ITU ADVANCED LEVEL TRAINING

Strategic Costing and Business Planning for Quadplay

WINDHOEK, NAMIBIA

6-10 October, 2014

Harm Aben

ITU Expert

Session 2: Understanding the place of regulation in pricing of broadband services

Agenda

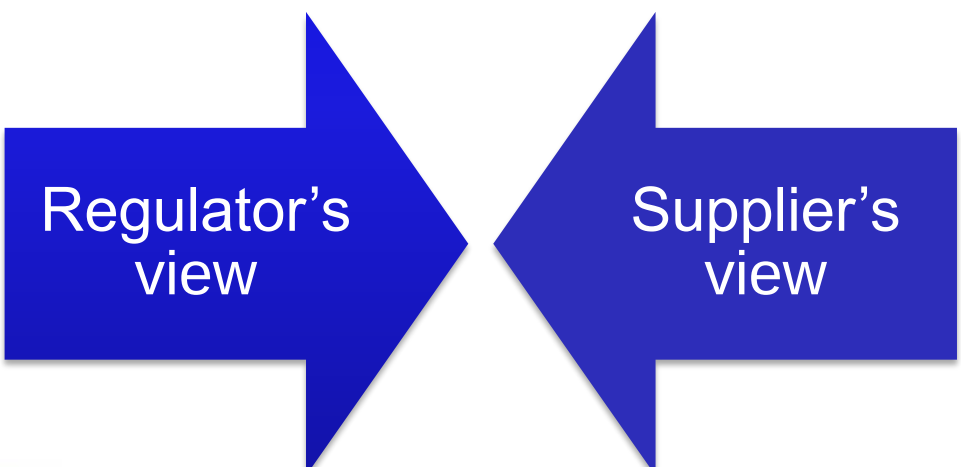
Aims and objectives for this session

- The regulation of prices
- Forms of price regulation
- Identify types of cost
- Understand cost standards
- Know when to apply them

The regulation of prices

The perspectives of suppliers and regulators

Sometimes they are in conflict …



… but sometimes they come together

Factors in the supplier's view of prices

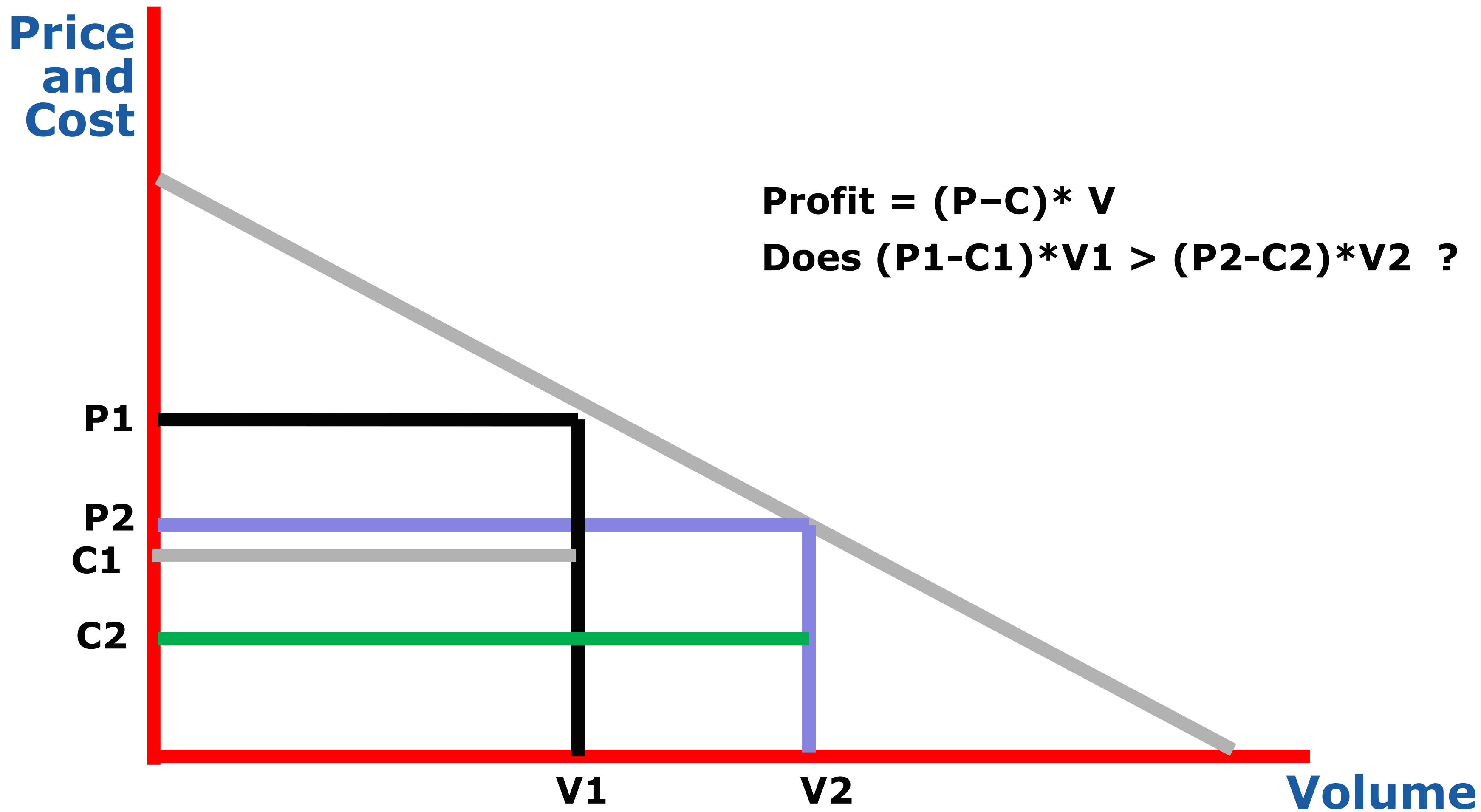
Internal pricing factors

- Overhead and set up costs
- Material costs
- Production costs
- Distribution costs
- Equipment replacement
- Marketing and sales
- Profit requirement

External pricing factors

- Demand elasticity
- Competitors
- Economic cycle and demand strength
- Opportunities to charge above cost
- Price discrimination
- Risks

Prices are designed for profit maximisation



Profit = (P–C)* V

Does (P1-C1)*V1 > (P2-C2)*V2 ?

