

# Competition Policy and MVNOs

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# Road Map

1. What are the issues?
2. What are MVNOs?
3. What does economic theory tell us?
4. Conclusions



# 1 What are the Issues?

- MVNOs claim that obtaining mobile network access is difficult
- Regulatory interventions are implemented in some countries (e.g., Spain) or discussed (e.g., Portugal)
- In some countries there are many MVNOs, in some countries there are only a few
- Should MVNO access to MNO networks be regulated?
- Should MVNO access to MNO networks be prevented?



# 1 What are the Issues? Example: Spain

- May 2002: new legislation set up governing the setting up of MVNO agreements
- May 2005: CMT awards MVNO licences to Tele2, BT Group, Jazztel, Grupalia Internet & Meflur Comunicarte (Cable operator TeleCable also received an MVNO concession in December 2005)
- January 2006: EU backs CMT's plans to force the three existing MNOs (Telefónica, Vodafone, Amena) to share their networks with MVNOs at fair and reasonable rates
- CMT has threatened further regulatory intervention if not at least one MVNO is operating by early 2007
- Is ex ante regulation warranted?



# 1 What are the Issues? Example: Austria

- February 2003: Tele2 Mobil launched as ESP on ONE network, from October 2004 on as MVNO
- The other three incumbent Austrian operators (apart from ONE) complained about market entry
- Argument: Expropriation of specific investments – MVNO entry devalues infrastructure
- Do MVNOs negatively affect investment incentives?



# 2 What are MVNOs?

- There is no universal definition of “MVNO”
- ITU (2004): “An operator who provides mobile communications services to users without its own airtime and government-issued licenses”
- Oftel (1999): “An organization providing customers with mobile phone services without owning any airtime”
- OFTA (2002): “An entity that provides mobile telecommunications services to customers through interconnection with and access to the radiocommunications infrastructure of a Mobile Network Operator (MNO)”



# 2 What are MVNOs?

- Finnish Ministry of Transport and Communications (2005): The difference between mobile network operators (MNOs) and mobile virtual network operators (MVNOs) is that the latter lease the right of use of radio spectrum from the licensed mobile network operators.
- Detecon (2005): “A straightforward formulation defines an MVNO as a company that does not own a mobile spectrum license but sells mobile services under its own brand name, network code and SIM cards using a licensed mobile operator’s radio network”. MVNOs can also establish their own interconnection agreements with other network operators.



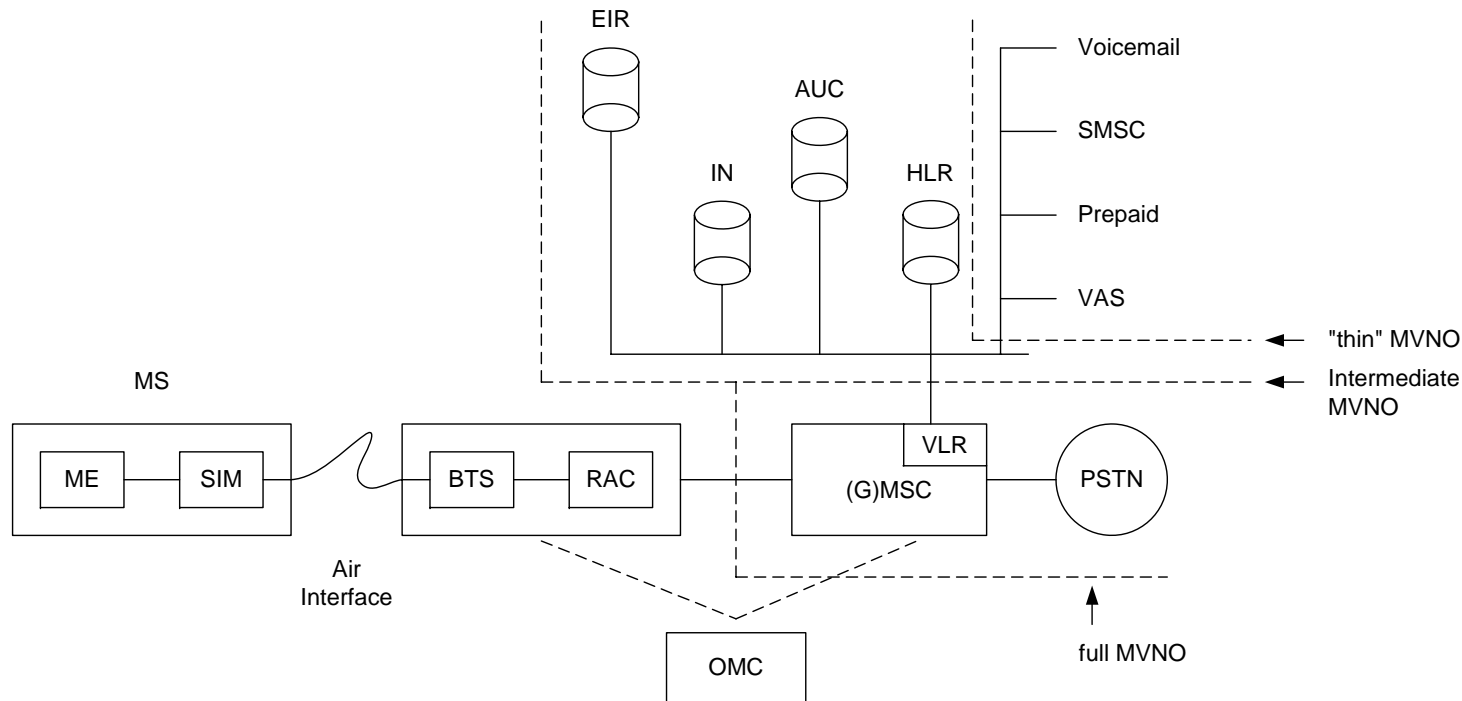
# 2 What are MVNOs?

