

## Economic analysis in class certification

Peter Davis, Vivek Mani and Darwin Neher  
Cornerstone Research

[global.practicallaw.com/w-006-9544](http://global.practicallaw.com/w-006-9544)

### LEGAL FRAMEWORK

In the US, litigation often follows allegations of a violation of competition law such as an alleged price-fixing conspiracy. Such litigation can proceed on an individualised basis or alternatively on a collective basis, with a class of claimants pursuing a "class" or "collective" action. Whichever approach is taken, the three key elements that must be established by claimant(s) are as follows:

- **Fact of conspiracy.** Whether there was an anti-competitive conspiracy to fix prices.
- **Fact of injury.** Whether the claimant(s) suffered anti-trust injury or impact as a result of unlawful activity by the defendant(s) (assuming the conduct allegations are true). In price-fixing cases, the impact is generally an overcharge resulting from price inflation.
- **Quantum of damages.** The amount of damages (overcharge) suffered by the claimants as a result of the conduct by the defendant(s).

Fundamental to a proposed class being certified in the US is that class members face substantially common issues. In particular, the impact (and damages) from the alleged anti-competitive conduct must be established using common, generalised evidence and a common methodology.

#### Claimants in a class must face substantially common issues

Under federal law in the US, class certification is governed by Rule 23 of the Federal Rules of Civil Procedure. Rule 23 sets out a number of conditions, but economic analysis in these cases has primarily focused on the question of whether the establishment of anti-trust impact and, more recently, damages on proposed class members is predominantly a common question rather than an individualised question. The predominance requirement is "that the common issues be both numerically and qualitatively substantial in relation to the issues peculiar to individual class members" (*In re Mercedes-Benz Antitrust Litigation, Opinion, 226 Supp. 2d 552 (DNJ 2003)*).

In the UK, the case law regarding class certification is less well developed and has not yet been subjected to detailed consideration in the courts. However, section 47B(6) of the UK Competition Act 1998 (as amended) states that claims are eligible for inclusion in collective proceedings only if the Competition Appeals Tribunal (CAT) "considers that they raise the same, similar, or related issues of fact or law and are suitable to be brought in collective proceedings". The CAT's Rules at 79(1)(b) indicate that it can only certify claims as eligible for inclusion in collective proceedings if the claims raise "common issues", which appears potentially less stringent than the US requirement that claims raise substantial common issues. In addition, unlike in the US, there is no predominance requirement in the UK (*Guide to Proceedings, CAT, 2015, paragraph 6.37*), suggesting a greater role for individual issues in the UK than in the US. However, the CAT's Guide to Proceedings does say that the common issues must be "significant" (*paragraph 6.37*).

#### Scope of a proposed class

One important way in which the requirement for claimants to face common issues can affect class actions is by defining the scope of

the class. In the US, claimants must establish that the scope of the class is well defined, not overly inclusive and "that all (or nearly all) members of the class suffered damage as a result of defendants' alleged anti-competitive conduct" (*In re Optical Disk Drive Antitrust Litigation, Order Denying Motions for Class Certification (ND Cal 2014)*). Similarly, the US courts have said that the "class should not be certified if it is apparent that it contains a great many persons who have suffered no injury at the hands of the defendant" (*In re Kohen v Pacific Investment Management Company LLC and PIMCO Funds, 571 F.3d 672 (7th Cir 2009)*).

In the UK, for a collective action to go forward, the CAT must issue a Collective Proceedings Order (CPO) which must include a "description of a class of persons whose claims are eligible for inclusion in the proceedings" (*47B(7)(b), UK Competition Act 1998*). There is no direct requirement that for all (or nearly all) members of the class to have suffered damage. However, there are various mechanisms to amend the class, if appropriate, and amendments to the class definition have been featured in CPO applications (for example, *Dorothy Gibson v Pride Mobility Products Limited: CE/9578-12*). To the extent that, in practice, the CAT applies a relatively wider scope than is ordinarily used in the US in deciding whether a collective action can proceed, damages awards may be lower for one or more subclasses of claimants.

#### Direct purchaser and indirect purchaser classes

In a class action alleging price-fixing, there is a demarcation between a proposed class composed of direct purchasers and one composed of indirect purchasers. Direct purchasers are claimants who purchased directly from a defendant, while claimants who purchased further along the distribution chain, and therefore only indirectly from a defendant, are indirect purchasers. Damages recovery in federal US anti-trust suits is limited to direct purchasers (*In re Illinois Brick Co v Illinois, 431 US 720 (1977)*). However, indirect purchasers can recover damages under US state anti-trust laws.

