

4 October 2018

Comments on European Commission's Draft Pass-on Guidelines

by

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This is a response to the European Commission's consultations on the Draft *Guidelines for national courts on how to estimate the share of overcharge which was passed on to the indirect purchaser*, July 2018 ("**Guidelines**").

My comments are made as an economist with practical experience in competition damage litigation (see attached short resume).¹

This response focuses on the quantification sections of the Guidelines.

Where appropriate, reference is made to the Practical Guide², the Pass-on Study³ and the Damages Directive (2014/104/EU).⁴

This response is organised as follows:

Section I briefly summarises the purpose of the Guidelines to determine the criteria for its assessment:

¹ For the author's recent discussion of pass-on see Cento Veljanovski 'The Law and Economics of Pass-on in Price Fixing Cases' *European Competition Law Review*, 2017, Vol 38, 209-218 Available SSRN Electronics Journal <https://ssrn.com/abstract=2903208>).

² European Commission Staff Working Document, *Practical Guide Quantifying Harm in Actions for Damages Based on Breaches of Article 101 or 102 of The Treaty on the Functioning of the European Union* {C(2013) 3440}.

³ *Study on the Pass-on of Overcharges* prepared for the European Commission by RBB Economics and Cautrecasas, Goncalves Pereira, 2016.

⁴ *Directive 2014/104/EU of the European Parliament and of the Council of 26 November 2014 on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union*, OJ L 349, 5.12.2014, pp. 1–19 at http://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=uriserv:OJ.L_.2014.349.01.0001.01.ENG.

Section II lists the more significant suggested revisions.

Section III contains detailed comments on the quantification sections of the Guidelines.

Section IV makes some brief comments on the examples and boxed text.

Section V discusses other issues such as the treatment of 'super pass-on', estimation of damages, competence of competition authorities to advise the courts, and a proposed requirement that the pass-on defence can only be successfully invoked if the defendant proves a volume effect.

Bracketed numbers refer to paragraphs of the Guidelines.

I. PURPOSE AND OVERVIEW OF GUIDELINES

The purpose of the Guidelines (1) is to offer 'practical guidance' and (3) be a reference for 'good practices':

In particular, they set out the economic principles, methods and terminology concerning passing-on *inter alia* by reference to a number of examples. Further, these guidelines are designed to help determine the sources of relevant evidence, whether a disclosure request is proportionate, and assessing the statements of the parties on passing-on and any economic expert opinion that may be presented to the court.

The Guidelines therefore must be evaluated in terms of the practical assistance they give to the generalist judge.

In my view the draft Guidelines do not adequately achieve all these purposes. They are strong on economic principles, theory and descriptions of some quantitative methods, cover data requirements and disclosure reasonably well, but do not offer real practical guidance that would enable a generalist judge to assess the proposed quantitative methods and conflicting economic expert opinions; nor do they guide the court in how in the absence of good data and evidence, and/or conflicting evidence to estimate pass-on.

III. MAIN SUGGESTED REVISIONS

This section lists suggestions for the revision of the Guidelines, with more detailed comments in the next section.

- The Guidelines should begin by acknowledging that:
 - there is little experience and case law on pass-on in EU competition damages litigation.
 - the European Commission has no experience.
 - But that the Commission and European courts have experience of pass-on issues in wrongful tax and merger cases.

