SLOVENIAN COMPETITION
PROTECTION AGENCY

The relevance of applying quantitative economic tests in the definition of the relevant market

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Introduction

- Motivation for usage or non-usage of qualitative and quantitative evidence
- Different forms of quantitative tools and their application in practice
  - Price correlation
  - Survey analysis
- Solutions
- Conclusion

Qualitative vs quantitative

- Case by case - depending on the individual factors of the case

- Depends on the characteristics of the products/services under investigation

- Availability of the necessary quantitative and qualitative data

- Time constraints

- How critical is market definition to the competitive assessment

- No *a priori* importance between source or type of evidence collected

Market definition

- Why in many cases only <u>qualitative</u> evidence is collected?

  - easily available and intuitive

  - fast to obtain

  - very often sufficient to define the relevant market and/or competitive effects

  - perhaps (?) unwillingness to use quantitative methods (lack of knowledge, subject to challenges in courts)

- However, in some cases parties and courts expect sort of „mathematical" or „modelling" evidence

Market definition

- Where and how to obtain qualitative information?
    - information from main customers, competitors and suppliers in the industry
    - questionnaires, meetings and/or telephone calls, sometimes (but rarely) end-consumer surveys (e.g. in retail markets analysis)
    - internal documents of the undertakings, internal or external market reports, studies on barriers to entry or costs associated when switching demand to potential substitutes
    - reference to similar cases in other countries, but subject to challenges in courts when definition based *only* on similar cases in other countries

Shortcomings of qualitative evidence

- Definition based on products characteristics and intended use
  - Insufficient to positively confirm the existence of substitutes

- Definition based on review of company internal and external documents and its operating practice
  - Careful interpretation needed
  - Undertaking may be wrong in its assessments
  - Data may be incorrect

Quantitative evidence

- Where the market definition is especially important for the competitive assessment **both** types of evidence are used

- Quantitative economic tools used to complement and refine the analysis where appropriate

- Different forms of quantitative analysis:
  - critical loss, survey, price correlations, demand estimation, analysis of price levels and sales patterns, natural experiments and others

Well-known principles

- The main purpose of market definition is to identify in a systematic way competitive constraints that the undertakings analyzed face (from alternative products and other suppliers)
- Firms are subject to three main sources of competitive constraints:
  - demand side substitutability
  - supply side substitutability (short term, longer term)
  - potential competition

- Demand side substitution constitutes the most immediate and effective disciplinary force on the suppliers of a given product!

Demand substitution

- Primary role in defining market

- The classic economic model to assess the demand substitution is the SSNIP test

- SSNIP is implemented with different techniques:
  - Price correlation
  - Surveys analysis

Price correlation analysis

- Examines the extent to which the prices of two products move together over time

- Prices are expected to be positively correlated if the products are on the same market

- If the price of one good constrains the price of the other, the two price series follow usually a similar pattern

- Also used to analyze geographic dimension of the market

- Computed quickly and with small amount of data (usually transaction data sent by parties)

Potential problems when analyzing price correlation

- Benchmark needed (how high does a correlation coefficient have to be for two products or regions to represent the same relevant market?)

- Benchmark: e.g. correlation between two segments of the same product that belong to the same market
  - correlations between different sizes of Norwegian salmon (1-2 kg, 2-3 kg, 3-4 kg, 4-5 kg, …) and the price correlations between different sizes of Scottish salmon (M.6850)
- Between products that belong to the same market:
  - still vs sparkling water vs soft drinks (Nestle/Perrier case)

Common costs factor

- Correlation can be biased upward

  - A high correlation is driven by some common influence other than competitive interaction

  - common input costs

  - more analysis needs to be made

    - Corrected correlation's results of the economic analysis show that the correlation between salmon of Norwegian and Scottish origin is lower than the benchmark correlation

      - Separate relevant product markets

Common demand

- Correlation because of a common trend, not because of cross-price effect (e.g. trends caused by unrelated factors like the evolution of the overall economic conditions)

- Solution: correlation on first differenced price series
  - Correlation on first-differenced Norwegian price and the first-differenced Scottish price series

Delayed price interaction

- Correlation can be biased downward

  - delay in price response

- Solution: aggregation of data (weekly, monthly, quarterly data, etc)

- the correlation between the Scottish and the Norwegian price on monthly data in comparison to the benchmarks correlations also on monthly base

Surveys

- Questionnaires, interviews, customer surveys
- Potential problems:
  - Respondents are not familiar with the SSNIP test or they are familiar with the SSNIP test and then they game their responses
  - Marginal customers vs non-marginal customers
  - Sometimes the sample size is too small
  - The competitors can behave strategically in their responses
  - Negative market participants'views can be given too much weight

Customer survey

- One of the methodologies to measure the divertion ratios
- Switching questions:
    - *Would you switch in response to a 5 % increase in price of product X? If so, to which products would you switch?*
    - *Which product would you buy if product X was not available?*

- Very useful to measure closeness of competition between products

- E.g. telecom sector – DRs based on:
    - survey
    - Mobile Number Portability data (MNP)

DRs using survey data vs MNP data

- Survey:
  - Focus also on non-number porters
  - Investigates customers'first and second choice
  - Preferences of marginal customers

  - MNP:
  - Only customers who port their number
  - Assumptions on customers'first and second choice
  - Not necessarily preferences of marginal customers represented

Conclusion

- Several tools for market definition and SSNIP implementation

- The usage of these tools depends to a large extent on the availability of the necessary data, the specificities of the case in question and the respective time constraint of the procedure

- Qualitative and quantitative evidence go together

- But is market definition still important?

  - Can it be bypassed (UPP, GUPPI, merger simulation)?

The way out…

„However, for the purposes of the present case, the precise market definition may be left open as this would not change the outcome of the competitive assessment in the case at hand."

Many thanks!