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Network externalities and termination rates – the UK experience

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Introduction

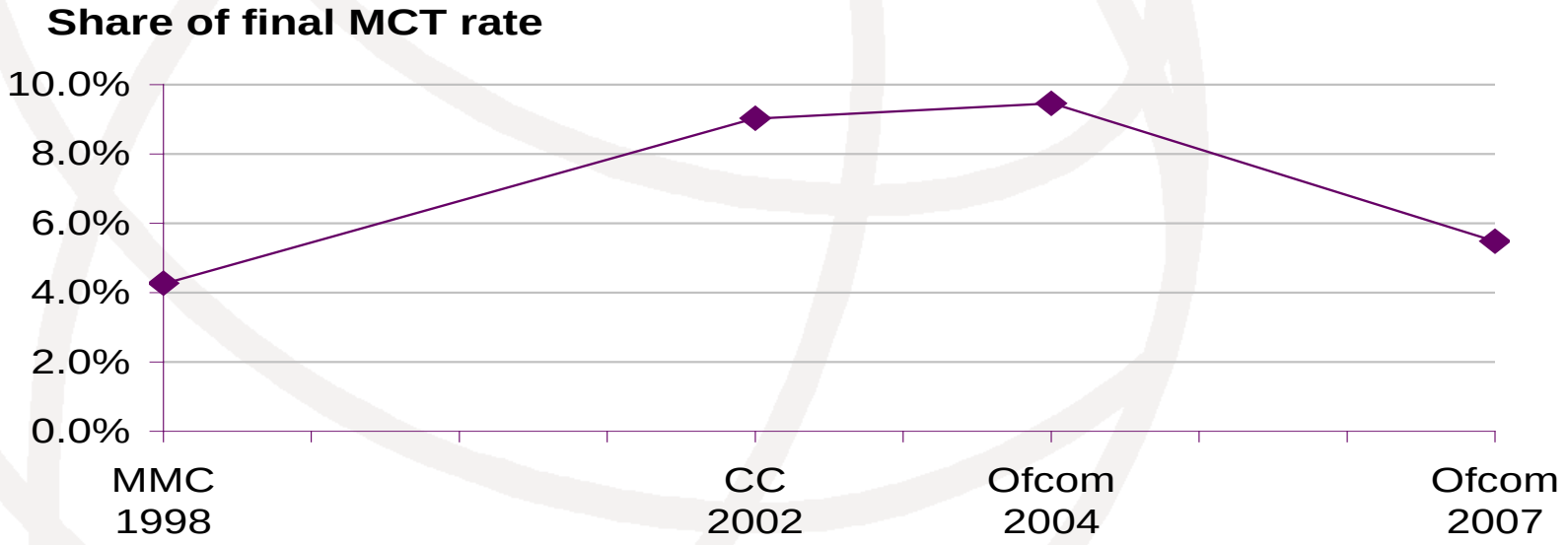
- Various externalities potentially arise in telecoms, e.g.
  - Benefits: Network externalities, call externalities
  - Costs: network congestion
- Focus here on network externalities:
  - application of a network externality surcharge (NES) in termination or accounting rates
  - why UK no longer applies such a premium to mobile termination rates (MTRs)

Preliminary concepts

- Private vs external benefits:
  - Largely, consumers consider their own private benefit when deciding whether to join a network, not the benefit that other subscribers receive from them joining
- Network effects vs network externalities:
  - we should only be concerned with network effects that cannot be internalised (i.e. true externalities)

History of NES in the UK

- For c. 10 years NES was a component of regulated MTRs (never FTRs)
- NES was specified as a mark-up over efficient costs...
- ...but was a relatively small proportion of regulated MTRs