Regulators have different pricing goals

Social pricing may be in order (e.g. affordability, universality)

But costs and profits need also to be taken into account (e.g. regulated rate of return)

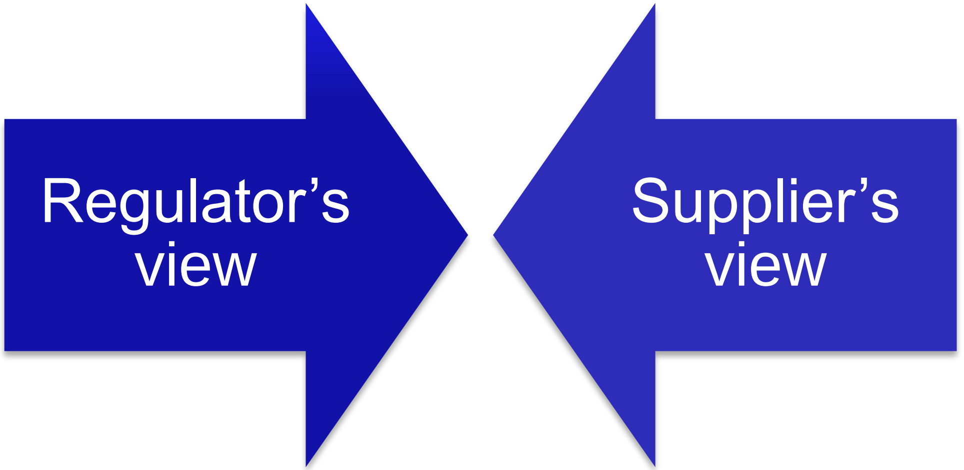
Factors in the regulator's view of prices

- **Efficiency of investment**:
  This implies that opportunity costs are taken into consideration, i.e. investment costs and usual rates of return on capital employed.
- **Efficiency of resource use**:
  The price for an additional unit must not be lower than the marginal costs (i.e. costs for an additional unit).
- **Efficiency of market entry**:
  The entry of efficient firms should be encouraged and the entry of inefficient firms should be prevented.
- **Practicability**:
  It must be possible to apply the system to determine prices in practice. Data has to be available, transparent and reproducible.

Finding common ground

BRAINSTORM

- In what circumstances are the views of regulators and suppliers most likely to converge?
- And when are they most likely to diverge?



The theory of economic competition

- Competition drives suppliers to reduce prices
- To do this they must also reduce costs if they are to make a profit
- Thus efficiency is maximised under conditions of perfect competition.

1. Regulators need only intervene in markets where there is a lack of competition
2. Regulation should seek to provide equivalent outcomes to those of perfect competition.

Forms of price regulation

The objectives of price regulation

- Avoid price controls if you can – don't regulate if the market is competitive
- Concentrate on wholesale price controls as far as possible – prices in retail markets can then be left to competitive forces
- Remember that not all prices need detailed costing (e.g. retail-minus pricing or benchmarking may be appropriate)
- Allow operators to cover their costs plus a reasonable return on capital employed (profit) – makes for sustainable prices
- Reward innovation and investment risk.

- Goal: find a "simulated" market price – try to mimic the prices that a competitive market would produce

Competition remedies

- The commonly-used remedies for wholesale markets can be broadly categorised as:
  - access obligations (including interconnection and unbundling)
  - transparency obligations
  - non-discrimination obligations
  - separation (including accounting and other reporting requirements)
  - price controls and cost accounting
- Some further retail remedies may also be applied if wholesale remedies on their own are insufficient:
  - They include price caps and price controls to prevent predatory pricing, price discrimination and unreasonable bundling

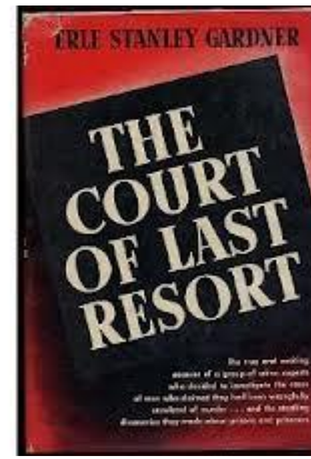
Principles to guide the selection of remedies

Remedies "*shall be based on the nature of the problem identified, proportionate and justified in light of the objectives laid down*"
Article 8(4) of the EC Access Directive

- **Appropriate** — the choice of remedy should be based on the nature of the identified problem
- **Reasonable** — the remedy should be explained and justified through the publication of a reasoned decision
- **Proportionate** — the least burdensome remedy (or combination of remedies) should be applied

When to regulate for cost-based prices

- The imposition of cost-based prices should be seen as the remedy of last resort
- The remedy is appropriate to resolves cases of:
  - Cross-subsidisation
  - Predatory pricing
  - Excessive costs
  - Price discrimination
- Cost models should only be constructed if there is a reasonable chance they will be needed to resolve such problems



Cost accounting and accounting separation

- Can be used to ensure:
  - there is an appropriate allocation of costs between the SMP operator's wholesale and retail divisions
  - the cost of wholesale inputs are based on relevant production costs
  - a vertically integrated operator is not engaging in an unfair cross-subsidisation or a price squeeze.
- Often also used to support the administration of price controls and cost accounting obligations

Cost-based prices (and cost models)

- Can be used to address the risk of excessive pricing or price squeezes occurring within a particular market
- Such remedies can range from weaker obligations (e.g. an obligation that prices are “reasonable”) to strong obligations (e.g. an obligation that prices are cost oriented or cost based)
- Cost based or cost-oriented price controls typically require some form of cost model to be built and for service costs to be estimated (although international benchmarking is also sometimes applied as an interim or alternative measure)

When selecting remedies, ask yourself...

