

# Ex post assessments in competition policy

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- Assess the impact of a certain policy/scheme/practice
  - Do antitrust interventions matter?
  - Is a particular state aid scheme effective?
  - What is the effect of mergers in general?
- Can be used in case-related work:
  - US hospitals; EU mobile mergers; *Ineos/Solvay*
- Different methods
  - Event studies, diff-in-diff,...; Pooling 'events' v. case-study
- Main issues
  - Need for a credible counterfactual: possible lack of good control; choices on (and availability of) data, price measures, models: may lead to different results
  - Carlton, Werden: better as 'case study' to review AA's work.

# “The effect of antitrust investigations on the firms' share prices”

- Aguzzoni, Langus, and Motta (*J. Industrial Econ.*, 2013)
- Antitrust investigations and fines should deter anti-competitive behaviour
- Many firms are repeat offenders, and fines are rarely followed by changes in management
  - ➔ Are firms affected by antitrust actions? (a necessary condition for antitrust to matter)
- We use event study techniques to analyse the impact of EU antitrust events on fined firms' share prices.
- Data: all EU antitrust investigations (1979-2009); both cartels (>90% of obs.) and abuse/other; events: dawn raid, decision, court judgment (never stat. significant).

# Event study analysis

Event studies try to quantify the value of (a change of) a fundamental.

If we know:

- (1) the moment at which the news about a changed fundamental became available to investors and
  - (2) the share price that would prevail in the absence of these news (counterfactual)
- compute the “value” of news (and of the fundamental) to investors and the firm, as the difference between counterfactual and realised price.

## Main results of the analysis (cartels):

- On average, a surprise inspection reduces a firm's share price by 2.7% and a cartel infringement decision reduces it by 3.7%
- Fines account for less than 9% of this loss; most of the loss is arguably due to the termination of illegal activities
- Suggests that cartel interventions do have a sizeable effect on prices.

### Vast literature on the price effects of cartels:

- Private damages actions in courts
- Academic: ‘qualitative’ case-studies, ex post assessments
- See e.g., surveys by Connor (and co-authors) on the average/median price overcharges
- Possible use:
  - Advocacy by Competition Agencies (‘publicity’ of single cases; help ‘guesstimate’ the impact of enforcement)
  - How high should the fines be to deter cartel formation?

## Merger retrospectives

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- Kwoka (2012): “meta-study” of US mergers. 76% anti-competitive; remedies were inadequate.
  - Ormosi et al. (2015): “meta-study” on EC/NCAs mergers. Prices rise (less if remedies imposed)
- (!) Not representative samples: “close calls”; sectors with public data; are all works properly done?
- Still, a worrying picture of under-enforcement...
- Duso et al. (2007); Duso et al. (2013): event study on errors/effectiveness of EU merger control
    - Also pointing to some under-enforcement...?

## Ex post evaluation in state aid control

- SAM: from ex ante control to ex post evaluation
- Member States have to assess own state aid schemes (aim: more efficient, less distortive SA)
- DG Comp guidance paper: different quantitative methods to do proper ex post assessment
- Crucial to plan evaluation ex ante, i.e. when state aid measures are designed. The plan should:
  - Describe specific identification strategies
  - Ensure availability of necessary data
  - Describe the evaluator (skilled and independent) and involve her/him in the design of the aid measure



- **FTC**: 4 out of 5 hospital mergers price increases: even non-profit organisations raise prices.
  - See also ACM ex post evaluation of two hospital mergers
- **CET** (with ACM and RTR): Ex post assessment of two mobile mergers (*T-Mobile/Orange* in the Netherlands: unconditionally approved; *T-Mobile/tele.ring* in Austria: approved with *remedies*)
  - Some “lessons” from these two evaluations
- **CET**: *Ineos/Solvay*
  - A brief description

# Ex post assessments of mobile mergers: A few challenges

- Control group issues
  - Limited number of countries; assumption that all countries share common trend in pre-merger prices may not hold (→ Synthetic control method: counterfactual=selecting countries and weights to match pre-merger prices of affected country)
- How to choose the price index
  - Consumers buy a bundle of services (calls, SMS, data); cost depends on usage+tariff= 'fixed' + 'out of bundle'
  - → Define hypothetical user profiles (low, mid, high usage) which are fixed over the period of the investigation
- Data limitations (not all firms, handset subsidies...)
- Previous merger in NL possible confounding effect
- Idiosyncratic effects reduce precision of estimates