Direct and indirect purchasers typically do not have aligned interests. *In re Emerald Supplies Ltd & Anor v British Airways PLC, EWHC 741 (Ch) (High Court of England and Wales, 2009)* the judge noted the "inevitable conflict" between the claims of direct and indirect purchasers in the same class. The impact (and damages) for indirect purchasers depend on there being an overcharge to direct purchasers and on this direct overcharge being passed through, in whole or in part, along the entire distribution chain to the indirect purchaser. The role of pass-through in determining damages for both direct and indirect purchasers is considered explicitly by Directive 2014/104/EU on actions for damages under national law for infringements of competition law provisions of the member states (Anti-trust Damages Directive).

#### Role of generalised evidence and a common methodology

In the US, the predominance standard is met when there is "generalized evidence which proves or disproves an element on a simultaneous, class-wide basis, since such proof obviates the need to examine each class member's individual position" (*In re Potash Antitrust Litigation, Memorandum Opinion and Order, 159 FRD 682 (D Minn. 1995), emphasis added*). The courts have described a requirement for anti-trust impact that "the element of antitrust impact is capable of proof at trial through evidence that is common



to the class rather than individual to its members" (*In re Hydrogen Peroxide Antitrust Litigation, Opinion of the Court, 552 F.3d 305 (3rd Cir 2008)*). This is often referred to as the common impact requirement. To establish the impact or the fact of injury, the extent of the injury does not have to be shown to be common. Rather, it must be shown that there was some injury to all (or nearly all) of the members of the class.

The statements above are positive so that, although predominantly generalised evidence allows class certification, they do not necessarily rule out the mixed use of generalised and individual-specific evidence in a class action. An older case-law decision in the US describes the probative value of common evidence in establishing the impact on individual members of a class (*Bogosian v Gulf Oil Corp, 561 F.2d 434, 455 (3rd Cir 1977)*).

To establish common impact, claimants generally submit expert testimony from an economist. In practice in the US, the claimants' economics expert typically proposes a common methodology and argues that it demonstrates the impact on all (or nearly all) of the members of the proposed class. Often this methodology involves statistical analyses, for example, price correlations or a price regression, that seek to demonstrate that the alleged anti-competitive conduct caused injury to all (or nearly all) members of the class.

In contrast, the defendants' economics expert often believes that the common methodology proposed by the claimants' economist is unsatisfactory and that:

- The fact of impact can be determined only through individualised inquiry.
- There are class members that were not affected, rebutting the submission that all (or nearly all) members of the class suffered injury.
- An individualised inquiry is required to determine which class members were not injured. Therefore, redefining the class to include only those that were injured requires individualised inquiry, which prevents the resurrection of those claims in the future on a collective basis.

Failure to establish common impact is a frequent reason given by US courts in denials of class certification.

### **Trend towards rigorous analysis**

Early class certification decisions in the US were based on a threshold standard that asked whether the allegedly anti-competitive conduct "would have generally impacted the competitive process". This is often called the Bogosian shortcut (*In re Bogosian v Gulf Oil Corp*). The presumption is that in the absence of the conduct, competition would have been greater and proposed class members would have paid lower prices, and that therefore there was common impact.

In the US, recent case decisions have led to an increase in the rigour applied by economists in addressing class certification. Johnson and Leonard write that a "series of influential decisions have rejected a longstanding presumption of injury in antitrust price-fixing cases and courts now regularly conduct a 'rigorous' analysis of evidence at the class certification stage" (*Johnson and Leonard, "Rigorous Analysis of Class Certification Comes of Age", Antitrust Law Journal 77, no 2 (2011): 569–586*). This increase in rigour has been the subject of a great deal of commentary and analysis by various attorneys and economists.

More rigorous economic analyses, including complex economic and econometric modelling, seek to determine rather than presume the anti-trust impact by analysing how transaction prices for individual class-member purchasers are determined and then establishing how that price-setting process would have been affected by the alleged conduct.

Many arguments relevant to the assessment of whether an impact occurred also are relevant in quantifying damages. At the class

certification stage in both direct purchaser cases and indirect purchaser cases, rigour is applied to the analysis of proposed damages. For example, in the US Supreme Court case *In re Comcast Corp v Behrend, 133 S Ct 1426, 1433 (2013)*, the class was not certified due to problems with the damages model proposed by claimants.

