

E.CA Economics

# Standard of Proof for Economic Evidence in Competition Cases

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**IBC Competition Economics 2013**

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This is a fair warning...

**These are an ECONOMIST's  
comments on an issue which is legal by its  
very definition**

**(the economist has acted in many national and  
European proceedings as expert or supported  
experts though)**

## Introduction – relevant elements

- **Burden of proof:** The party who is required to demonstrate the existence of certain facts is said to bear the burden of proof. Typically who asserts must prove; otherwise he loses his case (BG ¶14.02/.10/.11)
- **Standard of proof:** Courts do not have to determine whether facts in issue are definitely true. They need merely to be satisfied to the applicable standard (BG ¶14.22)
  - Proof of the ‘preponderance of probabilities’, the ‘balance of probability’ or ‘more likely than not’
  - Proof ‘beyond all reasonable doubt’
- **Presumption:** inferring the existence of a secondary effect by proving a primary fact (BG ¶14.14). Can be considered an aggregation of experience from comparable cases; introduces some sequentially in the balancing
- **Variations exist** between ‘balance of probabilities’ and ‘beyond all reasonable doubt’ (often steered by presumptions)
  - Deborah P. Majoras, former FTC chairman – when there was a perfect balance of probabilities she approved a merger (panel discussion Berlin, March 2013)
  - Vertical mergers come with a more positive spin, dominance with a neutral to negative and State aid cases with a negative presumption (once State aid is found)

Source: Definitions are taken from Brealey/ Green (2010)

# Agenda

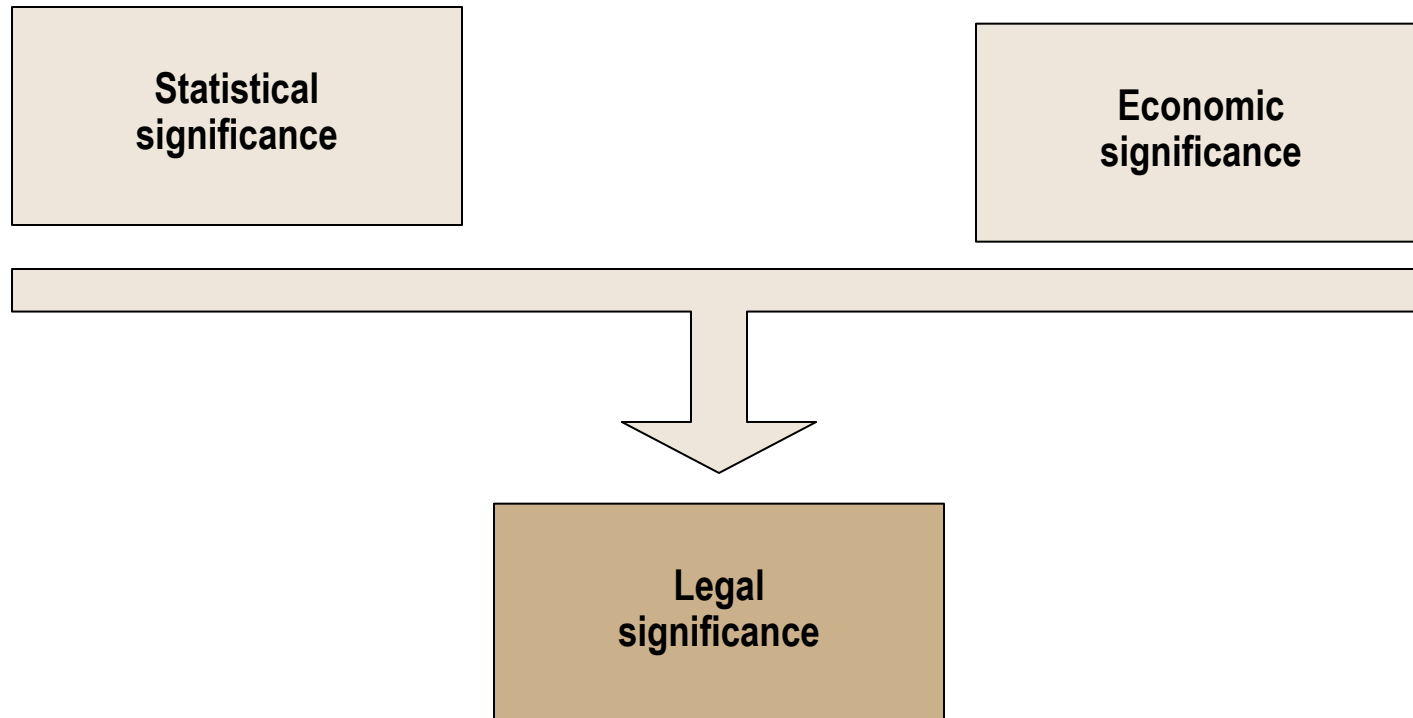
The relationship between statistical, economic and legal significance