- In the light of the preceding the Guidelines should draw on the discussions of pass-on in wrongful tax cases and in particular *Webbers Wine World*⁵ (which sets out a good ‘judicial’ framework consistent with the theoretical parts of the Guidelines), and the treatment of cost pass-on in merger cases. The Guidelines should also take note of the discussion on pass-on by the UK Competition Appeal Tribunal (CAT) in *Sainsbury’s Supermarkets v. MasterCard* [2016] CAT 11⁶.
- The Guidelines deal with simple supply chains and cartels that sell basic homogeneous products (apple juice, copper). The Guidelines should examine more complex cases, and indirect purchaser pass-on and end-consumer actions to assist the court (the last in collective/class damage actions).
- The use and contents of boxed texts which contain examples including summaries of case law should be reconsidered. These are designed to illustrate key points and approaches. Unfortunately, often the examples are of minor importance, many of the boxes contain material not discussed in the surrounding text and/or are in the wrong place in the text; and most importantly some appear to endorse legal decisions without noting conflicting decisions on the same issue.
- Annex I (economic theory) should be deleted and its main points included in the main text. Many of the factors discussed in Annex I are not just theoretical considerations but factors that should be considered by a judge.
- There are few linkages between the theory and quantitative sections. If the theory is simply a backdrop to motivating discussion of the heads of damages fine. But there are direct empirical issues arising from the theory such as testing for the curvature of the demand curve. The Guidelines should comment on the practical implications of the theory and how these can be incorporated into the various quantification methods.
- The Guidelines’ classification of ‘direct’ and ‘indirect’ quantitative methods does not conform to the classification in the Practical Guide. The two Guidelines should be made consistent to avoid unnecessary confusion.
- Mark-up and cost-plus pricing are direct evidence of pass-on but are virtually ignored in the Guidelines. These should be discussed, and guidance given on their treatment.
- There should be more focus on the inspection and descriptive analysis of the available data. This is the key advice for all empirical analysis – understand the data.
- The Guidelines selectively apply different quantitative methods to measure price or volume effects respectively (the elasticity approach is omitted from the former although emphasised in the theory sections; the simulation approach is not discussed). A more

⁵ *Weber’s Wine World & Ors v. Abgabenburufungskommission*, C-147/01, EU:C:2003:533.

⁶ Also see the comments on pass-on in the CAT’s collective certification decision *Walter Merricks v MasterCard International* [2018] CAT 16.

consistent and comprehensive treatment of quantitative and qualitative approaches is needed.

- There should be greater focus on the practicalities of quantifying pass-on and how to evaluate the different methods. The Guidelines give an overly theoretical and general description of the different empirical methods.
- The Guidelines propose that ‘difference in differences’ method is the ‘ideal’ method and rank the variants of this method. No reasons are given for this choice or their feasibility in dealing with pan-European cartel follow-on damages actions. The choice must be justified and explained, together with an indication of how feasible they are to use in a damages action.
- The Guidelines claim that it is necessary to use a counterfactual to determine pass-on is exaggerated and should be reconsidered. A counterfactual is not necessary to determine pass-on.
- The Guidelines do not correctly describe the evidential requirements in court. Direct evidence that a claimant passed-on the overcharge and evidence that it used mark-up and cost-plus pricing would be decisive in court. But the Guidelines treat this type of ‘qualitative’ evidence as ancillary to and useful if it supports the quantitative approaches listed in the Guidelines. This emphasis is incorrect. Direct documentary and factual evidence of pass-on has greatest probative value. Further, the approaches discussed in the Guidelines are at best indirect and circumstantial evidence and must be supported by direct evidence if they are to be treated as proof of pass-on. The Guidelines must re-order its discussion of the different types of evidence and their probative value in accordance with the rules of evidence in national courts.
- The Guidelines give no guidance on how the courts should deal with conflicting expert or lack of evidence when it estimates pass-on. There should be practical suggestions in the Guidelines.
- The Guidelines would benefit from a review by a litigation lawyer with practical experience of competition damages litigation to test the statements and approaches against the legal principles of evidence, causation and quantum.

III. DETAILED COMMENTS

This section contains detailed comments on the quantification sections of the Guidelines.

Counterfactuals - (62)-(64)

The Guidelines (62) say that a 'counterfactual scenario' should be used and refer to European case law in footnote 50.

This is overstated.

The use of counterfactuals is not necessary in law and economics where:

- The defendant or claimant can offer direct documentary and pricing data that show that the purchasers' prices increased in response to an overcharge.
- The before-and-after comparator method (discussed at (104)-(106)) does not require an explicit counterfactual. It simply establishes a quantitative relationship between the cartel period and increased prices.
- The legal 'but for' description of 'full compensation' is a definitional statement that does not imply a counterfactual as such.

