LRIC Approaches

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ICT Regulation Toolkit

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Link to ICT Regulation Toolkit:

http://www.ictregulationtoolkit.org
Many regulators now control mobile termination charges. There are several forms of such regulation:

- **International benchmarking**: In the absence of cost based data, regulators are increasingly relying on international benchmarking to set regulated mobile termination charges in their own countries.

- **Rounding**: Some regulators have introduced regulations requiring mobile operators to round each call to a lower unit of charging (for example rounding to the second when the charging unit is to the minute). The effect of this requirement is to reduce revenue from mobile termination.

- **Cost-based termination charges**: Regulators are increasingly pressuring operators to base mobile termination charges on long run incremental costs or fully allocated costs.
The economic cost of interconnection is generally the starting point in establishing economically efficient interconnection prices.

In many jurisdictions, regulators set interconnection prices based on long run incremental costs (LRIC).

- New Zealand
- Australia
- United Kingdom
- United States

There are numerous methods of estimating LRIC.

- Bottom-up (includes scorched earth or scorched node methods)
- Top-down
Bottom-up Modeling

- Define services to be modeled
- Determine design of the market
- Determine amount of each equipment type
- Estimate costs of each element
- Convert total investment costs into an annual or monthly amount
- Estimate annual or monthly operational and maintenance costs and non-network costs
- Add investment costs and expenses
- Divide by cost driver
Top-down Modeling

- Identify the firm’s services and separate out interconnection costs
- In the firm’s accounts, identify and separate all costs and assets
- If a cost item is attributable to only one service, allocate it to that service
- Use allocation rules to allocate shared and common costs between services
- Calculate LRIC for each service by adding up the costs allocated to that service, including an appropriate return on assets allocated to that service
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<tr>
<th>Pros and Cons</th>
<th>Bottom-up</th>
<th>Top-down</th>
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<tr>
<td><strong>Pros</strong></td>
<td>Can model costs that an efficient entrant would face</td>
<td>Incorporate actual costs</td>
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<td>Flexible — can change assumptions readily</td>
<td>Useful for testing results from bottom-up model</td>
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<td>Transparent — much of the information used is publicly available</td>
<td>May be faster and less costly to implement, but this depends on how well categories in the financial accounts match the data required</td>
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<td><strong>Cons</strong></td>
<td>May optimize “too much” or omit costs</td>
<td>Include the firm’s actual costs, and so are likely to incorporate inefficiencies</td>
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<td>Modeling of operating expenditure is usually based on simple margins instead of real-world costs</td>
<td>Less transparent — confidentiality issues</td>
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<td>Data needed for the model may not exist</td>
<td>The parties may dispute the cost allocation rules used</td>
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<td>The modeling process can be time-consuming and expensive</td>
<td>Data may not exist in the required form</td>
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Generic PSTN Network Structure
Cost Measures

- Historic costs
- Sunk costs
- Forward-looking costs
- Fixed costs (service specific, shared and common costs)
- Variable costs: marginal costs, incremental cost (including LRIC and TSLRIC)
- Stand-alone cost, and
- Short and long run cost concepts.
GSM mobile system

BTS - base transceiver station
MSC - mobile switching centre
VLR - visitor location register
EIR - equipment identity register

BSC - base station controller
GMSC - gateway MSC
HLR - home location register
AuC - authentication centre

PSTN
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