### **ECONOMIC EVIDENCE**

At the class certification stage, economics experts consider the effect of the alleged conduct on the competitive process and the resulting market outcomes. For each proposed class member, the difference between the actual observed outcome (the price paid, assuming that the conduct at issue occurred) and the counterfactual outcome (the "but-for" price, assuming that the conduct did not occur) is the overcharge.

#### **Simple market outcomes versus complex market outcomes**

The most straightforward case for claimants is one in which the "law of one price" applies. This "law" assumes that a single commodity (homogeneous) product sold through a single sales channel was affected by the price-fixing conduct for a defined period.

The basis of the counterfactual analysis performed by a claimants' economist will vary depending on the case and, in particular, the information available. In the most straightforward case, the methodology utilised in establishing the predicted but-for price series is common to all class members, because they are similarly situated, that is, they purchase the same product at the same terms.

However, in reality, even in commodity markets, there is often considerable variation in observed prices, due to variation in the attributes of physical goods. Variations in price also occur due, for example, to variation in terms and conditions associated with freight and variation in sales channels, including how sales are conducted (for example, whether sales are governed by standardised terms or are negotiated individually).

In addition, price-fixing matters frequently involve differentiated or heterogeneous products. An allegation of price-fixing by, for example, digital camera manufacturers could include a range of cameras affected by the alleged conduct from inexpensive point-and-shoot to professional-level models. Product differentiation would lead to considerable variation in the observed prices paid by the proposed class members. A defendants' economics expert would be likely to emphasise this variation and diversity in the actual unit prices paid by the proposed class members. The expert may present illustrations that show significant price variation with no readily discernible cartel period.

In practice, claimants' economics experts typically argue that observed price variation can be effectively addressed by using a common, albeit a more sophisticated, methodology. In contrast, defendants' economics experts typically argue that the price variation, product heterogeneity, and differential situation of class members necessitates that the impact on a class member, or quantum of damages, be established through individualised inquiry. If so, the individualised economic determinants of a class member's transaction would predominate over the economic determinants common to all members of the class.

#### **Price structure**

One approach often pursued by a claimants' economics expert is the argument that prices, though diverse, are part of a price structure in which all prices move together. In this argument, if one price is shown to have been affected by the alleged conduct, all prices must have been affected.

The presence of a price structure means that common factors drive the prices charged to all claimants, which must be proved through empirical analysis. Indeed, courts in the US have certified classes based, in part, on the empirical finding of a price structure. For example, recently in *In re High-Tech Employee Antitrust Litigation (Order Granting Claimants' Supplemental Motion for Class*

*Certification (ND Cal 2013)*), the claimants alleged that seven high-tech companies conspired to restrict employee mobility and suppress employee wages. The court accepted the empirical analyses of the claimants' economics expert, which showed "a wage structure in place under which an impact on some employees would have resulted in an impact to all or nearly all employees".

Conversely, a finding of no price structure has led to the denial of class certification. In *In re Plastics Additives Antitrust Litigation, Memorandum Opinion (ED Pa 2010)*, the court noted that "customers individually negotiated prices" and that "the evidence shows that prices did not behave similarly for all products and customers, and the pricing structure analysis set forth by [Claimants' expert] therefore cannot serve as proof of impact common to the class".

**Empirical analysis of price structures.** An initial way in which economists have considered whether a price structure exists is to simply look at whether the relevant price series move together over time. A claimants' economics expert may produce illustrations in an attempt to show that the price series move together.

Defendants' economics experts typically counter with evidence of the extent of variation in movement across products, customers, and transactions, and illustrate the degree of diversity (suggesting the absence of a price structure) that can be found by examining differences in the underlying prices paid by customers.

A second aspect of the debate among economists relates to the use of averaging. Claimants' economics experts may construct price series by, for example, averaging the prices of transactions to various class members and then using those average price series in determining that a price structure existed. For example, in *In re High-Tech Employee Antitrust Litigation*, the court accepted the use of averages by the claimants' economics expert to demonstrate the existence of a price structure. Sometimes such averaging can mask diversity among class members. Defendants typically point out granular examples that can be masked by the use of averages.