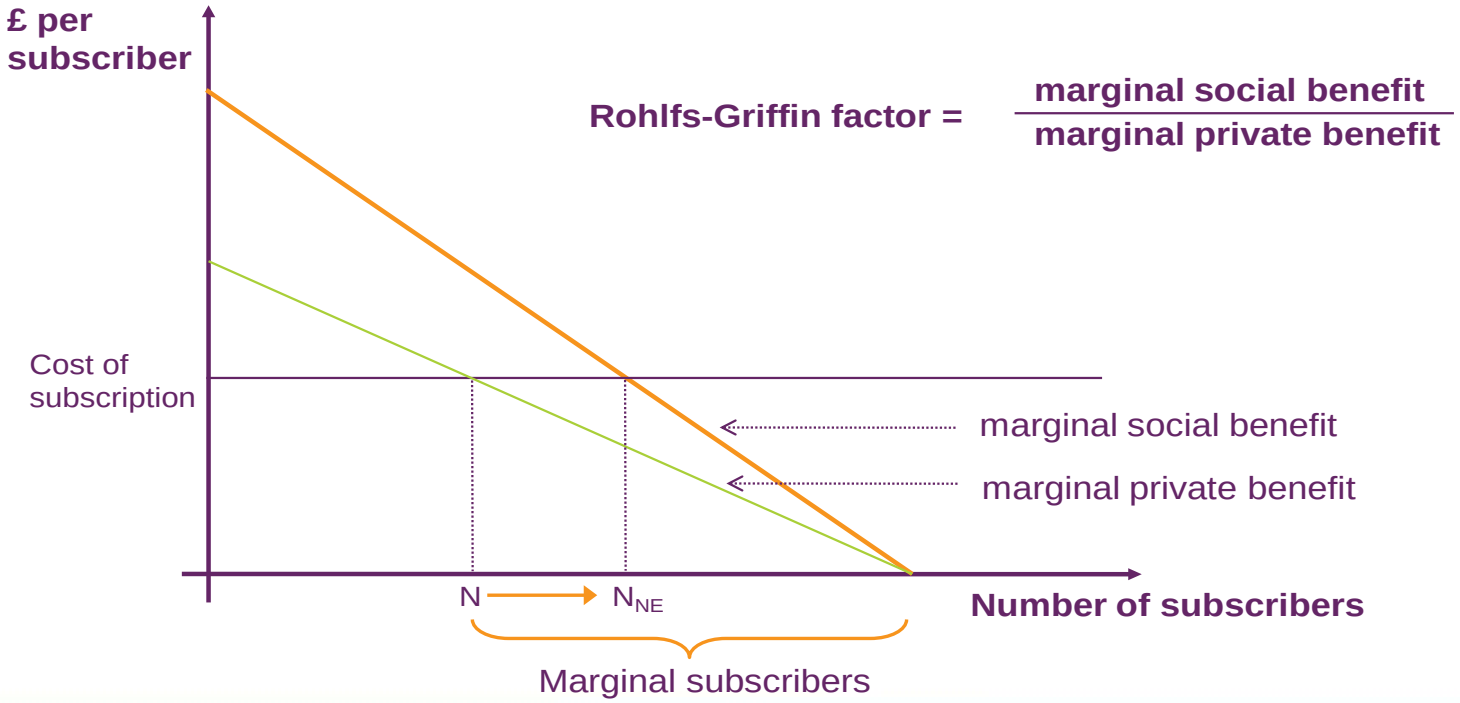


Ofcom 2007 model (I)

- Basic principle:
  - *Optimal (welfare maximising) NES is where: MSB = MSC*
- Marginal Social Benefit (MSB)
  - MSB = marginal private benefit + marginal external benefit
- Marginal Social Cost (MSC)
  - MSC = marginal cost of mobile subscription + DWL in calls to mobiles
  - DWL = deadweight loss (from funding NES via a mark-up on calls to mobiles)