Boundaries of economic and factual evidence

The trade-off between accuracy and practicality

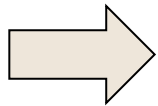
# The relationship between statistical, economic and legal significance

- Note: in the following I talk of legal significance which is a combination of burden and standard of proof
- This is done to shift the focus from law to economics



## What is economic significance?

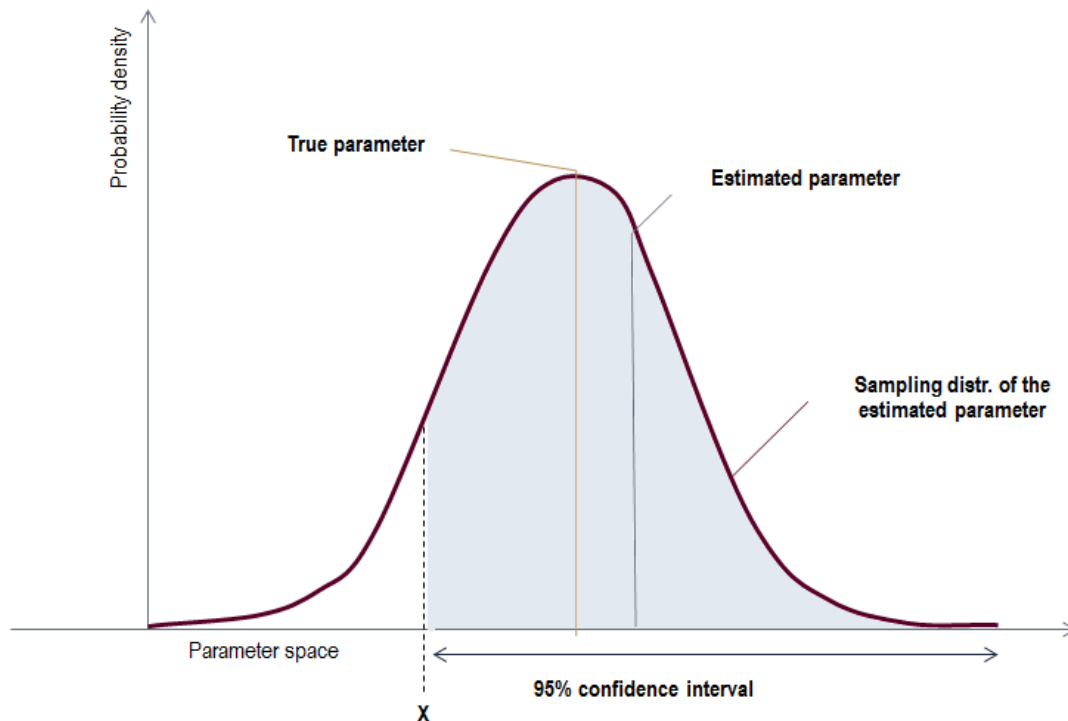
- **Economic significance:** focus is on the (relative) magnitude of the various effects
  - ‘An empirical submission should not only discuss the statistical significance of the results but also their practical relevance [i.e. economic significance]. In general, with very large samples coefficients may be statistically significant even if they are of trivial magnitude’ (BPP ¶34)
- **Examples:**
  - A firm may bid more aggressively in bids against a specific other firm, but the percentage price effect might be below 1%
  - Prices in region A and in region B are correlated, however large differences in level do exist which can be explained by different levels in concentration



