

E.CA Competition Law & Economics Expert Forum

Mergers in Geographically Differentiated Markets

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The views expressed are those of the
presenter and do not necessarily reflect
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1. Some conceptual propositions on geographic market definition
2. Problems with using circular catchment areas
3. Data-driven geographic market definition
4. Example: Schwenk/Opterra merger case
5. Advantages and limitations

Little attention has been devoted to geographic market definition

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- Academic / conceptual treatises focus on product market definition
- Rather vague jurisprudence on geographic market definition
- Authority guidelines do not offer clear-cut responses either
 - „laundry list“ of possibly relevant factors
 - US HMG: markets „based on“ customer or supplier locations, SSNIP ?
 - EC: „sufficiently homogeneous conditions of competition“
- geographic market definition adopted in individual cases often seems ad-hoc – this may be fine for markets with a large geographic dimension, but often problematic for regional/local markets
- standard method: regional/local markets are typically defined by drawing circles around production plants or stores

Conceptual foundations of geographic and product market definition should be in-line

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- demand substitutability has a stronger disciplinary effect if compared to supply-side substitutability
 - ➔ GMD should focus on demand substitutability
- market definition should not be seen as an end in itself, but a first important step that helps to assess competitive constraints, market power, and the effects of the behavior at stake
 - ➔ for horizontal mergers, GMD should focus on actual overlap
- outcome of the case should not hinge on implementation details (e.g. thresholds) of market definition method applied
 - ➔ GMD method should be robust with regard to minor methodological variations

Proposed quantitative tests have rarely been applied by competition authorities

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Elzinga-Hogarty-test

limited robustness w.r.t. starting point and threshold

heterogeneous vs. homogeneous goods ?

silent majority fallacy

SSNIP / HMT Test

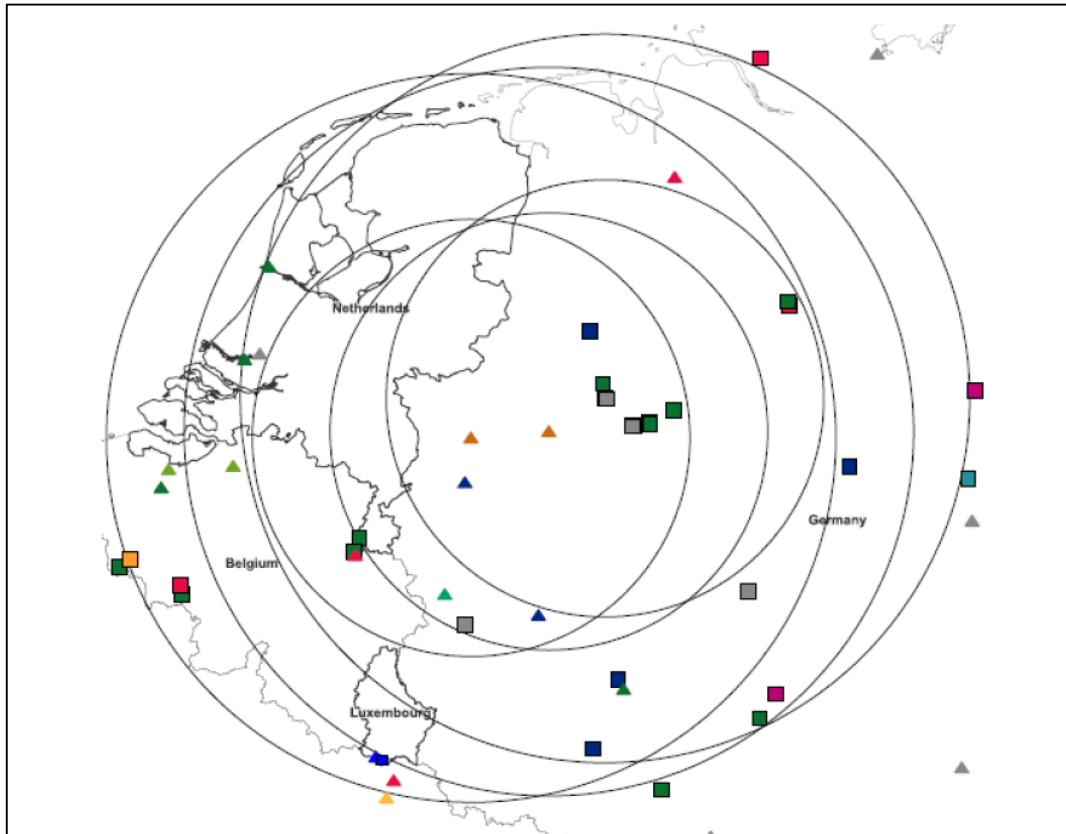
not robust w.r.t. starting point and area inclusion candidates

each customer is a separate market, if HM can impede arbitrage ("price discrimination markets")

required data often not available

Example: Case Holcim/Cemex 2014 (M.7009)

