

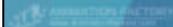
Economic Theory and Practices

Telecommunication Policy and Regulation for Competition

Workshop on Telecommunication Policy and Regulation for Competition
Bangkok, Thailand, 11-15 July 2005

Part II

Jino Kim



Regulatory Impact: Cost and Benefits Analysis, Competition Indicators

- Regulatory Impact Analysis
 - articulating objectives and alternatives
 - cost/benefit tests that need to be applied and met
 - desirability and the achievability of the regulatory impact
 - cost and benefit analysis is often done prior and after the policy implementation



Regulatory Impact: Cost and Benefits Analysis, Competition Indicators

Potential Regulatory Objectives

- Support of universal service
- Maintaining just and reasonable rates
- Price cap for 1) flexibly-priced services and 2) non-price regulated services
- Price reduction for residential, business and access rates
- Promoting fair and reasonable competition for all telecom services
- Maintaining or improving quality of service
- Investment: upgrading of facilities, the provision of advanced digital services, and the use of new technology in its infrastructure development

TRANSLATE, QUESTION: ANY OTHER OBJECTIVES?

Regulatory Impact: Cost and Benefits Analysis, Competition Indicators

Regulator's Concerns

- **Macroeconomic**

- **Economic Development**
- **Distributional Effects**

(e.g., creating jobs, increased commerce and contribution to the tax base and GDP)

- **Social Needs**

- **Enhancing people's lives**

(e.g., universal service, bridging the digital divide, affordable prices).

Regulatory Impact Assessment

How is Regulatory Impact Assessed?

- regulatory impact can be hard to measure except in cases where the impact is patently negative or positive
 - Investment Data
 - Market Performance
 - Linkage with intended consequences (partly subjective)
(need to net out other causes or shocks)
 - **Cost Benefit Analysis**
 - Ex post (impact analysis)
 - Ex ante (Impact analysis)
- TRANSLATE, QUESTION?

Cost and Benefits Analysis

- Cost-benefit analysis is a comparison of the estimated costs of an action with the estimated benefits it is likely or intended to produce
- Governments' analysis also includes the broad societal costs and benefits
- **For the Regulators**
 - the cost of implementing/enforcing regulation
 - net aggregate social benefit of the implemented regulation

Cost and Benefits Analysis

Another Viewpoint

- Industry Cost
- Public Cost
- Consumer Benefits
- Public Benefits

TRANSLATION

Cost and Benefits Analysis

Analysis List

- **Feasibility and Options Analyses:** may include the cultural and political feasibility test. Other alternatives are evaluated
- **Financial Analysis:** measure of investment performance and the financial feasibility of a project (such as a new network proposed by an entrant)
- **Social Economic Analysis:** includes social net benefits and environmental impact
- **Tax Transfer Analysis:** tax revenue analysis and shifting of burden among economic agents (some are qualitative in nature)

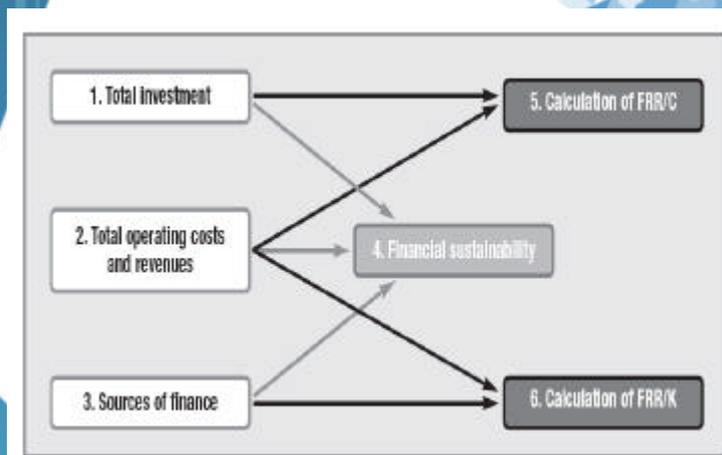
Cost and Benefits Analysis

Analysis List (cont.)