- What is the competition problem that is anticipated?
  - What is the nature of that problem? (e.g. is it at the wholesale or the retail level? Is it a pricing issue or an access issue?)
- Which broad category of remedy might address the problem?
  - Within that category, which specific remedies might address the problem?
  - Can the onerousness of this remedy be reduced without detracting from its effectiveness?
- Would that specific remedy in itself be sufficient to address the problem?
  - If not, what additional remedies are necessary?
  - Can the onerousness of this combination of remedies be reduced without detracting from its effectiveness?

Identifying types of cost

How much does a pint of milk cost?

List as many types of cost as you can think of that might affect the cost (or cost-based price) of milk

Examples of cost categories

Production costs:

- Land, cows, feed, fertilisers, labour

Processing costs:

- Equipment and labour for milking, pasteurising, skimming

Distribution costs:

- Transport, packaging, refrigeration, logistics

Retail costs:

- Shops, staffing, marketing, branding, billing

Four key types of cost

Fixed costs

- Cost which must be incurred if any non-zero quantity is supplied

Variable costs

- Cost whose magnitude changes when output changes

Capital costs

- Assets purchased for use in more than one year

Operating expenditure

- Costs consumed entirely within the current year

Categorisation of costs

Fill in examples of each cost type relevant to the cost of milk

	Fixed capital costs	Variable capital costs	Fixed operating expenditure	Variable operating expenditure
Production				
Processing				
Distribution				
Retail				

Categorisation of costs

To be revealed during the presentation

Understanding cost standards

Four key cost standards

Fully Allocated Costs (FAC)

- An accounting method to distribute all costs among a firm's various products and services

Long Run Incremental Costs (LRIC)

- An accounting method to calculate the cost caused by the provisioning additional units (the "increment") or by an extension of the service portfolio

Stand Alone Costs

- The costs of supply assuming a firm only provides one service

Marginal Costs

- Cost caused by the provisioning of one additional unit of service

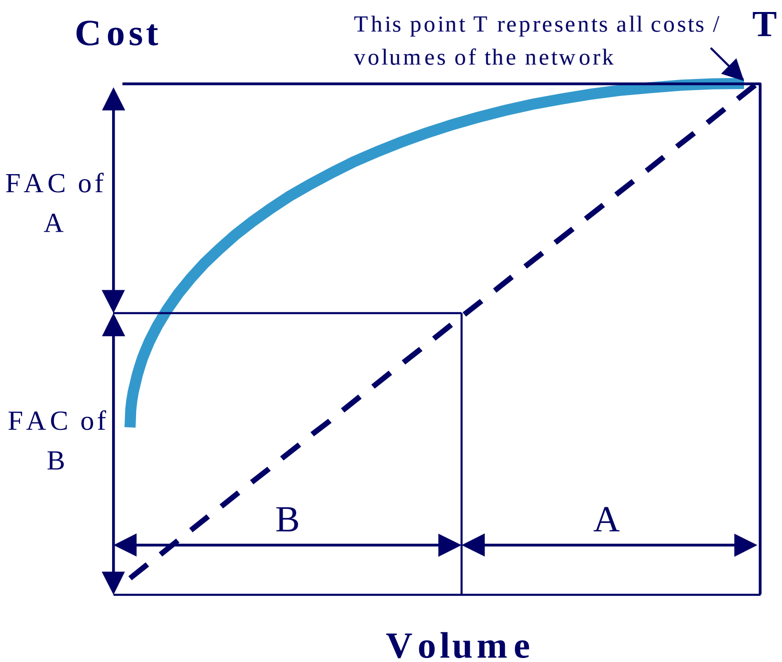
Fully Allocated Costs (FAC)

- All costs have to be taken into account and allocated to the products and services of a company
- The concept is neutral with regard to valuation principles, depreciation and cost of capital calculation methods
- The art of fully allocated costs is to identify direct cost, joint (service family) cost and common cost and to find ways to properly allocate the latter two categories to services.
- Can be used with either **historic costs** (actual costs incurred) or **current costs** (revalue assets at their replacement costs)

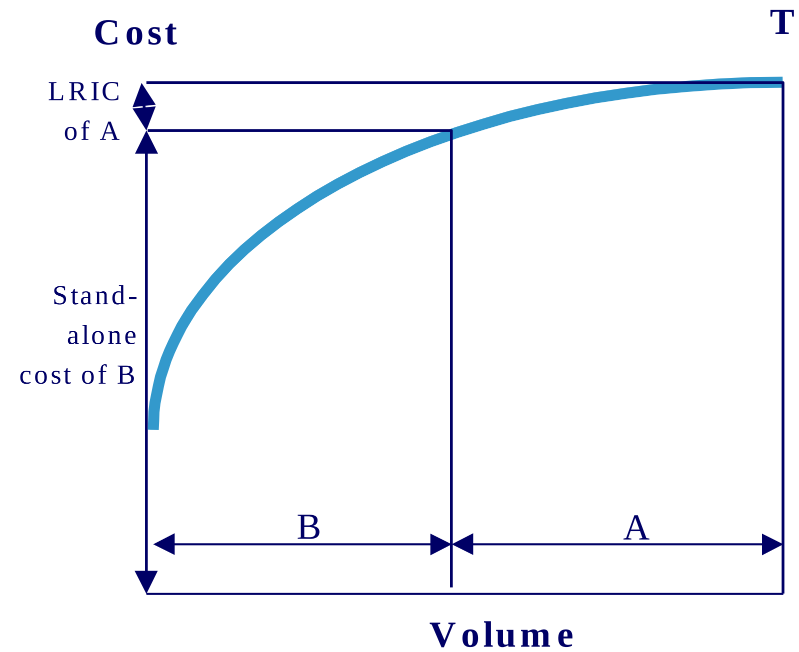
Long Run Incremental Costs (LRIC)