**Economic significance is mostly about not losing the oversight of what really matters; legal guidance is important to challenge the economists' results**

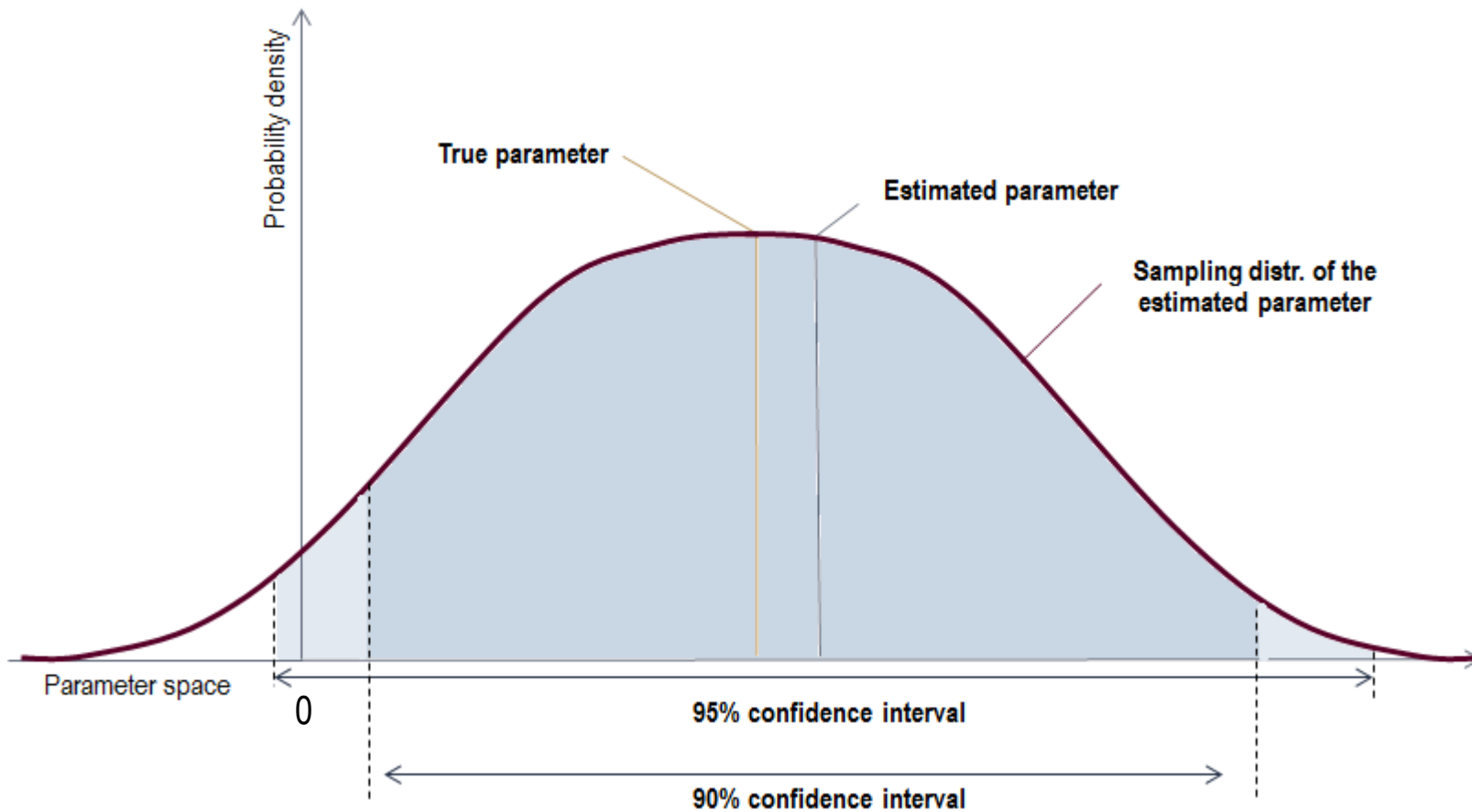
# Statistical significance

- **Statistical significance:** 'a statistical significant result is one that is unlikely to have occurred by chance' (BPP fn19)
- Statistical analysis allows statements like '**with 95% probability the price effect is larger than x**'
- Correctness of this statement depends on various assumptions: **proper treatment of raw data, assumption of the statistical model are met, proper application of the method, sensitive checks, etc.**



## Statistical significance (cont.)

- Power of statistical tools varies strongly with the quality of the underlying data!