The Guideline's (39) state: 'In practice, national courts will have to rely on assumptions.' There is no disagreement that quantification will need assumptions and speculations, but how much? The Guidelines should clarify this or restrict the statement to the formulation of a counterfactual, which in law must nonetheless be 'realistic'. Assumptions cannot override legal principles of causation and proof.

Selection of Approach - (65)-(69)

- The Guidelines (68) state that 'there is no technique that could be singled out as the one that would in all cases be more appropriate than another'. It later advises that the 'ideal' approach is the 'difference-in-differences' method (97)-(106). These two statements should be reconciled.
- The Guidelines should explain its preference for difference-in-differences comparator methods, why other approaches (as listed in the Practical Guide) have been omitted, and the feasibility of the difference-in-differences approach in follow-on damage litigation involving pan-European cartels. It should also set out criteria for the evaluation of the different methods.

The Guidelines Conception of Evidence - (70)-(74)

- The Guidelines suggest that all approaches have equal evidential value including direct evidence of pass-on. I do not believe that this is how courts look at evidence. In my opinion:
 - 1) There is a hierarchy of evidence – ranging from direct documentary and factual evidence which has the highest probative value; to indirect evidence which covers the quantitative methods discussed in the Guidelines (see further below).
 - 2) Indirect evidence must be supported and consistent with the direct evidence. The Guidelines note in passing that direct evidence (as defined here) can usually be enough to establish and quantify pass-on. More emphasis should be given to this.

- 3) If indirect evidence does not fit with the direct factual and documentary evidence, then it is relatively useless to the court.
- 4) Where indirect evidence is used it will be tested by the court and the experts. The Guidelines should arm the judge with guidance on how to deal with the pros and cons of each approach and to evaluate potential criticisms and the features of the various techniques. The present draft does not.

The authors of the Guidelines should consider the judgment of the UK Competition Appeal Tribunal (CAT) in *Sainsbury's v MasterCard* which adopts a strict causation approach requiring a direct demonstrable link between the increase in costs and specific price increases (this was said in the context of a claimant who sold over 2,500 products daily).⁷

4.2 Data and Information needed when quantifying the passing-on effect. (75)-(90)

- What does 'equality of arms' (75) mean?
- I agree with the Guidelines (77) that price responses to previous similar or general cost increases provide good evidence of a firm's likely price reaction to an overcharge. This needs to be developed and guidance given on when this is a reasonable basis for determining pass-on. This may not be regarded as good evidence by some courts (again see *Sainsbury's v MasterCard*).
- Under the Damages Directive Article 17(3) the court may request assistance from a Competition Authority (CA) to evaluate more technical approaches and expert evidence. In section V below, I list some concerns about the use of CAs in damages litigation. Notwithstanding these, the Guidelines offer no guidance or flag any issues with the use of the CAs to evaluate pass-on and damage estimates.

4.3 Quantification and estimation of passing-on related price effects - (91) et seq

General comments

The Guidelines:

- Do not mention direct evidence of pass-on such as cost-plus and mark-up pricing.
- Largely ignore elasticity and simulation approaches, and shorthand proxy approaches which are parsimonious with data.⁸
- Ignore time series approaches.⁹

⁷ For a critical assessment of the judgment see Veljanovski *op cit*.

⁸ See Frank Verboven and Theon van Dijk, "Cartel Damage Claims and the Passing-on Defence" *Journal of Industrial Economics*, Vol. 57, 2009, pp. 457-491.

⁹ S Peltzman, "Prices Rise Faster than They Fall", *Journal of Political Economy*, Vol. 108, 2000, pp. 466-502.