- Estimates the incremental cost of providing the service under consideration
- Defined as the total cost when the service is provided less the cost when the service is not provided
- By measuring over the long run, infrastructure investment is variable rather than fixed and can be matched to capacity
- If common costs are to be recovered, then a mark-up is required
- LRIC typically uses current or **forward looking costs** (cost of an efficient firm using new infrastructure)

FAC v LRIC: a two product example



Fully Allocated Costs

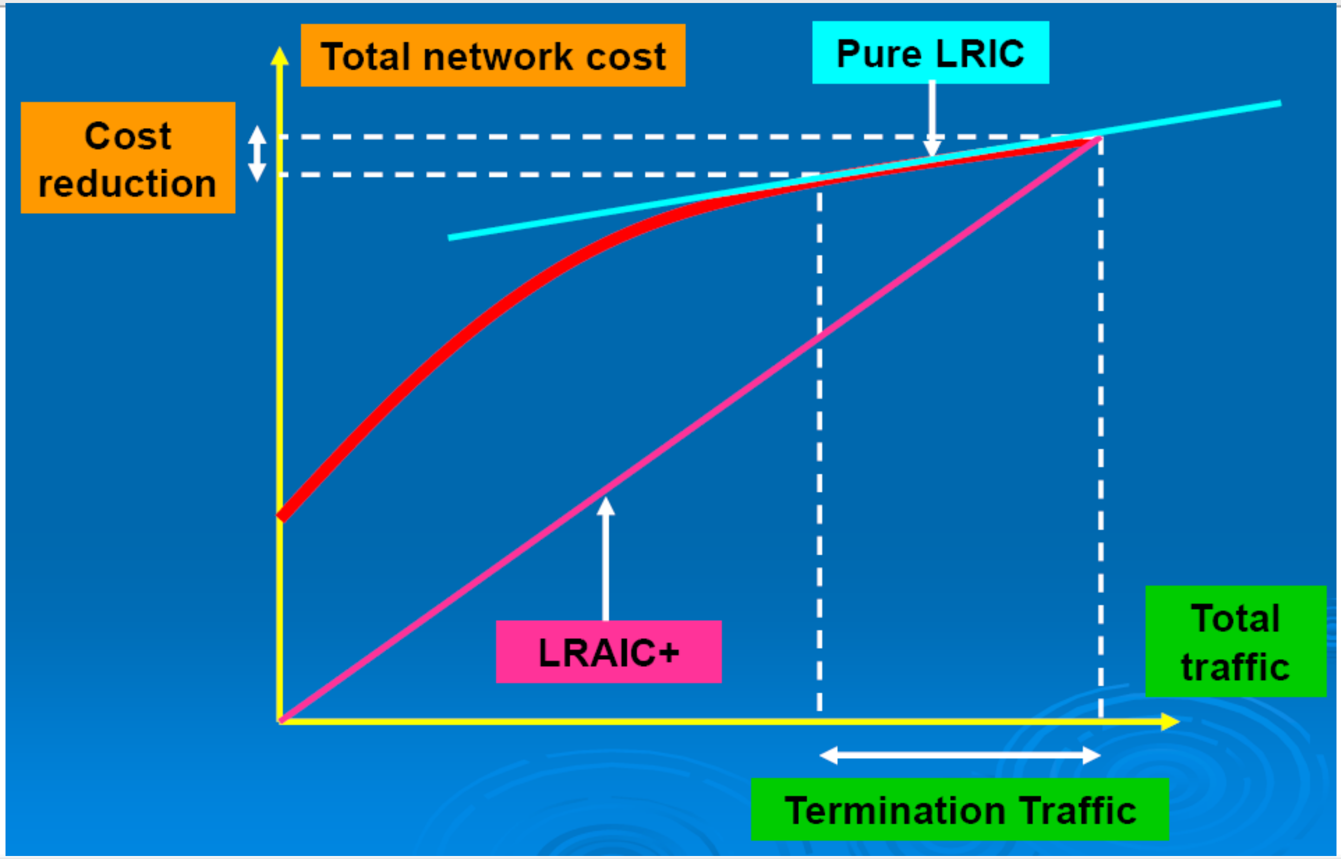


Long Run Incremental Costs

LRIC variations

- TSLRIC
  - Total Service LRIC
- LRAIC
  - Average LRIC
- LRAIC+
  - LRAIC plus mark-up for joint and common costs
- Pure LRIC
  - LRIC of a specific service (usually call termination)