## Relationship between statistical, economic and legal significance

- There is **no mathematical 1:1 translation** between statistical, economic and legal significance
  - For instance it seems wrong to translate the ‘more likely standard’ into, say, a 60% confidence interval
- Rather it is the ‘**nature of evidence**’ (GB ¶14.34) to which statistical and economic significance speaks
  - This might result in exclusion under the balancing of probabilities test, e.g. ‘For all these reasons, in particular the concern with omitted variable bias, the Commission cannot attach any weight to [consultancy A]’s cross-section regressions.’ (Ryanair decision 2006)
  - On the other hand also statistically not significant results may become legally significant, e.g. ‘However, just because some hypothesis cannot be rejected in a statistical sense does not necessarily mean that the empirical analyses has no evidentiary value’ (BBP ¶36)
- **Tricky issue:**
  - ‘It has been argued that prospective analysis should be proportionately more rigorous to account for the greater likelihood of error’ (GB ¶14.35) – what does that mean e.g. for dynamic efficiencies?

# Agenda

The relationship between statistical, economic and legal significance

Boundaries of economic and factual evidence

The trade-off between accuracy and practicality

## Boundaries of economic and factual evidence

**Table 1: Individual Quotes From Early August 2006**

	2006				
	August 3	August 4	August 7	August 8	August 9
<b>BTMU</b>	5.410	5.430	5.370	5.370	5.330
<b>Bank of America</b>	5.400	5.420	5.380	5.370	5.325
<b>Barclays</b>	5.410	5.420	5.370	5.370	5.340
<b>JPM Chase</b>	5.410	5.420	5.380	5.370	5.330
<b>Citi Bank</b>	5.405	5.420	5.360	5.370	5.330
<b>CSFB</b>	5.405	5.420	5.360	5.370	5.330
<b>Deutsche Bank</b>	5.405	5.415	5.365	5.365	5.325
<b>HBOS</b>	5.410	5.420	5.350	5.370	5.330
<b>HSBC</b>	5.400	5.420	5.370	5.370	5.330
<b>Lloyds</b>	5.410	5.420	5.360	5.370	5.330
<b>Norinchukin</b>	5.410	5.420	5.370	5.370	5.340
<b>Rabobank</b>	5.405	5.415	5.370	5.370	5.330
<b>Royal Bank of Canada</b>	5.405	5.420	5.370	5.368	5.330
<b>Royal Bank of Scotland</b>	5.400	5.420	5.370	5.370	5.330
<b>UBS AG</b>	5.405	5.420	5.370	5.370	5.330
<b>West LB</b>	5.405	5.460	5.360	5.370	5.330

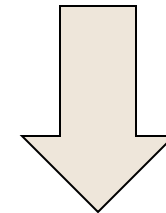
**Example of the LIBOR matter: disaggregated bidding data of all banks available**

Source: Abrantes-Metz & Metz (2012), CPI Antitrust Chronicle

## Boundaries of economic and factual evidence (continued)

**Table 2: The Distribution of “Middle 8” Quotes**

	2006				
	August 3	August 4	August 7	August 8	August 9
<b>Value 1</b>	5.405	5.420	5.360	5.370	5.330
<i>Count</i>	7	12	4	14	12
<b>Value 2</b>	5.410		5.365		
	6		1		
<b>Value 3</b>			5.370		
			8		



