particular glide path for setting the evolution of both, retail and wholesale throughout the regulatory period.
5. In this regard, having a proper costing model, either a bottom up or a top down will be key to at least get a proxy of the costs and the way in which the retail cap and wholesale cap should eventually evolve.
6. It is important to take in account that convergence is becoming a reality, so that the pricing policies that customers have at home (bundles of services) might not be replicated taking in account the existing regulatory framework. In addition, the model could evolve towards a situation where voice is just a mere commodity (flat rates) having a clear impact on the price of roaming services.