The difference between Pure LRIC and LRAIC+

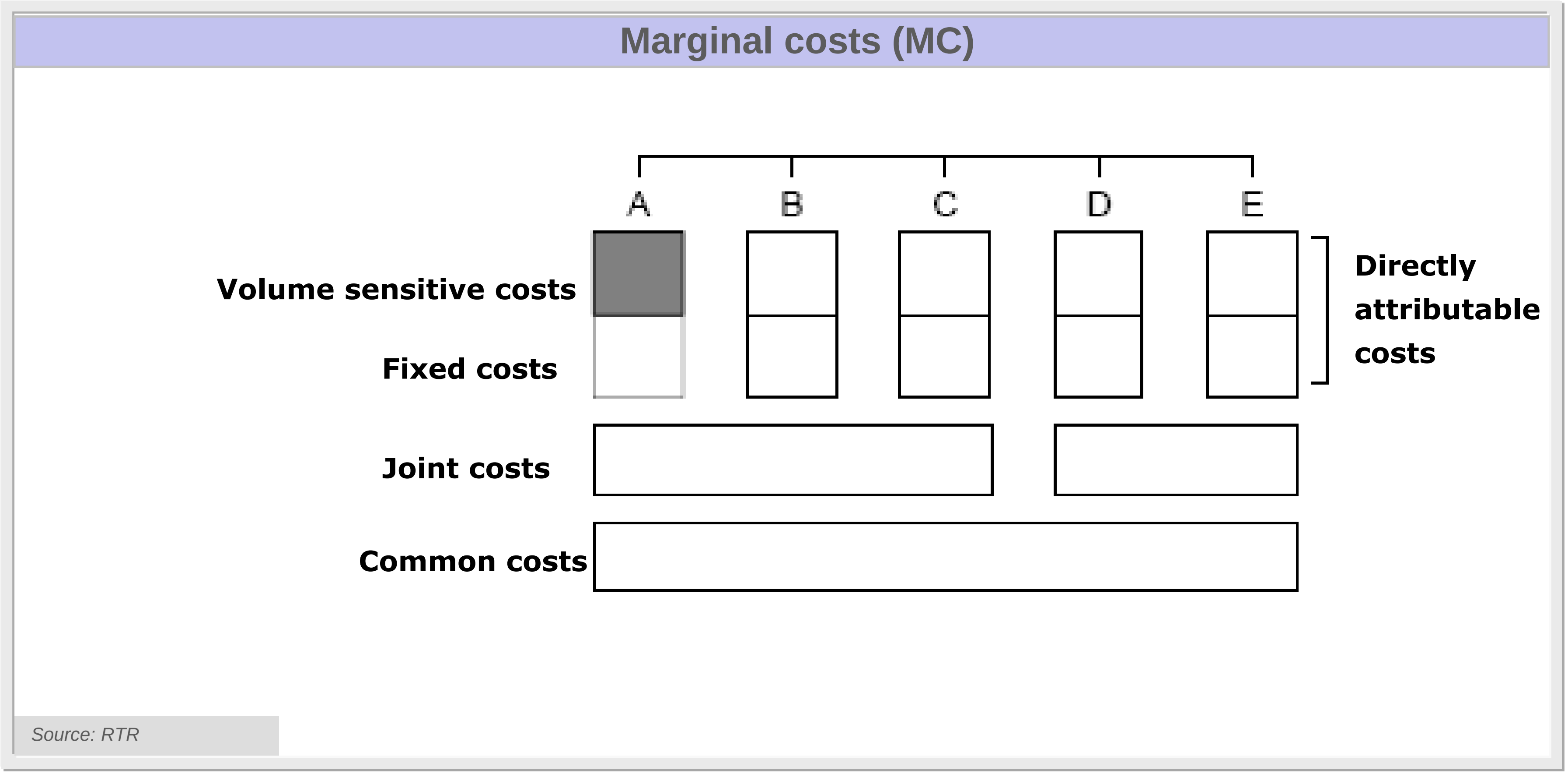


Source: BIPT

More costing definitions

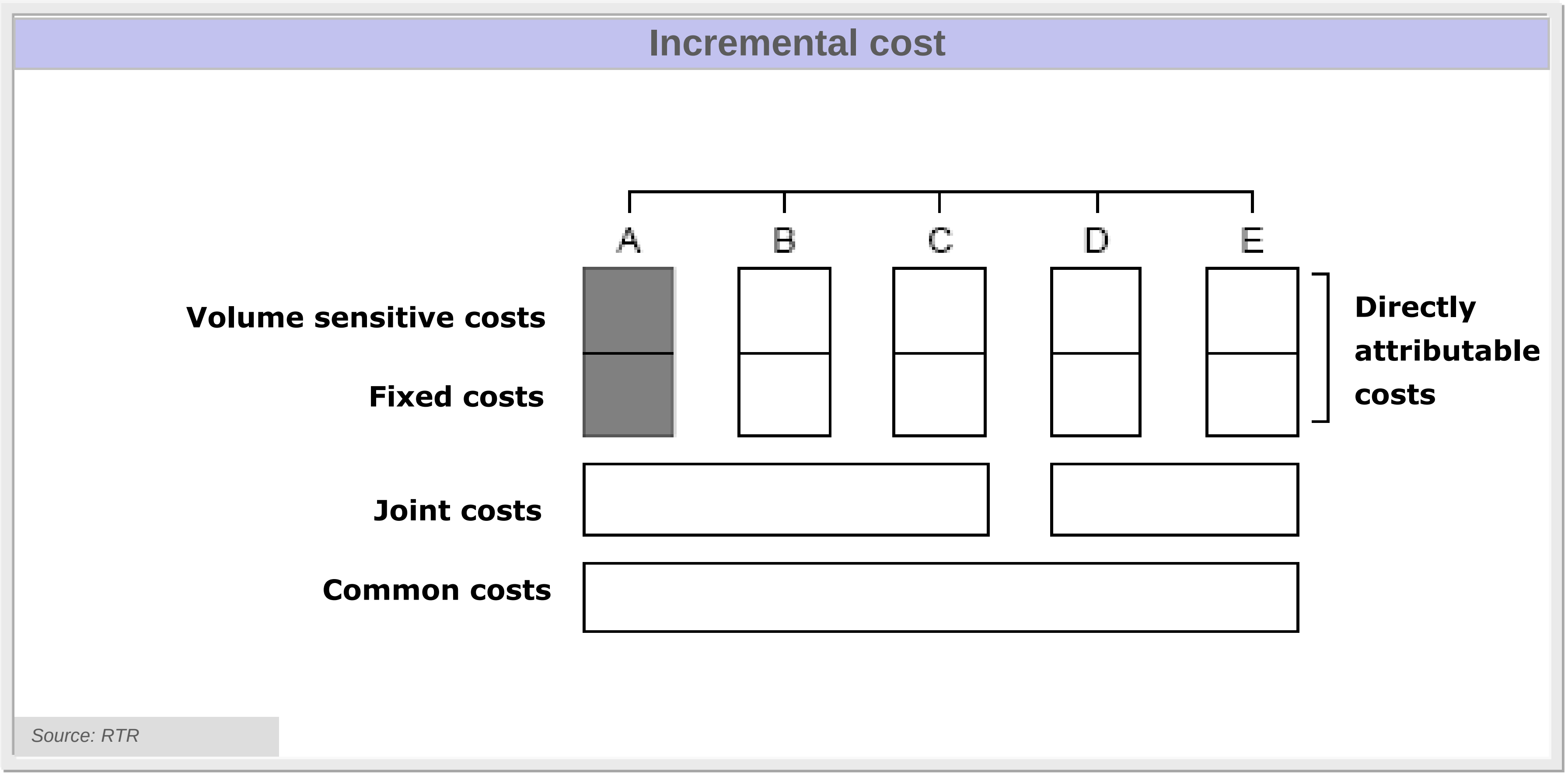
- Direct cost or directly attributable cost
  - costs are incurred as a direct result of the provision of a particular service.
  - can be fixed or variable.
- Joint or shared cost (indirectly attributable cost)
  - The cost of inputs that contribute to the production of two (or more) different increments.
  - For example the costs of mobile towers contribute to 2G and 3G services (and maybe others)
  - Costs can be allocated on the basis of identifiable cost drivers (e.g. tower space)
- Common cost
  - inputs necessary to produce several services, which cannot be directly assigned to specific services.