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- Market = union of the air-line radii around production plants
- Alternative radii of 150km and of 250km
- Combined market shares 10% - 30%
- Clearance

Example: Case HeidelbergCement / Schwenk / Cemex Croatia 2017 (M.7878)

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- Few actual deliveries to/through Bosnia
- Market = 250km road distance (instead of air-line distance) around Split or Zagreb without passing Bosnia
- Market corresponds approx. to Croatia
- Combined market shares > 50%
- Prohibition

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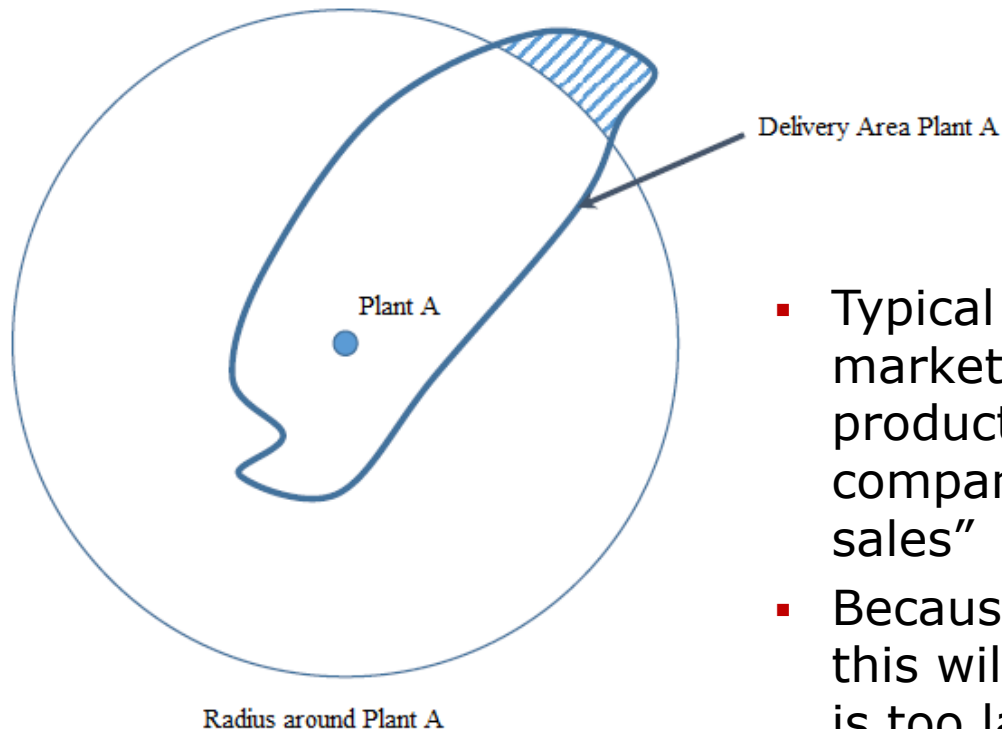
Drawing circles implicitly focusses on transportation costs

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- Circles may reflect transportation costs, but do not capture:
 - trade barriers such as language, regulations, tariffs
 - local presence (service), local product differentiation (e.g. brands)
 - local preferences
 - ...
- Route-planner distances or travel-time isochrones are usually a better approximation of transportation costs if compared to air-line radiuses, but do not address these additional aspects either
- For instance, a supplier could in principle be able to deliver but local customers do not regard it as a relevant alternative
- Risk to overlook regional peculiarities

