The three criteria test, the essential facilities doctrine and the theory of monopolistic bottlenecks

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The essential facilities doctrine

- The essential facilities doctrine has its origins in US antitrust law. In accordance with this doctrine, a facility can only be regarded as essential if the following two conditions are fulfilled: (1) market entry to the complementary market is not actually possible without access to this facility, and (2) providers in the complementary market cannot, using reasonable effort, duplicate the facility; substitutes do not exist either.

- Case-by-case identification of essential facilities by court judgments does not guarantee a consistent localization of market power in liberalized network industries. The proper design of ex ante regulation requires generalizing the concept of the essential facilities doctrine to a class of facilities characterized by network-specific market power.

The three criteria test

- In 1999, an EU review on telecommunications regulation started with the aim of maximizing the application of general European competition law, the minimization of sector-specific regulation, a rigorous phasing-out of unnecessary regulation and the introduction of ‘sunset clauses’.
- The three criteria in the Commission Recommendation of February 2003 seem to substantiate the criteria for regulatory intervention.
- In order to justify the imposition of regulatory obligations on a given market, the following criteria are listed.
  - “The first criterion is the presence of high and non-transitory entry barriers whether of structural, legal or regulatory nature. …
  - the second criterion admits only those markets, the structure of which does not tend towards effective competition within the relevant time horizon. ….
  - The third criterion is that application of competition law alone would not adequately address the market failure(s) concerned.”

Monopolistic bottleneck

Sector-specific regulation of network sectors constitutes a massive intervention in the market process; it therefore requires a special network-specific justification due to network-specific market power.

The conditions governing a monopolistic bottleneck are met when:

(1) a facility is essential for reaching customers, i.e. if no second or third such facility exists, in other words if there is no *active* substitute. This is the case when bundling effects produce a natural monopoly and a single provider is able to make the facility available more cheaply than several providers;

(2) at the same time the facility cannot reasonably be duplicated as a way of controlling the active provider, in other words when there is no *potential* substitute. This is the case when the costs of the facility are irreversible.

Network economic foundation of the three criteria test

- Former high and non-transitory entry barriers (criterion one) now become *natural monopoly barriers in combination with sunk costs.*
- The lack of a tendency towards effective competition within the relevant time horizon (criterion two) should be rewritten to state that *a natural monopoly in combination with sunk costs is stable over a foreseeable future*.
- The application of competition law alone will not adequately address the market failure(s) concerned (criterion three). Instead, *ex ante regulation of monopolistic bottlenecks*, consisting of non-discriminatory mandatory access and incentive regulation of access charges, is required.

Limiting regulation to monopolistic bottlenecks

Network area	with sunk costs	without sunk costs
Natural monopoly (bundling advantages)	(1) monopolistic bottlenecks	(2) potential competition (contestable networks)
no natural monopoly (bundling advantages exhausted)	(3) competition among active providers	(4) competition among active providers

Sector symmetric localization of monopolistic bottlenecks

	Natural monopoly	**Irreversible costs**
Air traffic		
Airline services	Yes/No	No
Air traffic control	Yes	No
Airports	Yes	Yes
Railroads		
Railway traffic	Yes/No	No
Railway traffic control	Yes	No
Railway infrastructure	Yes	Yes
Electricity		
Power generation	No	Yes
Transmission grid	Yes	Yes
Distribution grid	Yes	Yes
Retail	No	No
Telecommunication		
Terminal equipment	No	No
Telecommunications services	No	No
Satellite-/Mobile networks	No	No
Long-distance cable-based networks	No	Yes
Local cable-based networks	Yes/no	Yes
Postal services		
Collecting	Yes	No
Sorting of outgoing mail	Yes	No
Transport	No	No
Sorting of incoming mail	Yes	No
Delivery	Yes	No

Implications for monopolistic bottleneck regulation

- It is important to differentiate between network services and network infrastructure. Service markets should not be regulated, irrespective of whether they are old or new ones or whether players have high market shares or not.
- In order to allow active and potential competition on service markets non-discriminatory access to monopolistic bottlenecks is necessary. To the extent that a monopolistic bottleneck is observable, ex ante regulation should be in place; otherwise the evolution of service markets will be hampered.
- Innovative ways of access to existing bottlenecks should be guaranteed in order to allow the evolvement of new service markets.

Disaggregated regulatory mandate

- Regulation is limited to areas with network-specific market power. Blanket regulation, which also includes competitive areas, is incompatible with this principle. But the temporary or complete suspension of regulation in areas with network-specific market power cannot be justified either.
- Regulation ends when the network-specific market power is eliminated. As soon as the network-specific market power disappears in a network area, e.g. as a result of technical progress, regulation of this subarea must also be ended.
- Non-discriminatory access to the monopolistic bottleneck facilities must be ensured. Incentive regulation must be restricted to monopolistic bottleneck components; cost based regulation should be avoided.