Cost categories for Pure LRIC or Marginal Costs

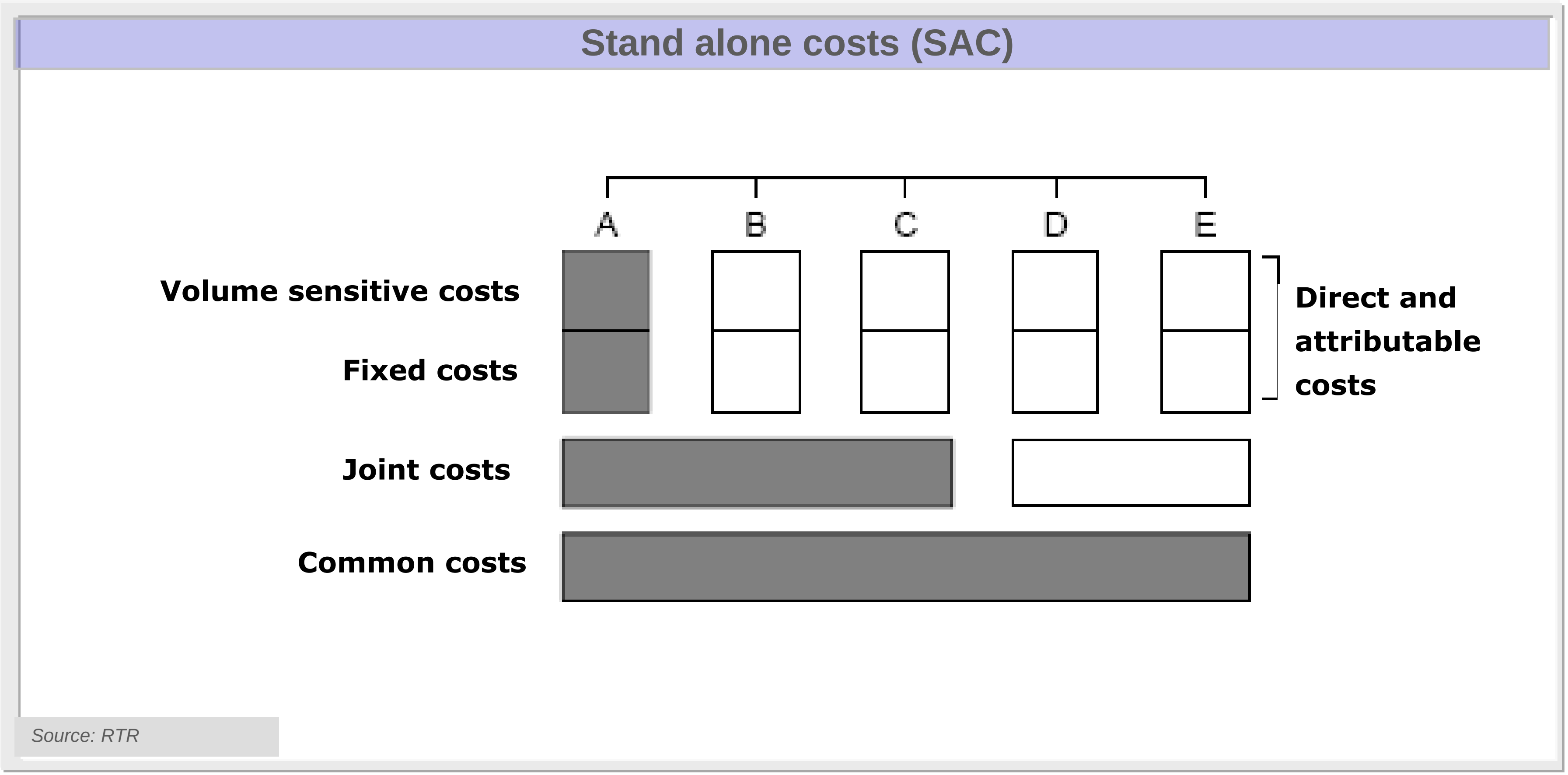


In Pure LRIC the increment is a full service (e.g. terminating calls), whereas in Marginal Costs it is the smallest possible unit (e.g. a single call)