- Do not give concrete examples of the various approaches as applied to pass-on.
- Do not explain (indeed hardly mention) that all comparator methods (expressly when implemented using multiple regression techniques) invariably use a dummy variable to account for the cartel. The use of dummy variables should be discussed, explained and their implications for estimating overcharges and pass-on price and volume effects (see further below).
- Do not consider more complex factual (but prevalent) cases such as where cartel members and purchasers differ leading to different overcharges and pass-on rates respectively.

Any revision to the Guidelines should take account of these omissions and where appropriate address them.

Taxonomy

- The Guidelines classify the quantification methods into ‘direct’ (those that use actual price data) (92) and ‘indirect’ (those using evidence on how the firm or firms have generally passed on costs to higher prices in the past) approaches. It then equates the direct approach with ‘comparator methods’.

I have the following comments on this classification:

- The classification differs from that in the Practical Guide. The Practical Guide does not use the direct/indirect distinction but classifies the methods into comparator, simulation, cost-based, and finance-based methods. This lack of consistency creates unnecessary confusion between the two (which the Guidelines say should be read together).
- The Guidelines do not list the elasticity, simulation and cost-based approaches as methods to estimate the pass-on price effects (yet cite cases where these approaches have been used in Boxes 6 & 7). These omissions should be rectified or explained.
- The Guidelines confuse the ‘direct approach’ with direct evidence.¹⁰ The methods listed in the ‘direct approach’ category is not direct evidence of pass-on. They are at best indirect and circumstantial evidence. To further elaborate. Direct evidence is evidence that the claimant passed on or was highly likely to have passed-on the increased costs in higher prices. That is there is a demonstrated causative link between the overcharge and a price increase (see again the CAT decision in *Sainsbury’s v MasterCard*).

¹⁰ The Practical Guide (14) loosely defines direct evidence ‘as documents produced by the infringing undertaking regarding agreed price increases and their implementation or assessing the development of the market position’.

Difference-in-differences approaches (97)-(106)

The Guidelines (97) state: ‘The method that should be used ideally is the one that combines ... the time dimension *and* the product dimension. This comparator method is referred to as “difference-indifferences”’.

It further ranks the comparator approaches in descending order of attractiveness based on the type of data used – from ‘ideal’ using data with time and product dimensions, to time and market/geographical dimensions (102)-(103); and lastly the ‘before-and-after’ analysis using the time only dimension (104)-(106).

The Guidelines do not provide a justification for its preference for the comparator method or the ranking and feasibility of applying this method.

The ‘ideal’ difference-in-differences approach has some obvious implementation problems (some of which are discussed):

- It doubles up on the required data – data is needed for two not one markets.
- The difficulty of finding a perfect comparator.
- The complications associated when adjusting comparators for differences.

The Guidelines discussion around the ‘ideal’ approach require attention. Specifically:

- The statement (97) that the difference-in-differences method is defined using time and product dimensions is incorrect as the Guidelines later show.
- There is no guidance on how this approach can and has been implemented. The examples (97)-(100) and Figure 1 are simply descriptions of the approach. There is no reference to its use drawn from cartel investigations, academic research and/or damages litigation.
- The Guidelines (101) state: ‘A significant strength of this method is therefore that it can filter out changes unrelated to passing-on related price effect that occurred during the same period as passing-on’. This is said in the absence of identifying the technique which will be used. It assumes that the prices in the two ‘markets’ are otherwise perfectly correlated but for the pass-on price effect.
- The Guidelines give the impression that data sets which include time, product, regional and other dimensions are exclusively used for the difference-in-differences method. However, such data sets can be used for panel regression analysis¹¹ which has several appealing features including dealing with all the stated dimensions together, controlling for product heterogeneity and so on. Where possible difference-in-differences and panel regressions should be used in conjunction to confirm the robustness of the pass-on estimates. There is no either-or-choice between the different quantitative techniques. The Guidelines should discuss the use of panel data techniques.

¹¹ Jeffrey M Wooldridge, *Introduction to Econometrics*, CENGAGE Learning, 2014, Chaps 13 -14.