- **Externalities Corrections:** Social costs and benefits not shown in market prices (e.g., network externalities, environmental impact).
- **Employment Effects:** employment effects leading to increase in employment is a desired byproduct of effective regulation.

TRANSLATION

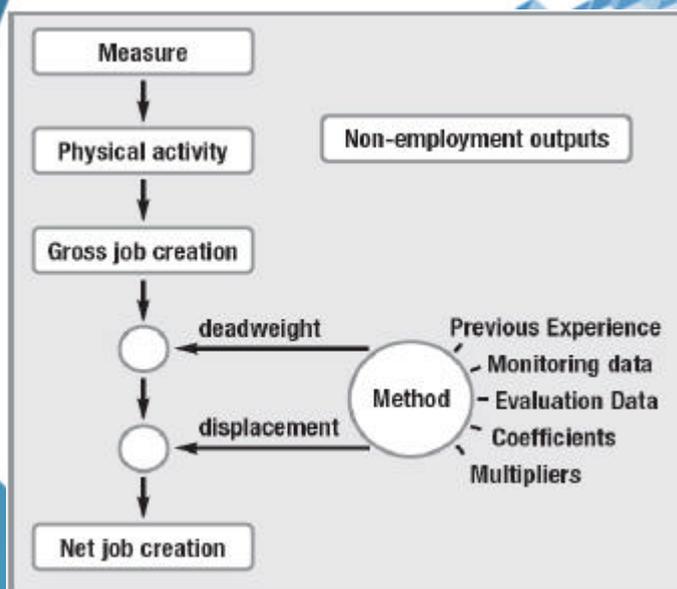
Cost and Benefits Analysis: Financial



Cost and Benefits Analysis

- **FRR/C: Rate of Return on Investment**—net Cash Flow to sustain the business invested in. (Sustainability Test)
- **FRR/K: Rate of Return on Equity**—the **Equity of investors are paid returns**, in addition to covering operating costs and related interest, and revenues for the inflows. (Investment Quality Test)

Cost and Benefits Analysis: Employment



Competition Indicators

Fundamental area of examination for the analysis of competition

- Market structure,
- Carrier conduct,
- Consumer behavior,
- Market performance

Competition Indicators

Market Structure: High Market Concentration

- in conjunction with significant entry barriers, may lessen competition in the market for telecom services.
 - it may increase the likelihood that a group of competing carriers will engage in coordinated interaction
 - an individual carrier to profitably raise price and lower output unilaterally to increase its profits
 - **may reduce innovation, incur costs to erect barriers to entry**
- Regulators may intervene in the market if the free market forces are not sufficient to ensure a competitive market. (e.g., improvement on the second-best outcome)

TRANSLATION

Competition Indicators

Herfindahl-Hirschman Index

$$HHI_{1..n} = \sum_n S_n^2$$

- Determine the relevant product and geographical markets.
- Determine market shares (e.g., revenues, subscribers).
- Highest possible HHI is 10,000 (100^2).
- HHI above 2,000 may raise a red flag (however, there is no real standard benchmark)

Competition Indicators

Herfindahl-Hirschman Index

$$HHI_{1..n} = \sum_n S_n^2$$

Industry consisting of four firms with shares of thirty, thirty, twenty and twenty percent, the HHI is 2600 ($30^2 + 30^2 + 20^2 + 20^2 = 2600$).

Competition Indicators

Carrier Conduct

- pricing patterns of the firms.
- non-price competition
 - technology upgrades and deployment (footprint expansion), capital expenditure, advertising and marketing, and quality of service, and provision of ancillary services
- inter-carrier transactions or cooperation

Competition Indicators

Consumer Behavior

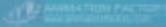
- Consumers in the right competitive environment send signals to inefficient or anti-competitive firms by simply not buying from them or switching.
 - enough consumers are sufficiently well-informed to take prices and other non-price factors
 - consumers have the ability and propensity to switch service providers
- Consumer behavior will be more effective in constraining market power when the transaction costs customers incur in choosing and switching carriers are low.