Cost categories for Incremental Costs

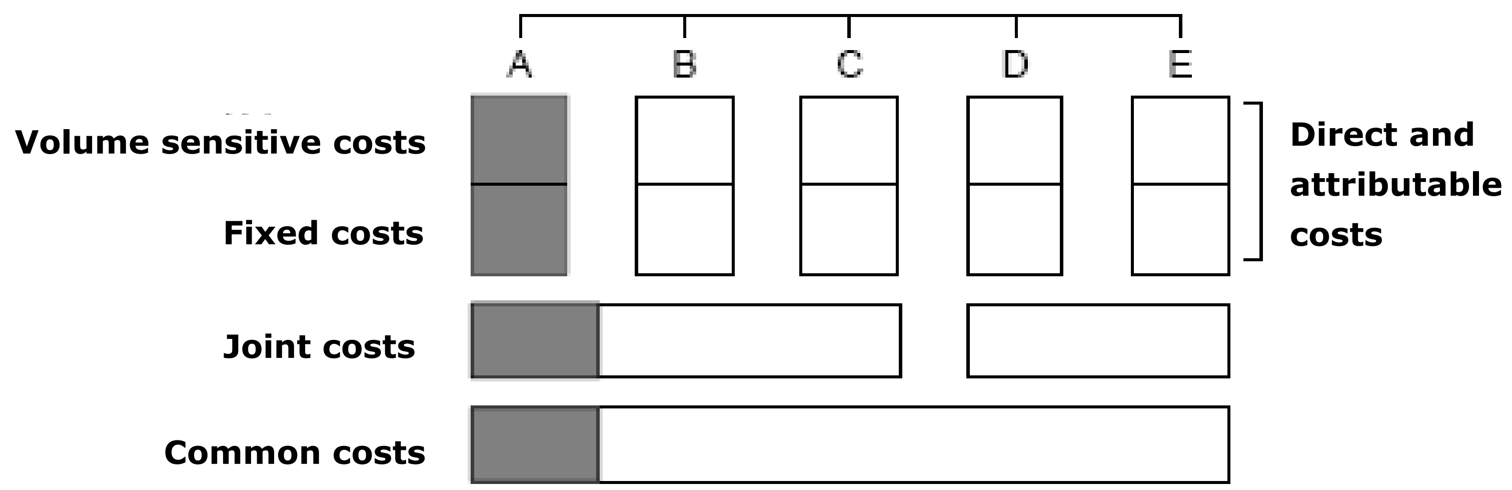


Cost categories for Stand Alone Costs



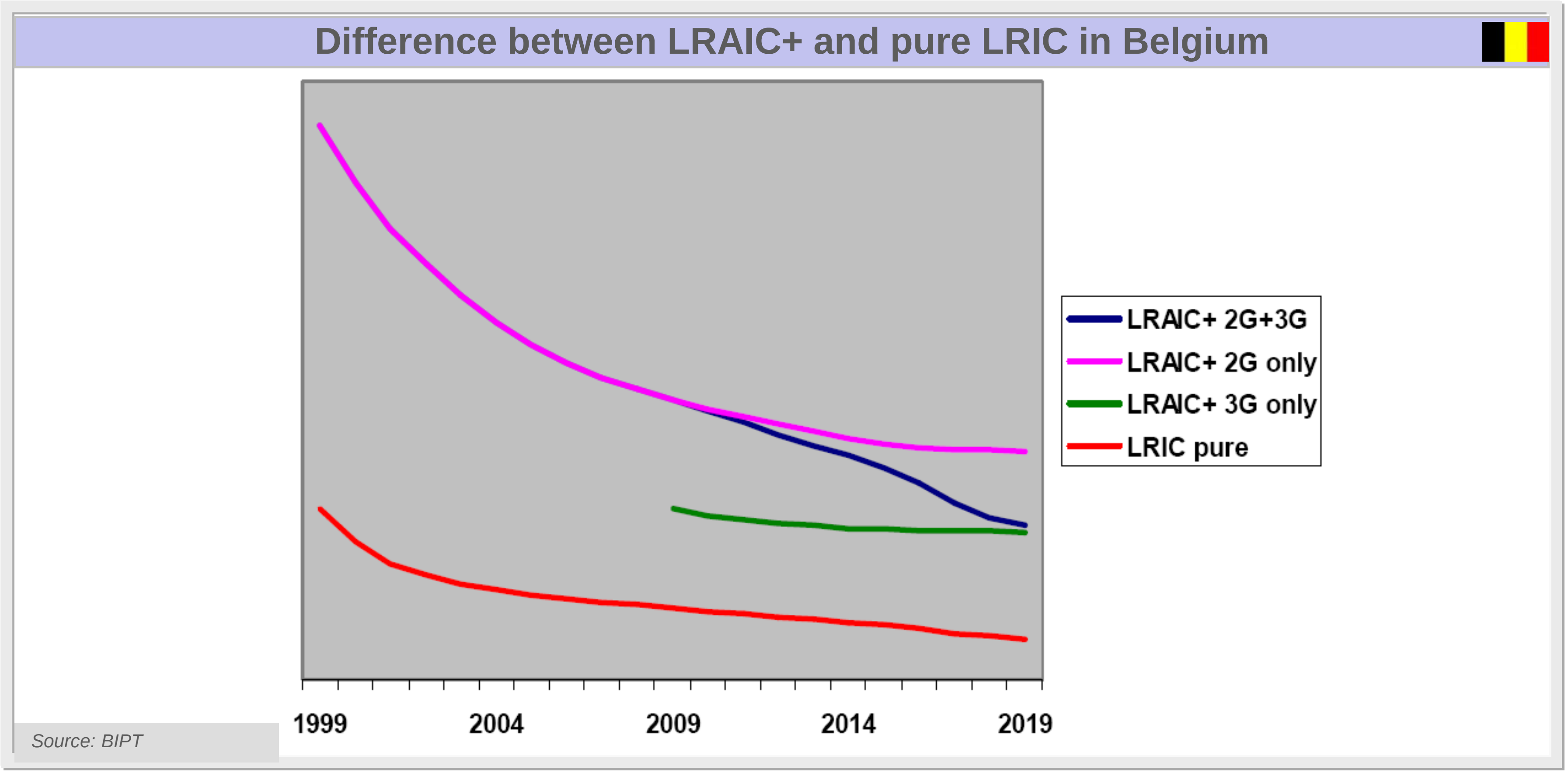
Cost categories for Fully Allocated Costs