- The Guidelines fail to mention that all methods either implicitly or expressly use a dummy variable to represent the cartel (over time, and for products and regions).
- It is not correct that one needs first to estimate the overcharge and then see if it has been passed-on as stated at (71)-(72). One can regress direct purchasers' prices on demand and supply variables and a cartel dummy variable to see if there is a statistically significant elevation in the direct purchasers' prices.
- The Guidelines gloss over other practical issues that have become important in litigation. It should identify these and offer guidance on:
 - How to evaluate the various comparator and other methods – pros and cons; typical areas of dispute/difference/complications.
 - How to interpret the results generated by the different methods. For example, regression estimates of pass-on give an average estimate over the infringement period, products and/or classes of purchasers. Where there is product heterogeneity or different consumer groups which cannot be adjusted for, these estimates may be challenged. The Guidelines should advise the judge on how to interpret statistical evidence including what the regression coefficient means, its statistical significance and confidence limits, and a host of other diagnostic statistical tests.
 - The Guidelines might suggest the use of pre-trial 'teach-ins' for the judge where the parties have filed technical expert evidence.

Before-and-after Approach - (104)-(106)

The Guidelines (104)-(106) briefly discuss the 'before-and-after' comparator method. I have several comments:

- This is the most commonly used method to estimate overcharges.
- All approaches are variants of this approach. All methods (including difference-in-differences) use a time dependent dummy to capture the pass-on and volume effects during the cartel period.
- The approach does not use time dimension data exclusively but can use panel data sets (as stated above and just like the difference-in-differences method).
- The statement that determining the cartel period is a peculiar problem with the 'before-and-after' approach is incorrect. It affects all approaches attempting to quantify overcharges and pass-on effects. The Guidelines should comment on approaches or refer to approaches that can assist in dating the cartel period if there is a reason to believe that it differs from the CA's infringement period.
- Box 5 is a silly example that does not relate to the surrounding text.

4.3.1.2 Implementing Direct Approaches in practice - (107)-(114)

- Qualitative evidence (112)-(114) is not just of ‘particular relevance’ (112) but key evidence before the court and often determinative.
- The Guidelines speak generally about multiple regression analysis. This lacks specificity. The use and interpretation of regression analysis is more complex than suggested in the Guidelines. It ignores critical questions of equation specification, data, statistical techniques and reliability/robustness. These should be addressed (or cross referenced to the Practical Guide). For example, the comparator methods may use industry rather than the direct purchaser’s prices, or the prices used are average prices during a period for a group of products; and the regression coefficient indicating pass-on will also be average price effect over the cartel period and across firms, region, class of claimants and/or products. The Guidelines do not discuss how estimates of average effects should be interpreted when, for example, it can be shown that in a specific year or for a particular product the pass-on effect could not have been at that level.
- Guidelines (113) - (114) are in the wrong place.
- Box 6 and Box 7 have nothing to do with the empirical implementation of the comparator methods used to determine pass-on price effects (as opposed to the pass-on volume effect). Move these to text around (129).
- Determining the correct cartel period is critical. Again, the Guidelines (119)-(120) give no practical advice on how to determine the actual cartel period where it is likely to differ from the infringement period.

4.3.2 Indirect Approach (124-135)

- There is no reference to the simulation, cost-based and the elasticity approaches. This must be explained.

4.4 Quantification and Estimation of volume effects (136)-(153)

- The Guidelines (142) propose that avoided costs be used when calculating margins. There is no explanation or justification why this is the correct cost in a compensatory legal action (as opposed to determining an infringement). The relevant cost concept is the costs that would have been incurred by the purchaser passing on the overcharge.
- There is no explanation why determining the volume effects is confined to the elasticity method (147) - and why the pass-on price effect cannot be estimated using the elasticity method (as Box 6 shows).