**Simultaneous  
switch to new,  
identical bid  
level**

Source: Abrantes-Metz & Metz (2012), CPI Antitrust Chronicle

# Agenda

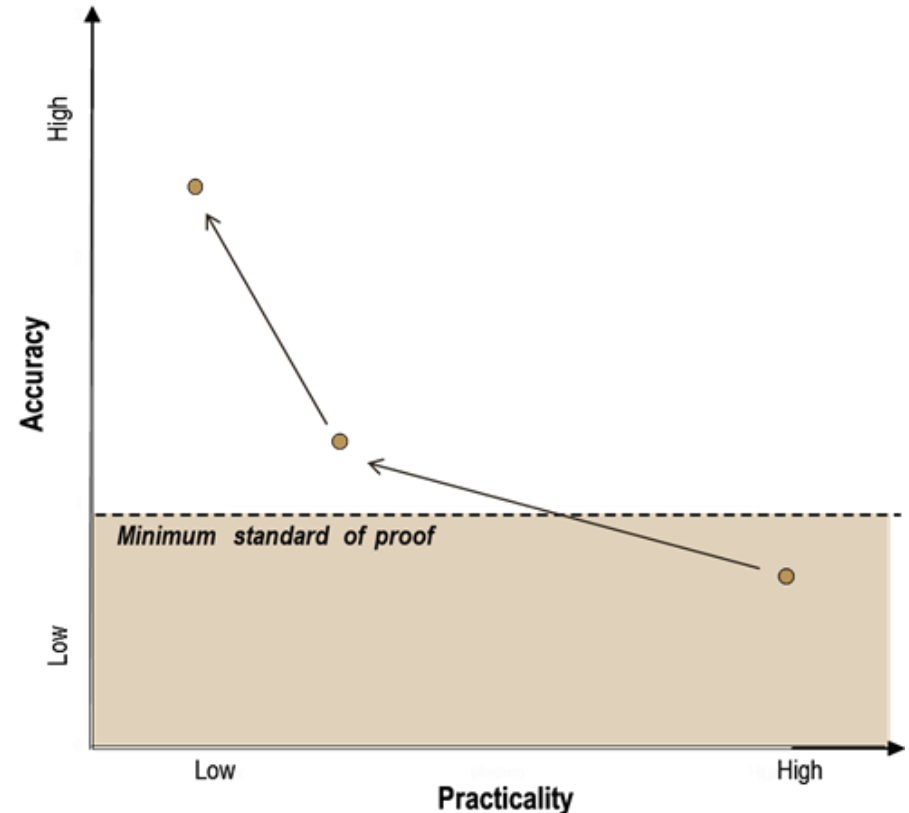
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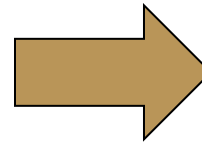
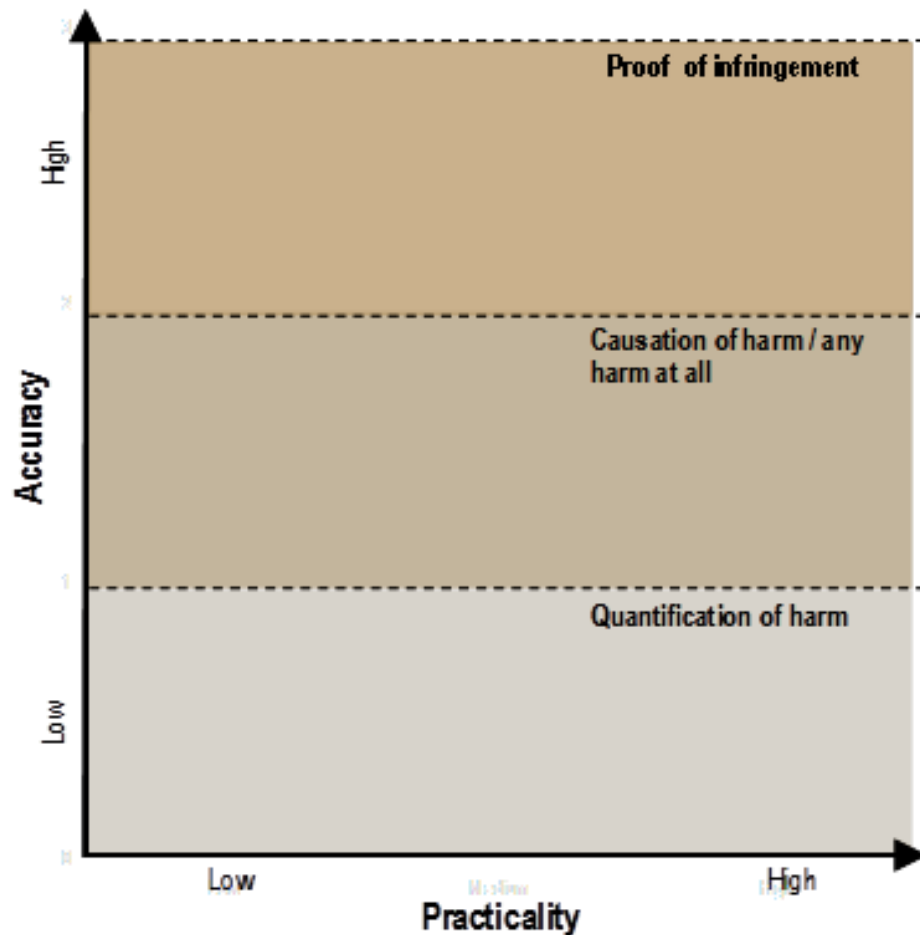
The trade-off between accuracy and practicality