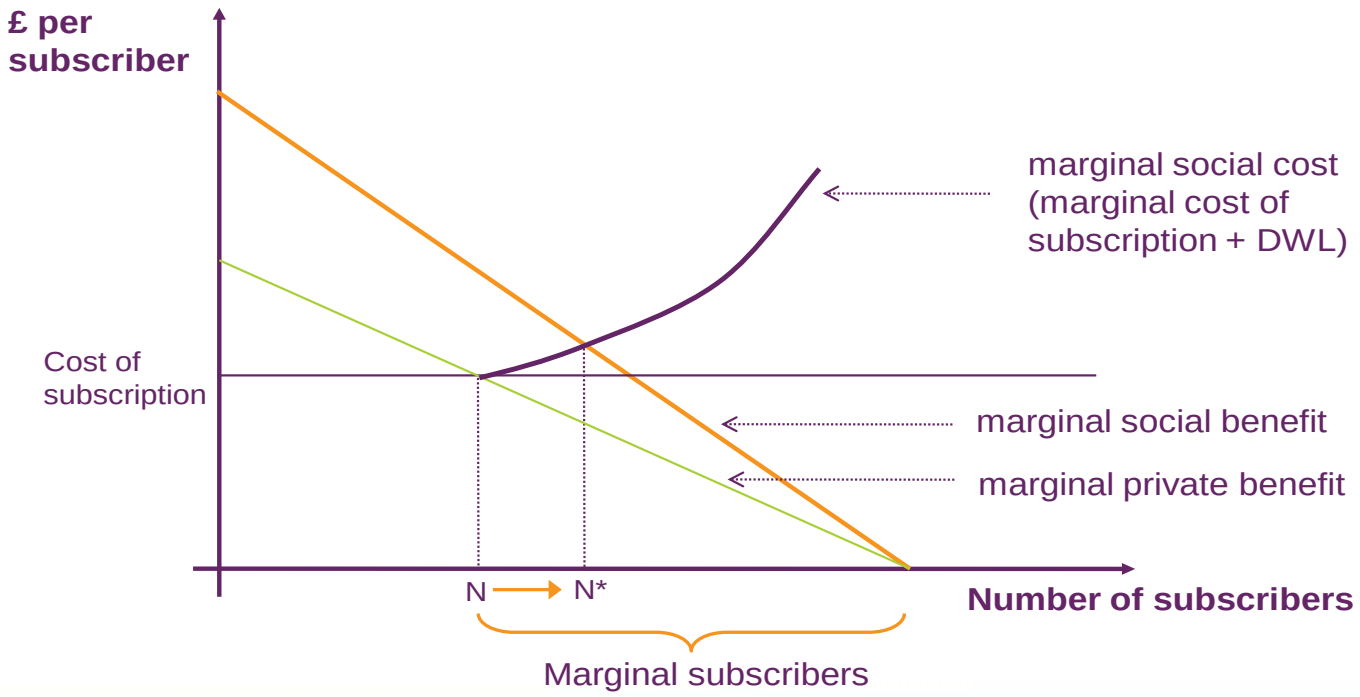
Ofcom 2007 model (II)

Demand for mobile subscription and marginal social benefit



Ofcom 2007 model (III)

...with full MSC added



Ofcom 2007 model (IV)

Revenue and deadweight loss in calls to mobiles

Ofcom 2007 model (V)

- Problem of leakage
  - Leakage = percentage of surcharge revenue not spent subsidising marginal subscribers
- Depends on:
  - Waterbed effect
  - Ability and incentive to target marginal subscribers

Ofcom 2007 model (VI)

- In principle, impact of leakage on optimal level of NES is ambiguous:
  - High leakage ⇒ more revenues must be raised to provide a given subsidy ⇒ higher NES; but
  - Raising NES ⇒ higher deadweight loss ⇒ lower optimal number of subscribers ⇒ lower optimal level of subsidy (and hence NES)

Why we no longer set a NES (I)

- Ofcom 2007 decision was appealed
- CC (2009) concluded:
  - Leakage was too high for NES to be an effective intervention
  - NES imposes costs beyond DWL:
    - Excessive handset churn
    - Inefficient structure of prices overall
  - MNOs already have incentives to subsidise subscription (i.e. profits from usage over customer lifetime)
    - MTRs set at LRIC+ contribute to this incentive

Why we no longer set a NES (II)

- European Commission Recommendation (2009):
  - Recommendation that MTRs should be set at pure LRIC
- Ofcom 2011 MCT statement set MTRs at pure LRIC (by 1 April 2014)
  - Various aspects to the analysis, but re NES Ofcom's conclusions were much as CC (2009), i.e. leakage renders the intervention an ineffective remedy

Implications for international accounting rates (I)

- Subscription/access issues:
  - What is being subsidised?
    - e.g. fixed vs mobile access
    - Identification of “basic access” tariff
  - Definition/identification of marginal subscribers:
    - subsidies to all marginal subscribers are unlikely to be economically efficient
  - How to ensure targeting:
    - only providing subsidies to those who need it (i.e. not infra-marginal subscribers)

Implications for international accounting rates (II)

- Effectiveness of intervention:
  - Do operators have incentives to offer subsidies anyway (or by other means?)
  - What distortions does the externality premium create?
  - How to avoid expropriation of funds by operators?
  - Competition issues:
    - e.g. how to ensure subsidies do not distort competition in recipient markets?

Conclusions and Recommendations

- Calculating the externality premium is complex and it is easy to oversimplify the trade-offs:
  - MC of subscription is not the correct starting point;
  - what incentives (commercial and regulatory) already exist?
  - DWL from callers funding the premium is not the only "external" cost.
- Leakage can render the externality premium an ineffective intervention
- More targeted interventions are likely to be desirable if analysis/policy reveals "sub-optimal" recruitment or retention of subscribers