Competition Indicators

Market Performance

- Three areas of performance that indicate the healthy competitiveness of the market:
 - **Pricing trends:** competitive market exhibits decreasing pricing trends
 - **Output growth:** competitive and healthy market tends to exhibit increasing output by the industry (includes innovative products)
 - **Quality of Service:** competition invariably leads to increase in quality of service

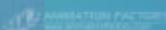
TRANSLATION



Competition Indicators

Competitive Indicators Table

Market Structure	<ul style="list-style-type: none"> • General "Sniff Test"—number of firms • Herfindahl-Hirschman Index • Geographic and product markets • Barriers to entry
Carrier Conduct	<ul style="list-style-type: none"> • Pricing • Technology upgrades and deployment (footprint expansion) • capital expenditure • advertising and marketing • quality of service • provision of ancillary services • joint venture, sales and swaps, and affiliations. (cooperation)
Consumer Conduct	<ul style="list-style-type: none"> • Access to information • Switching (number portability) • Sensitivity to price and service
Market Performance	<ul style="list-style-type: none"> • Pricing trends • Output growth <ul style="list-style-type: none"> -subscribers, -minutes of use, -variety or the number of products, -revenues, -employment, -profits. • Quality of Service



ERCC

Competition Policy and Regulation: Other Countries and Regions

- FCC of the United States and OFTEL of the United Kingdom
 - Instructive
 - Not universally applicable
 - Mistakes are always instructive
- Each country has strived to maintain its identity in formulating regulatory strategies that suit itself and not blindly follow some kind of “global benchmark” regulation

Local Monopolies in the U.S.

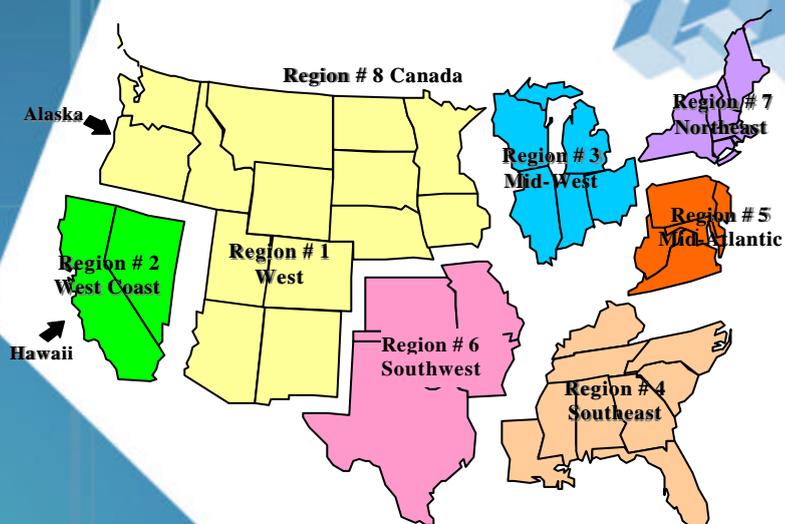
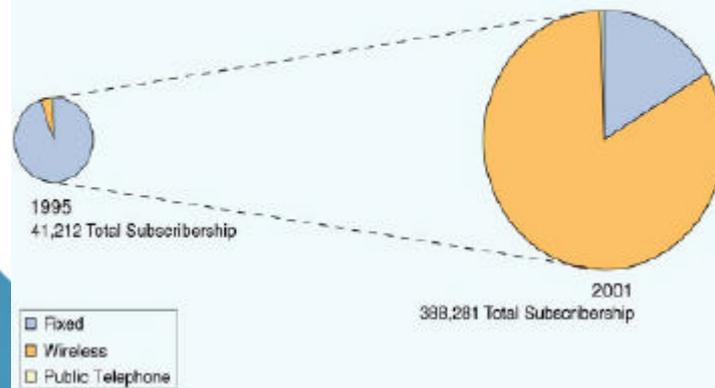