Many customers unaffected by the merger may be included in the market

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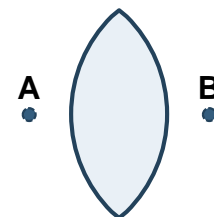
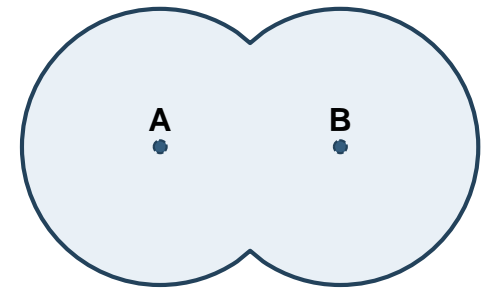
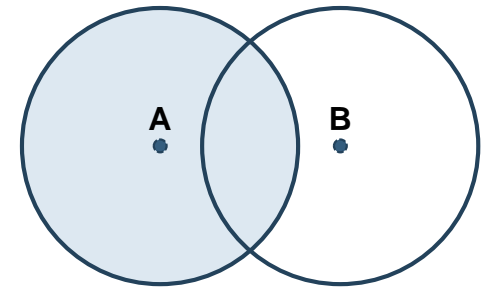


- Typical example: “the geographic market is the radius around the production plant of the target company which contains 80% of total sales”
- Because of non-concentric deliveries this will usually lead to a market which is too large

Different approaches have been used to derive market areas from circles

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- Why centre the catchment area on the plant of the target instead of the buyer? Market shares in the circle around A differ from market shares in the circle around B. From a competition point of view, there is no difference between "A buys B" or "B buys A".
- Another option: "The market comprises the union of both circles around A and B."
- Usually better: intersection of the circles around A and B ("lens"), because only the customers for whom both A and B are relevant suppliers are directly affected by the merger.

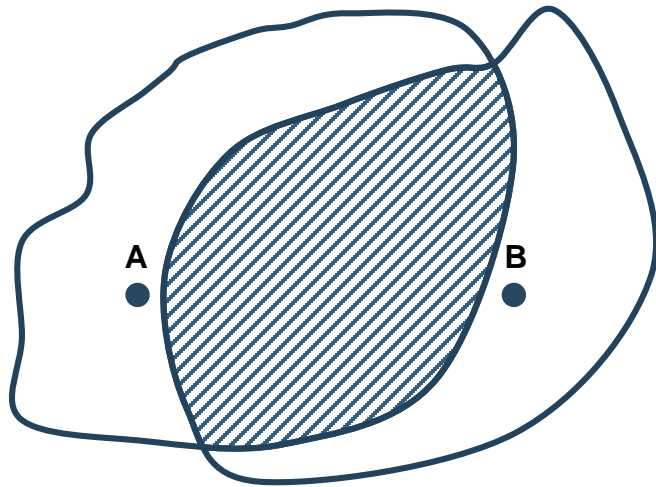


Circle-based market area may misrepresent real horizontal overlap / closeness of competition

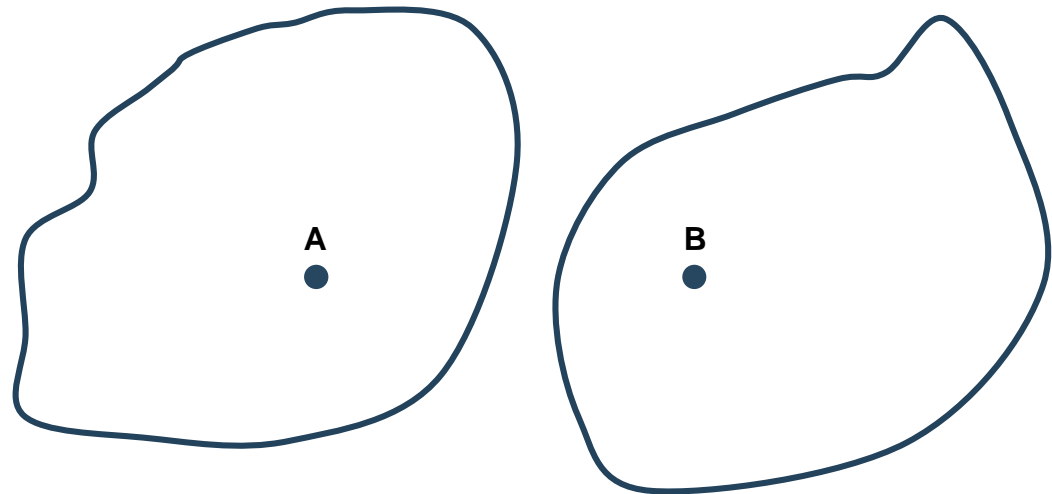
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Example: In both merger scenarios the distance between the merging plants A and B as well as the size of their catchment areas are identical. When drawing concentric circles, both mergers seem identical from a competition perspective: Merger 1 looks as good or bad as merger 2.