# T-Mobile/Orange (NL): results

Basket	Short term (up to 4 quarters)	Medium term (5-8 quarters)
Low usage	[6%;15%]	[1%;15%]
Medium usage	[9%;13%]	[10%;15%]
High usage	[5%;13%]	[3%;17%]

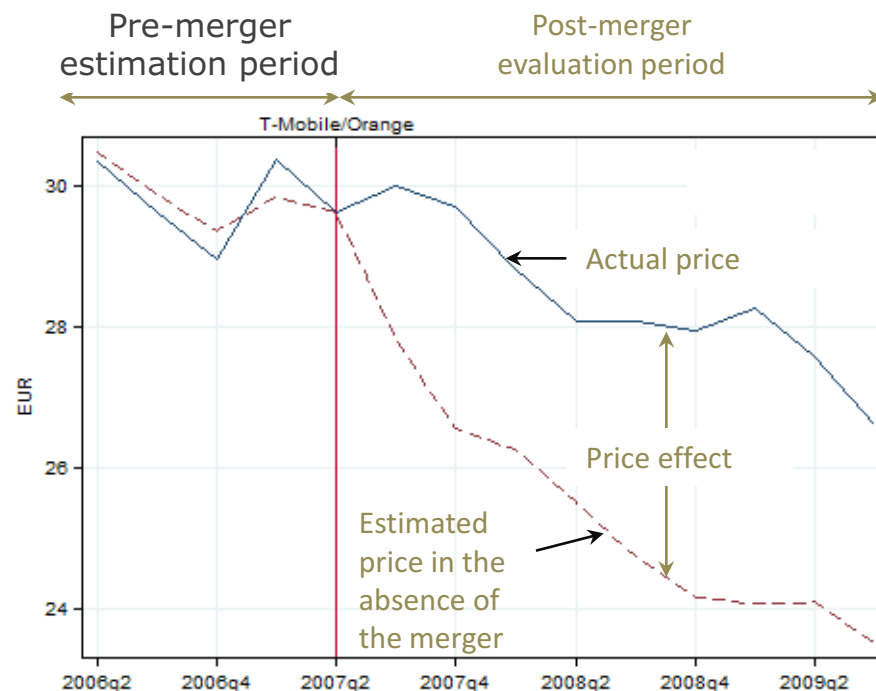
- **Prices in the Netherlands increased after the T-Mobile/Orange merger compared to the control countries**
- Estimated price increase is not necessarily caused exclusively by the T-Mobile/Orange merger
- Earlier KPN/Telfort merger may have affected results
- Price development indicates that consolidation in NL increased prices