Fully allocated cost (FDC or FAC) of service A



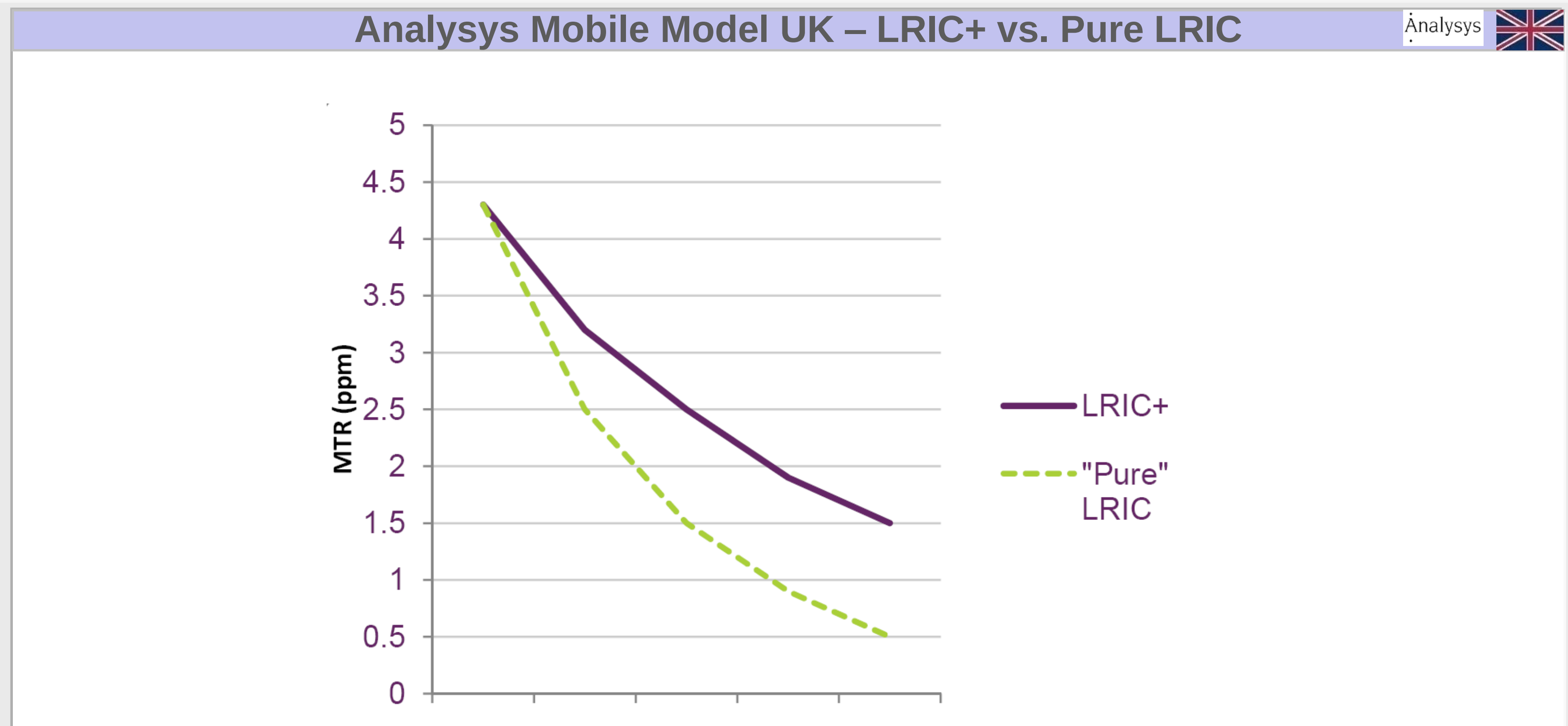
Source: RTR

With LRIC the definition of the increment matters (1)



The larger the increment the higher the LRIC

With LRIC the definition of the increment matters (2)



Source: OFCOM

Applying the different cost standards to regulation

The aim of cost based regulation

- Aim is to encourage economically efficient investment to promote the long term interests of end users
- Balance between:
  - efficient use of existing infrastructure
  - investment in new infrastructure by incumbents and new entrants
- Regulation of interconnect services is required where there is potential market failure
- Without infrastructure based competition - ongoing regulation will be necessary

Emerging best practice - wholesale

FAC (or benchmarks) until LRIC models in place

TSLRIC+ or LRAIC+ (for all services initially)

Pure LRIC (for call termination only)

Emerging best practice - retail

Try to let the market establish prices (using regulated wholesale inputs)

Empower consumers through information on price and quality

Use benchmarks and price caps to set prices if lack of competition persists

Learning points

- Costs and prices mean different things to different people
- Suppliers tend to focus on prices that offer a profit overall based on empirical market behaviour
- Regulators tend to focus on costs as the basis for price regulation.
- This creates tension.
- But careful and limited application of price regulation can resolve tension … as tis workshop seeks to demonstrate in the case of broadband.