

Policy Regulatory and Financial Frameworks: Interconnection

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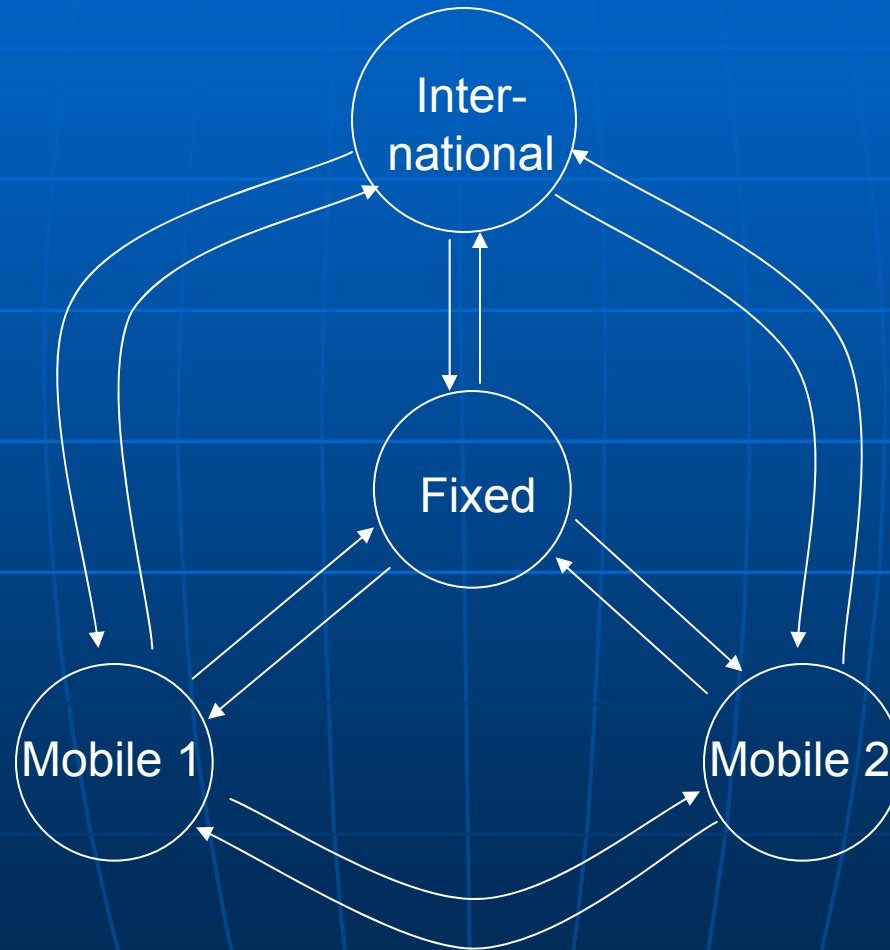
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Introduction

- The provision of widely-available, affordable, reliable and secure ICT services will require substantial private sector investment
- Many countries are relying on competition or public private partnerships to stimulate investment
- Successful telecommunications competition requires government involvement to
 - level the playing field
 - ensure appropriate investment signals, and
 - protect consumers
- Today's focus is on the role of interconnection regulation

