Mobile mergers: What have we learned?

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Disclaimer

The views expressed in this presentation are personal, and do not necessarily represent those of DG Competition or of the European Commission.
Outline

• Mobile telecom cases at the Commission
• Issues raised by dealing with mobile cases (but possibly relevant in general)
  1. Price effects: What quantitative evidence?
  2. “Dynamic effects”: (a) How will the merger impact on investments? (b) Dealing with efficiencies
  3. The quest for the right remedies – increasing complexity
  4. Ex post assessment (“retrospectives”) of mobile mergers
## Recent mobile telecom cases at the EC

<table>
<thead>
<tr>
<th>Case</th>
<th>Description, Outcome</th>
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<tr>
<td>T-Mobile/tele.ring (2006)</td>
<td>• 5 to 4 in Austria</td>
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<td>• Phase II, cleared with remedies</td>
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<td>T-Mobile/Orange NL (2007)</td>
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<td>Three Ireland/O2 IE (2014)</td>
<td>• 4 to 3 in Ireland</td>
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<td>Telefónica DE/E-Plus (2014)</td>
<td>• 4 to 3 in Germany</td>
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<td>TeliaSonera/Telenor (2015)</td>
<td>• 4 to 3 in Denmark</td>
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**Tight oligopolies**: few MNOs (Mobile Network Operators) due to regulatory and technological constraints (spectrum availability), and thus high concentration levels

**High (absolute) barriers to entry**: spectrum limitations and network costs (coverage / capacity)

**Incumbency and switching costs**: share of subscribers (stock) may differ significantly from share of “gross adds” (flows); e.g. in AT merger, merging parties accounted for <30% of subscribers, but 40-50% share of switchers

**(Limited) constraint from MVNOs and resellers**: dependence on MNOs for price and non-price terms

**Network investment** important commercial driver: scope for synergies from network-sharing
Part 1: Short-run - Quantitative evidence in mobile cases

- Common framework: Bertrand competition, differentiated products
- Two complementary approaches to estimate price effects:
  - UPP/IPR/Calibrated merger simulations
  - Demand estimation-based merger simulations (BLP/NL)
- Evolution in CET analysis:
  - Austria: simple UPP analysis (based on MNP data)
  - Ireland: rivals’ reaction accounted for (merger simulation); demand estimation attempted but eventually dropped
  - Germany: both “UPP-type” and demand estimation model
  - Denmark: both methods; use of both Mobile Number Portability data and survey data for UPP-type analysis
Quantitative evidence in mobile cases: cost-benefit analysis

- Criticism of UPP (theory limitations; ‘crude’ data) led us to improve it (rival reactions; surveys); consistency (comparison across cases)

- Demand Estimation (D.E.) based simulations:
  - Alternative method: assessment of merger more robust
  - Much more complex; data difficulties; price indices are approximations; possible errors in the process (but learning process)

- D.E. may be the best method, but very costly
  - Results similar to UPP-type’s
  - Either work on D.E. or on other aspects of the case…
  - [More generally, when to use demand estimation v. other techniques? Answer may also depend on human capital and resources…]
Part 2 – Dynamic effects. Main issue: consolidation and investments

- Recent advocacy by Mobile Network Operators (MNOs): consolidation necessary to invest in infrastructure
  - Currently, too little profits; merger increases profits thereby giving firms the money they need to invest
  - Scale economies will reduce cost of infrastructure and stimulate investments in infrastructure
  - Ambiguous link between competition and investments
- On competition and innovation/investment/productivity, see e.g. Syverson (2011), and Bertelsman&Doms (2000); Shapiro (2012)
- On the effects of mergers on investments, very little from both theory and empirical point of view.
• Effects of mergers and Network-Sharing Agreements (NSA, modeled as R&D cooperation) in differentiated product models with sequential investments and price decisions.

• Results, for weak joint economies (for merger & NSA) on investments:
  • Investments: SQ (Status Quo) > Merger > NSA
  • Consumer surplus (and TS): SQ > NSA > Merger

• Results, for strong enough joint economies:
  • Investments: Merger > NSA > SQ
  • CS: NSA > SQ > Merger; TS: NSA > Merger > SQ.

• => mergers dominated by either SQ or NSA. Hence, merging parties should: (1) substantiate efficiency claims; AND (2) show why they do not arise under NSA.
Genakos, Valletti and Verboven: effects of competition on investment

- Hypothetical symmetric merger 4 to 3: *per-firm* CapEx rises by 19%
- No clear result on the impact on overall CapEx (i.e., CapEx per country)
- They conclude there is a trade-off: concentration drives prices up (merger from 4 to 3 raises prices by 16%), but also investments up.