## The trade-off between accuracy and practicality

- **Definition of accuracy:** accuracy describes the potential of a methodology (an estimator) to deliver unbiased and precise estimates of 'true' effects
  - assumes a state-of-the-art execution of the methodology under discussion
- **Definition of practicality:** a methodology is practical if it yields a verifiable and transparent estimate within a reasonable timeframe and with proportional resources
  - verifiability and transparency depends a great deal on data submission and presentational style
  - even complex methods can be communicated so that the underlying empirical test idea and assumptions become verifiable for non-experts
  - best practice rules exist on how to present empirical results in such a way that they can be verified by an expert



## Different legal standards require different methods/ level of accuracy



- There are significant differences in standards across different topics (as well as across various countries)
- Economics normally not considered sufficiently robust to prove collusion
- Courts have to 'protect' economists by not forcing them into areas where they cannot deliver and by being very transparent of the objectives of assessment and the relevant legal standards

# Final comments

## Relationship between statistical, economic and legal significance

- There is no mathematical 1:1 translation
- But statistical & economic analysis depends on legal burden and standards of proof
- Clear guidance of the economist by the lawyers is required

## Institutional environment

- Empirical analysis is applied within an **adversarial environment**
- Some solutions do exist facilitating a productive input by economists: appointment of court experts, cross-examination and pre-talks

## Some tricky points

- Future effects often economically most important, but difficult to analyse based on a rigorous empirical analysis – how to resolve this conflict?
- The different roles of economists, i.e. consultant, testifying expert for the parties and court expert – preserving your appropriate degree of independence requires experience



# Thank you!

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# Background material

## Best practice guidelines

- Bundeskartellamt's standards for economic testimonies (2010):  
[http://www.bundeskartellamt.de/wDeutsch/download/pdf/Merkblaetter/Merkblaetter\\_deutsch/Bekanntmachung\\_Standards\\_final.pdf](http://www.bundeskartellamt.de/wDeutsch/download/pdf/Merkblaetter/Merkblaetter_deutsch/Bekanntmachung_Standards_final.pdf)
- (BPP) DG Comp's best practices for the submission of economic evidence and data:  
[http://ec.europa.eu/dgs/competition/economist/best\\_practices\\_en.html](http://ec.europa.eu/dgs/competition/economist/best_practices_en.html)
- Suggested best practice for submissions of technical economic analysis from parties to the Competition Commission,  
[http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/rep\\_pub/corporate\\_documents/corporate\\_policies/best\\_practice.pdf](http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/rep_pub/corporate_documents/corporate_policies/best_practice.pdf)
- OFT's & CC's Good practice in the design and presentation of consumer survey evidence in merger inquiries.  
[http://www.offt.gov.uk/shared\\_offt/consultations/merger-inquiries/Good-practice-guide.pdf](http://www.offt.gov.uk/shared_offt/consultations/merger-inquiries/Good-practice-guide.pdf)

## Other literature

- Friederiszick/ Röller (2010): Quantification of Harm in Damages Actions for Antitrust Infringements: Insights from German Cartel Cases. JCLE6 (3), 595-618 [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1588126](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1588126)
- (BG) Brealey/ Green (2010). Competition Litigation. UK Practice and Procedures. Oxford