IV. COMMENTS ON EXAMPLES.

The examples in boxed text do not add much. Specifically:

- **Example 3** – relies on a simplified monopoly model – how significant are purchaser monopolies?
- **Box 5** – This adds nothing, and the approach is not discussed in the text.
- **Box 6** – This reiterates Example 3, but the issue is whether this is an empirically useful example, and oddly the elasticity approach is not listed as a method to quantify the pass-on price effects in the Guidelines. List it or move Box.
- **Box 7** – Cites and seems to endorse *DOUX Aliments* for the proposition that a small cost increase will not be passed-on. But what about *Juva v Hoffman La Roche* (vitamins cartel follow-on action)¹² which came to the opposite conclusion? This raises the wider issue of whether the Guidelines should single out one case to establish an economic point. The relevance of the case citation should be made clear and a balanced view given. Also the box is in the wrong section.

IV. OTHER ISSUES

Super Pass-on (168)-(170)

The Guidelines provide theoretical reasons why the pass-on amount may exceed the initial overcharge. I will call this ‘super pass-on’.

There is considerable empirical evidence of super pass-on rates from cost and tax pass-through studies.

The possibility of super pass-on could result from mark-up pricing¹³, the shape (curvature) of the demand curve or other factors.

The Guidelines do not discuss how the courts should deal with evidence of super pass-on especially as the courts will presume that the maximum pass-on is the initial overcharge amount paid by direct purchasers.

If the pass-on rate is some multiple of the overcharge, this implies that the claimant has gained not lost from the cartel’s actions.¹⁴ How are the courts to deal with a claimant who has gained from an overcharge? What remedial actions should be suggested? No compensation? The claimant pays the defendant ‘reverse damages’? Less provocatively:

¹² Commercial Court of Paris, Case No. 2003048044 - *Juva v. Group Hoffmann la Roche*, judgment of 26 January 2007.

¹³ To avoid any misunderstanding, it is not being claimed that mark-up pricing per se involves super-pass-on although it is certainly evidence of pass-on. The ability to maintain mark-ups will be affected by the same demand conditions that affect pass-on generally.

¹⁴ At least for the pass-on price effect component.

1. Should the defendant have the benefit of (or compensate for) any margin on the overcharge imposed by the direct purchaser?
2. Should the direct purchaser be liable to the indirect purchaser for the margin above the overcharge amount?
3. Should the indirect purchaser be able to claim the margin imposed by the direct purchaser from the defendant?
4. If the answer is yes to any of these how is this to be accommodated in law?

Estimation by the Courts

The Damages Directive says that the courts may estimate damages. This must be based on the evidence put before the court, and not theoretical claims and approaches.

The Guidelines should give guidance on how the court is to undertake estimates of pass-on and volume effects.

In a number of English competition cases the court has made its own assessment of damages based on data and evidence put before them by the parties e.g. *2 Travel*¹⁵, *Sainsbury's v MasterCard, Albion*¹⁶. These have used cost, accounting and regulatory pricing data/approaches and not the techniques listed in the Guidelines.

The Guidelines (footnote 40) have picked up on judicial *obiter* that damages in English law should be quantified by the exercise of 'sound imagination' and a 'broad axe'. The Guidelines take this from a collective certification proceeding decision.¹⁷ But this *obiter* may have been misapplied to cartel cases (at least for now). My understanding is that statement was made in the context of the estimation of (speculative) future not past losses.¹⁸ The Commission should seek legal advice on the correctness of footnote (40).

Assistance from Competition Authorities

The Damages Directive proposes that a court could ask the competition authority (CA) to in effect adjudicate on the conflicting estimates and methods put forward by opposing experts at trial.

The Guidelines repeat this without critical comment. But there are serious concerns about the use of CAs in this capacity:

¹⁵ *2 Travel Group PLC (in liquidation) v. Cardiff City Transport Services Limited*, Case Number: 1178/5/7/11, 5 July 2012.

¹⁶ *Albion v. Welsh Water* (2013) [2013] CAT 6.

¹⁷ *Dorothy Gibson v. Pride Mobility Products Limited* ([2017] CAT 9).