- Ergas, Waters and Dodd (2005):
  - Full MVNOs, which provide their own network core including a mobile switching center (MSC);
  - Intermediate MVNOs, which acquire a switched service, but either provide their own home location register (HLR) or share a jointly owned HLR with an MNO; and
  - Thin MVNOs, which only provide additional applications and content and which are little different from pure resellers or service providers (often also labeled enhanced service providers).





## 2 What are MVNOs?



Country	MVNOs/ ESP/ SPs
Austria	4
Belgium	35
Czech Republic	0
Denmark	16
Estonia	3
Finland	10
France	18
Germany	33
Iceland	1
Ireland	3-4
Italy	
Latvia	7
Lichtenstein	91
Lithuania	3
Luxembourg	3
Netherlands	38
Norway	12
Poland	5
Portugal	3
Russia	2
Slovenia	2
Spain	
Sweden	16
Switzerland	5
Ukraine	2
United Kingdom	25

Source: <http://www.takashimobile.com/mvno.html>  
16. June 06

### 3 Economic Theory (I)

- For the purpose of this analysis the differences between the models are not so important.
- Key is that all these models are dependent on access to an incumbent MNO's network infrastructure.
- Somewhat surprisingly the academic literature on MVNOs is relatively thin:
  - Foros/Hansen/Sand (2002, JICT) – MNO investment incentives
  - Kim/Park (2004) – optimal access prices
- Dewenter, R. & J. Haucap, "Incentives to Licence Mobile Virtual Network Operators (MVNOs)", pp. 305-325 in Dewenter/Haucap (eds.), Access Pricing: Theory and Practice, Elsevier Science: Amsterdam 2006. ISBN: 0-444-52803-2



### 3 Economic Theory (II)

- Case 1: Cournot competition
  - Prisoners' Dilemma: MNOs prefer not to open their networks (collectively), but each single operator has incentives to deviate
  - Two effects: Competition effect vs. wholesale revenue effect
  - Additional revenues from wholesale agreements exceed the relevant cost if (a) the market is not too small and (b) the costs of managing the agreement not too high
  - Incentives to “invite” MVNOs even stronger (a) the more MNOs there are and (b) the more differentiated the MVNOs' services are from the MNOs



### 3 Economic Theory (III)

- Case 2: Bertrand competition
  - MNO incentives to “invite” MVNOs are weaker – in duopoly markets MNOs only grant MVNO access if these are sufficiently differentiated (otherwise the competitive effect dominates the wholesale revenue effect)
  - With 3 or more MNOs wholesale revenue effect dominates competition effect – MVNOs will be granted access
  - Again: Little role for regulation



### 3 Economic Theory (IV)

- Case 3: Stackelberg competition (in quantities) – Leader-follower-principle
  - MNO incentives to “invite” MVNOs are eliminated unless MVNOs are sufficiently differentiated
  - Why? MVNOs have strong competitive effect, but only small wholesale revenue effect
  - Now: Possible role for regulation
- BUT: For a full analysis the effects on investment incentives have to be taken into account



# 4 Conclusions

- Desirability of regulation depends on the model of competition in the respective market
- With 3 or more network operators voluntary MVNO access will be granted under both Cournot and Bertrand competition
- Under Stackelberg competition (leader-follower principle) voluntary MVNO access will only emerge if MVNOs offer services that are sufficiently differentiated from MNOs
- But: Investment incentives have also to be considered
- And note: Collusion can usually be dealt with under competition law (ex ante regulation should be reserved for cases where single firms have non-temporary market power)



**Thank you for your attention!**

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