**Comments**
- Trade-off? Per-firm CapEx rises, but total CapEx? (with a merger, number of independent firms decreases)
- Possible selection bias due to regulatory intervention
- What about network sharing agreements?
Dealing with efficiency gains in general

Three cumulative criteria in Merger Guidelines

1. **Verifiability**
   - *Reasonable certainty that efficiencies are likely to materialize*
   - *Quantification where reasonably possible*
   - *If data not available, a clearly identifiable positive impact*

2. **Benefit to consumers**
   - *Pass-on of efficiencies to consumers*
   - *Efficiencies must be timely*
   - *Benefits to consumers should occur on the same market as the harm*

3. **Merger specificity**
   - *Efficiencies direct consequence of the merger*
   - *Cannot be achieved by less anti-competitive alternatives*
Dealing with efficiency gains: mobile mergers

• Claims made by the parties included:
  • Cost reductions => higher cash flow => more investment
  • Significant fixed cost savings passed through to consumers because evidence that in this firm fixed costs matter for pricing
  • Improved coverage and speed
  • Most of the claims rejected, e.g. because:
    • Claims not verifiable/not supported by business plans/evidence
    • Fixed cost savings unlikely to be passed on to consumers
    • Similar efficiencies can be achieved by a network sharing agreement
  • Issues: sometimes parties submit claims late in the process; which weight to attach to business plans; counterfactual for merger specificity condition,…
Part 3: Remedies (MVNO part in H3G/Orange (AT) and H3G/Telefonica (IE))

### MVNO remedy Austria
- Access to up to 30% of H3G's network for up to 16 MVNOs in the coming 10 years
- Pay-as-you-go (PAYG) wholesale terms: 1 cent/minute for voice, 0.4 cents for SMS and 0.2 cents per MB for data
- Upfront commitment to enter into an agreement with one MVNO
- If margins are small, few incentives to launch despite having signed a contract (Upfront MVNO UPC launched two years later)

### MVNO remedy Ireland
- Access to up to 30% of merged entity's capacity in coming 10 years (minimum five years)
- Capacity MVNO model: MVNOs need to commit to buying certain capacity upfront
- One MVNO upfront and one MVNO as a condition
- Stronger incentives to launch after capacity is provided compared to AT remedy
- Spectrum offered during ten years
Austrian remedy criticised
  - Spectrum divestment never picked up
  - MVNO launched after two years (legal deadline)
  - Austrian regulator: merger raised prices

Ireland and German cases: capacity-based MVNOs
  - Should give incentive to compete more aggressively
  - Innovative, but not yet been tested in practice
  - Size of remedy of course matters
  - Future-proofness: Difficult to address in an industry which changes so rapidly
  - Contractual clauses may change completely the nature of the remedy
Merger remedies in general (lessons?)

• 2011-2013: remedies account for roughly 90% of merger interventions of DG Comp (remainder: prohibitions; abandonment Phase II)
• Of these, about 25% are "complex interventions" (the rest are straightforward asset – or slots – divestments)
• "Complex interventions": cases where more "creative" solutions are crafted, e.g. divestment of long-term agreement; carve outs within assets of the merging parties (e.g. multi product plants/assets); access remedies; staff and contract carve outs to create competitors.
• Need to assess not only scope, but also viability/competitiveness of the purchaser (also: often difficult to identify a good buyer)
Part 4: Ex-post assessment of mobile mergers

- Evaluation of two older mobile mergers, in Austria and Netherlands (CET, in collaboration with regulators).
- Quantitative assessment of the effect of merger decision (incl. commitments), limited qualitative analysis
- Outcome variable
  - Price (hypothetical expenditure given fixed bundle of consumption, and average of the four lowest tariffs available; three different bundles: low, medium-, high- consumption of data)
- Estimation strategy
  - counterfactual analysis: treated vs control (12 countries)
  - DiD estimates on all controls; synthetic control method
• Austria: 5->4 *T-Mobile* - *tele.ring* (April 2006)
• Clearance w/ commitments (spectrum/mast->H3G)
• Market wide effects: no price increase; unclear whether estimated price decreases are "caused" by the merger: e.g. (in 'low' basket) has the 'control' the same 'evolution' as the 'treated' before the merger?

The Netherlands: 4->3 *T-Mobile* – *Orange* (July 2007)
• Unconditional clearance
• Market wide effects: evidence of price increase, but magnitude not precise and effect may not be clearly linked to the merger due to data issues (in particular KPN/Telfort merger in 2005 – and our data did not go far back enough to assess both mergers)
Challenges for ex post assessments

• Some difficulties come from the industry itself:
  • Rapidly changing industry: new services, higher quality
  • Changing demand: Shift from voice & sms to data
  • Complex tariffs: 1. Many price dimensions, many tariffs (bundles); 2. Bundles may include handset subsidies - not observed in our data); 3. Non-linear tariffs (quantity discounts) => Find a good price index, (choice of consumption bundle; but consumption changes over time)
• Selection of comparators (control group)
• 1 treated "unit" -> separate effect of merger from other confounders
• Many dimensions still missing: Investment, quality…