¹⁸ Expression is from the judgment in *Watson, Laidlaw & Co. Ltd. v. Pott, Cassels, and Williamson* (1914) 31 R.P.C. 104.

- The CAs have no competence or jurisdiction over damages and pass-on.
- Most damage actions are follow-on actions based on a CA infringement decision. These are with the odd exception an infringement by object decision under Article 101 TFEU. The CA has therefore not undertaken any effects analysis, and no quantification of overcharges and pass-on. To then ask the same CA to opine on losses and pass-on in a damages action based on its infringement decision is asking it to examine whether the infringement was by effect. This would complicate the CA's enforcement and internal processes.
- At best it would lead to confirmation bias. The CA would be tempted to show high losses to vindicate its infringement decision, and its advice could be rightly challenged.
- This confirmation bias may be exacerbated by the increasing requirement that CAs undertake retrospective studies to establish that their enforcement activities give value for money. Thus budgetary factors could colour the CA's advice and encourage it to side with the claimant.

Volume Effect, Evidence and Burden of Proof

The Guidelines cite Article 12(3) that passing-on shall not be with prejudice to the injured party's right to obtain compensation for lost profits. The Guidelines (19) say that the claimant has the burden of proof for a volume/lost profits damages. This needs to be explored in greater detail.

The Guidelines are at pains to point out that there is no pass-on without a volume effect. If this is true then when pass-on is used as defence, the defendant should have the burden of proof to establish a volume effect as evidence of pass-on. The Pass-on Study notes that German Federal Court in *German Carbonless Paper* (2011) and the Spanish Supreme Court in *Spanish Sugar II* (2013) found that pass-on had not been proved because there was no evidence of a lost volume effect. |

END

About the author

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Cento is founder and Managing Partner of Case Associates & Fellow in Law and Economics at the Institute of Economic Affairs.



Since 2006 the *Global Competition Review* survey has voted Cento one of the most ‘highly regarded’ competition economists. He has over 40 years’ experience assisting lawyers and companies in responding to investigations by the European Commission, national competition and regulatory authorities, and as an expert in courts in Europe and the AsiaPacific region. Cento was also adviser to the Microsoft Monitoring Trustee on the pricing of protocols under commitments set out in the EC Microsoft 2004 decision.

He regularly acts as an expert witness in competition law, commercial and damages litigation. He has been an expert witness courts in the UK, Ireland, the Netherlands, Belgium, Finland, Lithuania, Australia, New Zealand and Hong Kong.

Cento has appeared as an expert in several high-profile antitrust actions such as *Crehan, Hendry*, against members of the ‘international vitamins’ cartel’ (*Deans/BCL, Devenish, Moy Park, Grampian/Vion*), damage actions in the LCD, foam, cardboard boxes, telecoms and air freight sectors; and the first UK collective/class action (*Merricks v MasterCard*). He has undertaken assignments in the transport, automotive, energy, water, postal, property, credit/store cards, banking, finance, commodities, insurance, medical, paint, sport, Internet, tax, packaging, electronics, mobile, and movies sectors/industries.

Cento has provided economic assistance in a number of the world’s largest mergers including Carnival/P&O Princess Cruises, MCI/WorldCom, Vodafone/Mannesmann, Seagrams/Polygram, AOL/Time Warner, Telia/Telenor, and Telia/Sonera.

Cento has degrees in economics and law (BEcon (Hons), MEcon, DPhil) and is an associate member of the Chartered Institute of Arbitrators (ACI Arb). After a short period at the Australian Federal Department of the Treasury, Cento was a Commonwealth Scholar and then research fellow at the Centre for Socio-Legal Studies, Oxford University. He has held academic positions at the Universities in the UK, US, Canada and Australia; and was the Research Director of the Institute of Economic Affairs (IEA), an influential economics think tank. He has published extensively on the economics of competition, regulation and law, and is on the editorial boards of the *UK Competition Law Reports*.

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