How to Increase Competition in Mobile Telecommunications Markets

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Issues to be Addressed

• Mobile Number Portability
• Interconnection
• Mobile Termination
• Other Issues
  – MVNOs,
  – International Roaming,
  – Spectrum Allocation
  – Price Discrimination
Mobile Number Portability

• Markets with Switching Costs:
  – Consumers are locked-in – firms are reluctant to lower prices for captured customers – price competition appears to be *less* intense
  – Switching costs may facilitate collusion, as lowering prices becomes less attractive for firms
  – Customers are valuable for firms – competition for new customers becomes *more* intense
  – AND: With MNP entrants have to offer less attractive price packages

  – Hence: While overall price effect not necessarily clear, idea that MNP may foster competition
  – BUT: MNP is mandatory under EU Universal Service Directive
## Benefits of MNP

<table>
<thead>
<tr>
<th>Type</th>
<th>Applies to</th>
<th>Benefit</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>Users who switch operator whether or not there is MNP</td>
<td>Avoided Cost of Number Change, less cost of porting</td>
<td>Informing users, Printing business cards, etc.</td>
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<tr>
<td>1B</td>
<td>Users who only switch operators when there is MNP</td>
<td>Benefits of moving to a new operator, less cost of porting and loss or profits to operators</td>
<td>Benefits from lower prices, better service, etc.</td>
</tr>
<tr>
<td>2</td>
<td>All users</td>
<td>Potentially more intense competition</td>
<td>Lower prices</td>
</tr>
<tr>
<td>3</td>
<td>Callers</td>
<td>Avoided costs of updating records, finding changed numbers</td>
<td>Costs of calling directory services, etc.</td>
</tr>
</tbody>
</table>
Costs of MNP

• Costs:
  – Set-up Costs
  – Porting Costs (per number)
  – Additional Conveyance Costs

• Further Potential Cost:
  – Loss of Tariff Transparency

• Further Potential Benefit:
  – Increased Investment in Number Value

• NOTE: Empirical Studies (ex ante) show that benefits are likely to exceed costs
Charging for MNP

• High Charges Increase Switching Costs (Again)
• BUT: Not Charging is inefficient, as MNP is not a public good
  – While type-2-benefit is a public benefit, type-1-benefit is a private benefit
• Note: MNP tends to have decreasing average costs due to high set-up costs
  – Idea: Set charges at Incremental Cost (LRIC)
  – BUT: MNP-Technology not given
  – AND: May be considered ex post hold-up with negative impact for future investment
Experience in Western Europe

• Actual porting behaviour varies dramatically
  – Germany vs. Finland
  – In most countries around 2-5% of customer base ports per annum
• Donor network usually allowed to charge for MNP
• But: Charges mostly laid on receiving operator (not directly on customers)
• Small operators tend to win, large ones to loose (but not always)
• If price competition is already intense, *additional* competitive benefit from MNP relatively low (switching costs may be overestimated)
Mobile Interconnection

• Network interconnection is essential for competition, especially for new entrants
• Duty to provide interconnection
• Risk of collusion via interconnection fees?
  – Laffont/Tirole (1998a): Collusion via high interconnection fees;
  – Problem: Model is not robust for:
    • price differentiation on-net/off-net calls
    • asymmetric networks.
Mobile Interconnection Cont‘d

• Collusion via interconnection fees?
  – Gans/King (2001): collusion via „Bill and Keep“, as competition for new subscribers becomes less aggressive;

• General agreement appears to be that mobile-to-mobile interconnection does not need price regulation
Mobile (Voice) Termination

• Market No. 16 according to EU guidelines:
  – Termination in operator-specific networks, i.e. each mobile network constitutes its own network
• Hence: Each operator has a monopoly (and significant market power or dominance);
• Assumption: With CPP customers do not take into account termination charges when subscribing to a particular network.
• Hence: Potential market failure due to externality problem;
• Fairness Issue: Fixed-network customers „subsidize“ mobile customers.
Empirical Evidence

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Regulating Mobile Termination Fees?

• Price regulation does not lead to more competition;
• And Remember: There are good reasons, why termination fees *should* exceed marginal costs;
• Wright (1999): Before the market is saturated, a mark-up is beneficial in order to subsidise handsets (according to Wright 200% to 400 % mark-up optimal).
• And: Even with saturation new handset features (MMS, MP3, etc.) are valued by customers.
• Also Remember: Substitution Possibilities (SMS, email, etc.)
• „Waterbed Effect“
Other Remedies

• Asymmetric Price Regulation?
  – Problems: Lack of price transparency may lead to negative pricing externalities and inefficiently high prices;

• Introducing RPP/MPP:
  – Consumers may switch off phones;
  – Penetration may suffer (evidence from US, OECD, but not uncontested);
  – Administrative and set-up costs of system change.
Other Issues: MVNOs

• What is their value added?
  – May lead to further market growth via new distribution channels/marketing;
  – May exert pricing pressures if wholesale prices are capacity-based;
• BUT: If introduced by regulatory means, they may also reduce incentives for facility-based entry, especially for smaller operators.
• Still: Collusive behaviour to exclude third parties can be a problem.
Other Issues: Int‘l Roaming

• Market 17 according to EU guidelines;
• Problem: Customer Ignorance
  – High charges do not decrease *national* welfare (increase in national producer surplus, decrease in *foreign* consumer surplus);
  – Market definition: EU - single networks as individual markets (UK) – problematic market definition;
  – Case for ex ante regulation relatively weak
Other Issues: Spectrum

- Key Issue: Not revenues, but licensing many firms;
- Bids in auctions depend on expected final market structure (highest bid would be for monopoly rights);
- Competition can be increased by facilitating spectrum trading;
- To safeguard competition: Spectrum caps
Other Issues: Price Discrimination

• Differences between on-net and off-net calls benefit large operators (usually first movers);
• May constitute barrier to entry;
• BUT: Banning price discrimination may lead to price increases and create additional problems regarding termination fees
Thank you

Additional Information/papers/material:

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