merger 1



merger 2



Market shares are often very sensitive to changes in radius

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- Threshold: What percentage of the production plants' deliveries shall be included in the radius – 50%, 70% or 90%?
- Example:
average percentile delivery
distances of German cement plants
for different thresholds
- Example: The area of the 90%-circle is 2.3 times larger than the 75%-circle, but may encompass only 1.2 times as many deliveries by the merging parties

Share of deliveries	Average radius
50 %	58 km
66 %	82 km
75 %	99 km
90 %	149 km

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Granular data on deliveries or customer flows enables more sophisticated analysis

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Investigation of the actual deliveries or customer flows requires high-resolution data collection (in Germany usually 5-digit postal code areas) for all relevant players (for practical reasons usually on the supply side)

With a complete inventory of all transactions competition authorities can:

- identify the exact area of sales for each plant/store
- precisely identify in which areas merging parties' sales overlap
- draw market share "heat maps" for each supplier
- calculate market shares for any GMD
- calculate Elzinga/Hogarty-figures for any GMD

Demand oriented, data-driven geographic market definition

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- Basic idea: identification of those areas where customers are directly affected by a horizontal merger
- Starting point of GMD = area where parties' customers overlap
- The interplay of all demand-side and supply-side factors will usually be reflected in the actual trade or customer flows
- As a result, all (or at least most) geographic aspects, which were traditionally "only" assessed qualitatively (and eventually used to "correct" circles), are implicitly quantified and weighted

Characteristics of (non) price discrimination markets can be taken into account

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- inability of supplier to discriminate by customer / small areas will typically argue in favor of a wider geographic market definition if compared to markets with discrimination ability
- use of Elzinga/Hogarty-style checks in non-discrimination markets to establish larger market area than mere overlap area
- in theory, in discrimination markets a problematic overlap could be limited to a quite small area – this could raise some novel issues in the future

BKartA has applied method in different industries

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Data-driven geographic market definition was carried out inter alia in the following merger cases:

- Hospitals (*u.a. Fresenius / Rhön – B3-109/13, Klinikum Esslingen / Kreiskliniken Esslingen – B3-135/13*)
 - Milling of durum wheat (*GoodMills / PMG – B2-112/14*)
 - Wholesale of automotive spare parts (*Wessels & Müller / Trost – B9-48/15*)
 - Glass recycling (*Rhenus / G.R.I.-Glasrecycling – B4-31/17*)
 - Professional horticultural supply (*Raiffeisen Gartenbau / Landgard – B2-63/17*)
- ➔ Method proved robust across different industries / markets

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The Schwenk/Opterra cement merger

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- Filed in May 2017, SO in Oct 2017, withdrawn in Nov 2017
- Target: Opterra operates large plant in Karsdorf (Saxony-Anhalt)
- Buyer: Schwenk operates large plant in Bernburg (Saxony-Anhalt)
- distance between plants ~80 km
- Schwenk vertically integrated downstream into ready-mix concrete, whereas Opterra not
- No. 1 and No. 2 in the relevant market, close competitors
- SIEC because of both unilateral and coordinated effects
- parties' innovative remedy proposal failed market test

Input data

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- Collection of data for all physical deliveries from all cement producers in Germany per production plant (2014 to 2016)
- complete inventory of disaggregated trade flows
- Aggregation of all trade flow data in a single data set
 - comprises approx. 16.900 supply relationships of 68 plants
 - Total volume of approx. 23,8 million tons of grey cement