# Estimation of merger effects, T-Mobile/Orange

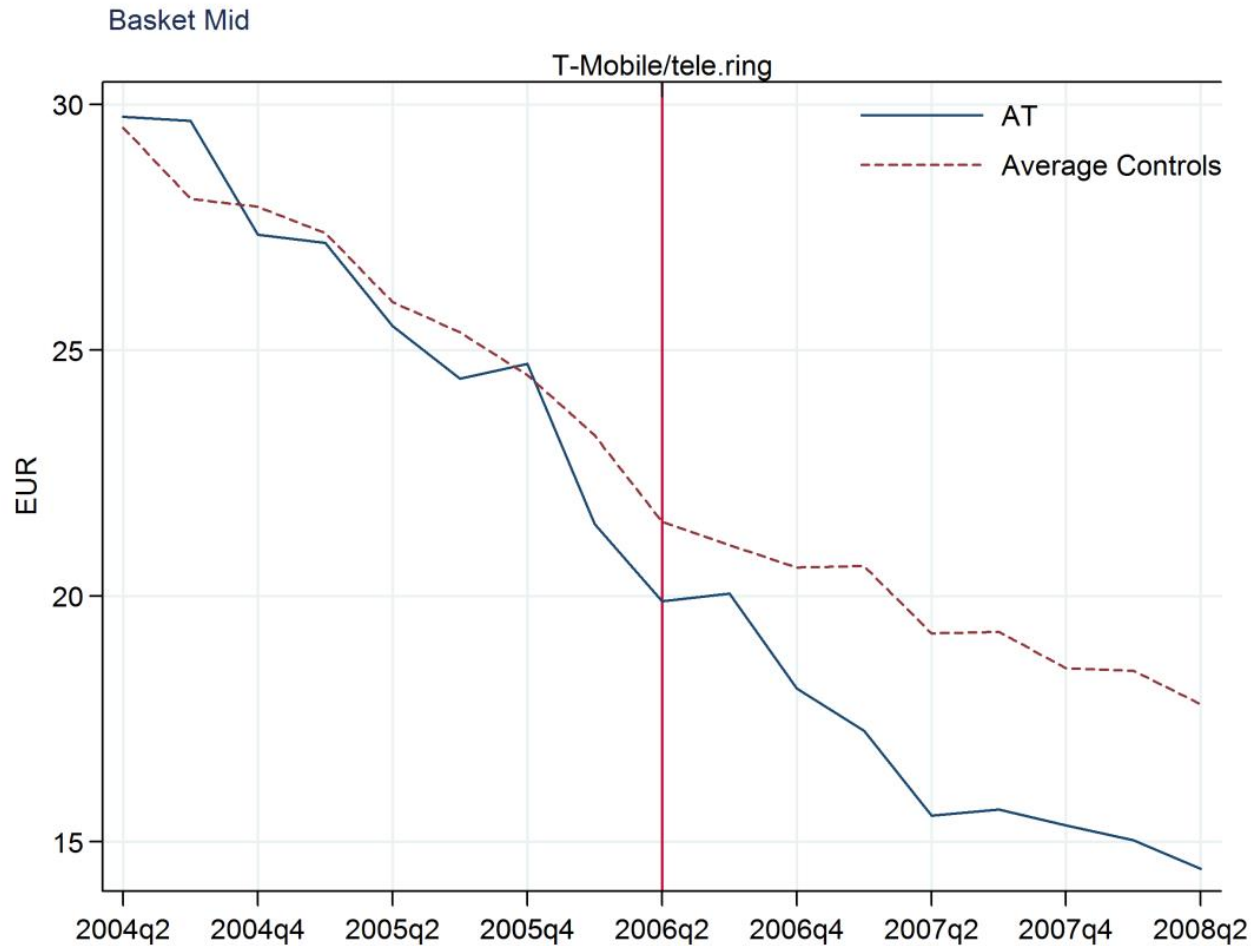
## Econometric approach

- Calculate actual price indices for the Netherland and 12 control countries
- Estimate the hypothetical price absent the merger exploiting price development in "control" countries (and other explanatory variables such as MTR)
- Estimate merger price effect

Three estimation methods with slightly different assumptions



# T-Mobile/tele.ring (AUT)



**Average price comparison Austria vs Control countries – basket Mid**

# T-Mobile/tele.ring (AUT): results

Basket	Short term	Medium term
Low usage	[-2%;-23%]	[0;-34%]
Medium usage	[-5%;-13%]	[-5%;-18%]
High usage	[-1%;-10%]	[-3%;-17%]

- **The Austrian T-Mobile/tele.ring merger as modified by the offered commitments did not lead to price increases**
- Not possible to separate effect of unmodified concentration and effect of remedies

## Ex post evaluation in a merger case

- *Ineos/Solvay*: full-function JV; of interest: S-PVC
- Ineos: leader with 30-40% in NWE; Solvay n.2 (KEM ONE, n. 3, with financial difficulties)
- History of acquisitions in S-PVC market by Ineos:
  - 2008: Ineos/Kerling (UK, Scandinavia)
  - 2011: Ineos/Tessengerlo (Benelux, France)
- Ex post assessments provided information on:
  - If Ineos held market power before acquiring Solvay
  - Relevant market (price rises differ btw. NWE and RoE)
  - Revisit assumptions used in previous mergers (e.g., rivals' spare capacity; buyer's power, role of imports)

# Identification of merger effects: two diff-in-diff strategies

- Regional identification
    - Outcome variable: *Ineos' prices*
    - Treatment: NWE
    - Control: RoE
  - Regional and inter-firm identification (triple diff)
    - Outcome variable: *Ineos-Solvay price premium*
    - Treatment: NWE
    - Control: RoE
    - Goal: control for different geographic trends
    - (But it under-estimates the price effects of the merger!)
- ➔ Economically and statistically significant price effects



## A word of caution

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- Ex post evaluations useful for policy, advocacy, case work
- But only rarely in competition can we use randomized control trials (exception: well-designed state aid cases)
- Not always easy to find good controls/counterfactuals: insufficient data; other market participants may also be affected by the event; similar markets may not exist; other factors may impact the variables under study.
- Firms may be strategic if they expect to be observed (astonishing to find price effects in mobile mergers)
- There may be a big leap from ex post evaluation of a case to inference for other cases/countries.