FIGURE 5.1 – TELEPHONE SUBSCRIBERSHIP IN UGANDA



- The steps taken by the Ugandan government, including the establishment of the independent regulator has lead to policies conducive to:
 - investments and development of the telecom
 - equaled or surpassed most of its neighboring countries
- Key Factors
 - Technology development (**technology-neutral USO**)
 - Falling prices in equipment
 - Competition among entrants and the incumbent
 - **Hands-off policy with respect to standards**
 - **Reasonable licensing fees**

TRANSLATION

Some of the Lessons

- **Do not Focus on Privatization or Licensing Proceeds**
 - Thriving Industry pays in the Long-run
 - Repercussions for years on market structure and industry dynamics
 - Terms established—or concessions—become de facto industry policy (e.g., Bargaining regulatory concessions in return for higher proceeds can have an adverse effect in the long-run)
 - Securing investment commitments from the bidders (sale price can be adjusted down to attract bidders willing to commit)

ASSOCIATED FACTORY
www.associatedfactory.com

FIGURE 5.3 – MTN PUBLICOM PAYPHONE ADVERTISEMENT

HEY OJIB, JUMA IS BACK. LOOK HE'S GOT A NEW CAR.

JUMA... WELCOME BACK...! THANK YOU. IT'S GOOD TO BE BACK.

JUMA, TELL US HOW DID YOU BECOME SUCCESSFUL IN BUSINESS?

MY FRIEND, COMMUNICATION IS EVERYTHING... YOU NEED TO TALK TO YOUR SUPPLIERS, WORKERS AND CUSTOMERS.

BUT HOW CAN WE COMMUNICATE? WE DON'T EVEN HAVE PHONES!

NO! BUT YOU CAN USE MTN PAYPHONES WHICH ARE ALL OVER THE COUNTRY!

BUT ISN'T IT EXPENSIVE?

NO! ALL THAT MONEY YOU SPEND ON BUYING MANDAZI COULD BE USED TO MAKE MANY IMPORTANT CALLS!

JUMA, I HOPE I CAN COME AND VISIT YOU IN THE CITY.

SURE-BUT YOU SHOULD ALWAYS REMEMBER COMMUNICATION IS EVERYTHING! YOU'D RATHER TALK THAN WALK!

MTN publicom
MTN PAYPHONE
Easy Guide

Look out for the brightly coloured yellow and red MTN Payphones in your area!

Some of the Lessons

- **There's more than one way to "Regulate Price"**
 - **Ratemaking**
 - Rate of Return (tend to be based on legacy costs)
 - Price Cap (more forward-looking but...)
 - **Market-based rates**
 - **Intense competition**
 - **Elasticity of demand**

Some of the Lessons

- **Think hard about the relative benefits of competition and scale economies**
 - Traditionally favored scale economies
 - Analyze the competitive possibilities
 - Cycle of entrepreneurial activity and service improvements
 - Markets are not workable competitive, regulation is necessary

Some of the Lessons

- **Think hard about the relative benefits of competition and scale economies**
 - Traditionally favored scale economies
 - Analyze the competitive possibilities
 - Cycle of entrepreneurial activity and service improvements
 - Markets are not workable competitive, regulation is necessary

Some of the Lessons

- **Take a very close look at the potential customer**
 - Customer base different from developed countries
 - Education – not just marketing
 - Traditional models may not work

Some of the Lessons

- **Regulator monitoring, enforcement and reporting**
 - Low level of independence
 - Generally authorized to monitor compliance, impose penalties and collect and disseminate information
 - Lack of staff and other resources