Identification of horizontal overlap

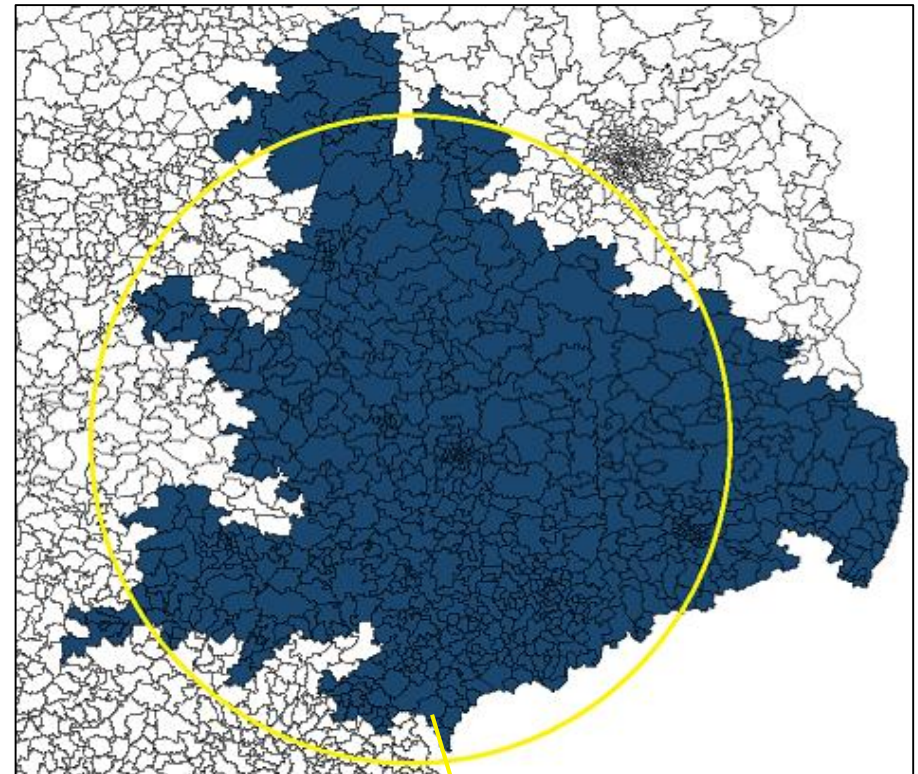
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- Calculation of share of total demand served by merging parties' plants ("share of supply") per 5-digit postal code area
- Display in a map with postal code areas coloured according to merger parties' share of supply → threshold of 20% reached by
 - both merging parties individually,
 - either of them alone or
 - only both of them together.
- relevant geographic market = geographic area, in which both parties' plants constitute a relevant source of supply for the customers
- Robustness checks: Picture basically identical with lower thresholds (e.g. 15%)

Resulting market area „Mitteldeutschland“

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- Cumulative criteria applied
 - the merger parties' common share of supply is $\geq 20\%$
 - high density, intermixture
 - inclusion of enclosed 5-digit postal code areas
- Deliveries into the area included in market volume (also from production plants situated outside the market / outside Germany)
- market shares [40%-45%] + [20%-25%]



yellow line: 150 km-radius around target plant Karsdorf

Elzinga/Hogarty-style plausibility checks

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- Resulting market exhibits a share of self supply of >65% and a share of production consumed internally of >70%
- Neighbouring areas (loosely defined) also show high shares of self supply and low shares of imports from „Mitteldeutschland“

Neighbouring area	Share of self supply	Imports from „Mitteldeutschland“
„Berlin/Brandenburg“ (North East)	>65%	<20%
„Ost-/Mittelniedersachsen“ (West)	>65%	<10%
„Südosthessen/Nordfranken“ (South West)	>50%	<10%
„Ostbayern“ (South)	>55%	<10%

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Advantages if compared to traditional GMD methods

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- Method is based on und fully conform with established product market definition principles
- Precise identification of parties' overlap
- Elimination of unaffected-customer-bias
- No problems with starting points, circle centers or inclusion candidates
- Qualitative judgements much reduced
- Risk to overlook regional peculiarities much reduced
- Method is transparent
- Method was robust in past cases

Limitations

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- In most cases very time-consuming, in merger proceedings usually only feasible in second-phase investigation
- Typically data only retrievable in markets where suppliers know their customers' locations
- Where suppliers coordinate by regions pre-merger, data will not reveal (significant) geographic overlap
- Designed for analysis of horizontal merger effects:
 - no need to define markets where there is no overlap
 - not applicable to non-merger cases or non-horizontal effects
- no incorporation of hypothetical scenarios / elasticities (but extensions conceivable, e.g. event analysis)

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