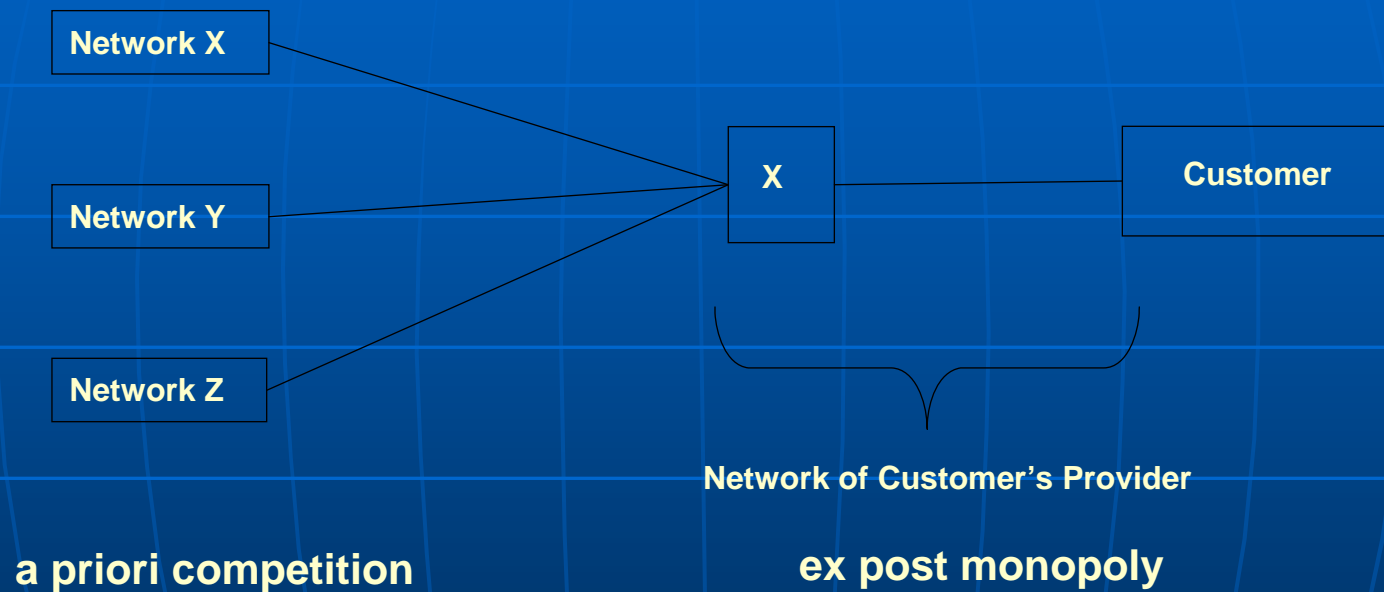
Each Carrier Must Interconnect



Regulating Interconnection

- The physical linking of networks is an issue that is typically resolved at the technical level
- The most difficult issue in carrier to carrier interconnection negotiations is price
 - each carrier wants to pay the least possible amount to have its traffic terminated on the other carrier's network
 - there is little or no basis for compromise
 - voluntary negotiations will typically fail
 - competition does not help; regulation is required

Terminating Access Monopoly



Regulating Terminating Access

- Why should regulators set terminating access rates?
 - they have to
 - $P > C$ implies a subsidy from one technology to another
- How should regulators set terminating access rates?
 - standard answer: require cost-based termination rates
- The cost basis for termination rates can be established through
 - cost modeling, or
 - benchmarking

Cost Modeling

- The preferred cost standard must be selected
 - historical
 - forward-looking
- World best practice
 - forward-looking cost models
 - designed to estimate “total service long run incremental costs” (TSLRIC)

LRIC Cost Definitions

■ Long Run Incremental Cost

- from a given level of output, the additional cost of providing an increment of service
- typically does not include any overhead
- effect of spare capacity is to reduce LRIC

■ Total Service Long Run Incremental Cost

- the increment is the entire amount of a service from zero to current level
- does include “efficient” overhead
- focuses on a green field network

TSLRIC Cost Models

- Design a new, efficient network to provide the current array of services
 - adopt best in use technology
 - optimize switching and transmission network
- Cost out the hypothetical network
 - WACC
 - depreciation
- Add operating expenses
- Identify interconnection and service costs

TSLRIC Pros and Cons

- Considered best international practice
- Provide economically efficient price signals
- Competitive Market Standard
- May be quite different than book costs
- Requires a extensive cost data and geographically specific network usage data
- Can be time consuming and expensive

Benchmarking

- Look to rates that have been set in other jurisdictions as a rough guide to the costs an economic model would generate
- Every country is different and finding a set of relevant benchmark countries can be difficult
- In general, the benchmark countries should not include those where rates may contain a monopoly element
- In so far as possible, the benchmark countries should be similar in terms of basic factors such as population, geography, market structure, market penetration, etc.
- Benchmark analysis may be as contentious as cost modeling

Benchmarking Mobile

- Current rates dependent on their historical path
- As a new service, in many countries mobile telephony was only lightly regulated, or not regulated at all
- High mobile terminating rates were used to subsidize handsets and call origination charges
- Addressing the network externality issue in this way may have made sense in the early days of the technology
- Now that mobile service is established throughout the world, and in many countries has more subscribers than fixed line services, the subsidy may no longer be appropriate

Symmetry

- Wireless may be the forward-looking technology for both fixed and mobile networks → fixed/mobile symmetry
- Mobile/mobile symmetry consistent with a competitive outcome

Other Inter-carrier issues

Access Deficit Charges	Adjustments made to reflect fact that costs may have been incurred to subsidize certain services to promote social goals such as universal service or low cost residential access
Infrastructure sharing	Allowing entrants to use existing ducts, conduits, trenches, manholes, street pedestals, towers, rights-of-way, etc.
Resale	Allowing one licensee to sell the services of another licensee directly to public.
Unbundling (Resale of network elements)	Making network elements available to licensees for use in their own networks.
Collocation	Making space available in licensee facilities for other licensees' equipment to facilitate interconnection and/or unbundling.

Conclusion

- There is a significant role for regulators in ensuring efficient provision of services and maximum investment opportunities
- Excessive regulation will reduce investment
- Excessive deregulation will cause uncertainty and reduce investment
- Interconnection is one of those issues that requires regulatory involvement