A common statistical tool used in establishing the existence of a price structure, beyond simple visual inspection of price series, is price correlation analysis. A correlation coefficient is a statistical measure of the linear relationship between two variables, such as two price series over time. The argument is that a high correlation between two price series indicates that they are part of the same price structure. The use of price correlation analysis in the context of anti-trust class certification is considered extensively by Burtis and Neher who argue that such inferences must be made carefully. In particular, they draw the following conclusions (*Burtis and Neher, "Correlation and Regression Analysis in Antitrust Class Certification"*, *Antitrust Law Journal* 77, no 2 (2011)):

- There is no standard for what is considered a high correlation.
- A correlation between two price series may exist due to an underlying common factor, such as inflation. Such an observed correlation is uninformative about the existence of a price structure, which relies on the premise that there is an economic linkage among prices so that affecting one price directly through the alleged conduct will affect the other price(s).
- Even if only one of two price series is known to have been affected by the alleged conduct, the two series can still be highly correlated with each other, due to other factors affecting both series. Therefore, making an inference about price structure based solely on an observed high correlation could be in error.
- Price correlations are often estimated based on price series that are constructed from averaged data, which may not well represent the underlying granular data. High correlations between average-price series may be estimated even if, in truth, the underlying granular price series are not correlated. Conversely, low correlations between average-price series may

be estimated even if, in truth, the underlying granular price series are correlated.

Recently, claimants' economics experts have used other statistical and econometric tools in seeking to establish the existence of a price structure. For example, co-integration analyses may be used to test whether two price series move together, and the Granger causality test (a standard statistical tool for determining whether one series is useful in forecasting another) may be used to test if one price series can be used to forecast another price series. These statistical tools can be useful, but they often require richer datasets and are not immune to criticism from defendants' economics experts. They can also be subject to concerns similar to those discussed regarding correlation analyses.

**Analysis of pricing practices and price structures.** Economists addressing the question of whether a price structure exists will also analyse how market participants determine prices in the relevant markets.

For example, if the defendants always used a price list and the alleged conduct affected the price list, and therefore all prices paid by the proposed class members, the claimants' economics expert may argue that the defendants' use of a price list established a price structure. Such an argument could even apply if the observed transaction prices were heterogeneous, with customers receiving differential discounts to the prices in the price list, if the discounts would have been the same in the counterfactual scenario, and would have been deducted from a uniformly lower price list.

Conversely, if pricing and sales by defendants were based solely on individual negotiation of terms between a defendant and a proposed class member, the defendants' economics expert would argue that there could not have been a common price structure, because the effect of the alleged conduct, if any, would have to take into account individual negotiations and therefore be individualised. As stated in *In re Graphics Processing Units Antitrust Litigation*, 253 FRD 478, 483–84 (ND Cal 2008), 17:15–16: "Factors favoring certification have been price lists and commodity products as opposed to individually negotiated deals and customized products".

Generally, pricing practices in real-world markets vary and do not fit into either of these simple scenarios. Pricing can be made more complex through the use of various contract structures, rebates, bundling, bidding, and so on. Even so, economic evidence can help to establish whether the pricing practices used by the defendants support the existence of a price structure.

### Price modelling

The econometric modelling of prices is another empirical approach increasingly used in support of class certification. A class-wide impact from anti-competitive conduct will be established if an econometric model shows that all of the relevant prices were determined in a systematic way by predominantly common economic forces. This argument is a variation of the price structure argument discussed above.

Even if class members purchased heterogeneous products in diverse ways and paid different prices for them, if enough of that diversity can be controlled for and explained, a common impact can be established based on a common model consisting of common factors. If there is a clear price structure, when the factors causing price dispersion have been controlled for, the marketplace can be understood to have a more complex variation of the basic overcharge structure.

Such an econometric model also can incorporate a factor representing the presence of the alleged cartel. Therefore, if properly specified, the model can directly determine the existence and nature of any common impact and also can be used to quantify damages. The argument is that such an econometric model establishes a common methodology by showing both the existence of an impact on the members of the class and their quantum of damages.



Economists typically perform such analyses to explore the sources and extent of price variation, controlling for other relevant factors through the use of a set of econometric techniques known as regression analysis.

Generally, the defendants' economics expert conducts a systematic evaluation of the extent to which the claimants' expert's proposed regression model of price variation is robust and attempt to show that it is flawed and unsatisfactory for the purposes of certifying the class. Such evaluations typically include some or all of the following:

- An evaluation of whether the claimants' economics expert's regression model assumes (rather than proves) that the impact of the cartel was common across all proposed class members. For example, if a regression analysis assumes a single common (average) effect of the conduct on price levels, the defendants' economics expert may seek to show that the model does not properly account for variation across customer groups. Such a determination can be made by testing the statistical validity of the average effect for all class members. That is, a statistical test of the assumption that there was a common impact across different identifiable groups of individual class members.
- An assessment of the extent to which the claimants' economics expert's regression model accounts for other, non-conduct-related drivers of prices and price differences. For example, if a model omits important sources of price variation, it suffers from the missing-variable problem, which may lead to biased estimates of the impact and damages caused by the alleged conduct.
- An evaluation and interpretation of the statistical properties, including the specification of the claimants' economics expert's regression model.
- A comparison of the estimates from the claimants' economics expert's regression model to actual data. For example, prices predicted by the regression model should not be systematically inconsistent with actual observed prices. Problems of fit can help to reveal whether the regression model effectively controls for non-conduct-related factors that lead to price dispersion.
- An analysis of the claimants' economics expert's regression model for false positives, that is, findings that individuals suffered damage when they did not. In *In re Rail Freight Fuel Surcharge Antitrust Litigation, Appeal from the US District Court for the District of Columbia, 725 F.3d 244 (DC Cir 2013)*, the appeals court vacated a district court decision to certify the class, in part due to the claimants' "damages model's propensity toward false positives".
- An evaluation of the claimants' economics expert's regression model to ensure that the results are consistent with the economic impact of the alleged anti-competitive conduct or, more generally, the claimants' theory of liability. In *In re Comcast Corp v Behrend*, the US Supreme Court noted that "at the class-certification stage (as at trial), any model supporting a 'claimant's damages case must be consistent with its liability case, particularly with respect to the alleged anti-competitive effect of the violation'".

Therefore, a claimants' economics expert would be wise to ensure that his regression model is properly specified, and to perform suitable statistical tests to determine whether the common effect can be sustained and is sufficiently robust in light of the evaluations that the defendants' economics expert will likely perform.

The US courts have weighed complex statistical evidence in class actions. For example, in *In re Graphics Processing Units Antitrust Litigation*, the court decided that the claimants failed to meet their burden because "proffered econometric models are grossly lacking and do not suffice". Conversely, in *In re High-Tech Employee Antitrust Litigation*, the court decided that the "Claimants'

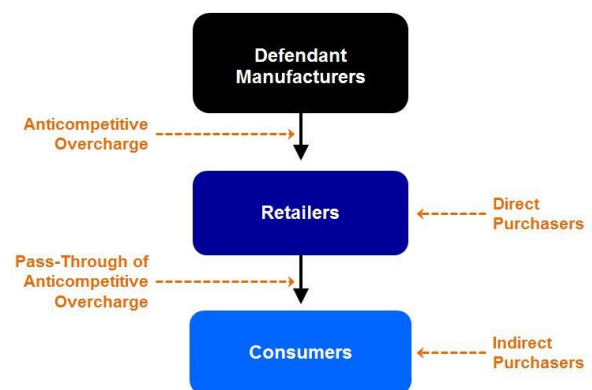
documentary evidence, along with the expert reports and statistical [including regression] analyses that rely on this evidence, establish that common issues between class members will predominate over individual issues in proving antitrust impact".

In the UK, the CAT Guide to Proceedings requires that the common issues must be significant so that their resolution will significantly advance the claims of the members of the class. Therefore, the UK test appears likely to require that any (econometric) analyses of price data establish that identified groups of claimants experienced higher prices as a result of the prohibited conduct on some common or systematic basis. That class definition will play a significant role in the UK has already become clear in the first ever opt-out collective action, *Dorothy Gibson v Pride Mobility Products Limited*. In that case, the alleged infringement involved the use of illegal resale price maintenance (RPM) agreements which prevented eight online retailers from advertising online prices below Pride's recommended retail price (RRP) for certain models of its mobility scooter. In considering certification, the CAT noted that the claimant's expert economist had not allowed for subclasses that distinguished between alleged victims who purchased from the eight participating online retailers and customers who purchased from other retailers.

#### Indirect purchasers and pass-through

To establish that an indirect purchaser claimant was damaged by cartel conduct, the claimant must establish that pass-through occurred. Generically, the pass-through rate is the rate at which a firm passes on a change in input cost as a change in output price. For an indirect purchaser to have been injured by price-fixing conduct, an overcharge to direct purchasers must have been (at least in part) passed through all of the firms in the distribution chain between the defendant and the indirect purchaser. See box, *Distribution channels and pass-through*.

#### Distribution channels and pass-through



An indirect purchaser claimant's economics expert must establish the fact of and, ultimately, the quantum of the pass-through. The pass-through must be established throughout the distribution chain to affect each proposed class member.

A claimants' economics expert often relies on economic theory to argue that a firm will always pass through cost changes and therefore will always pass through an overcharge. For example, economic theory predicts that if there is perfect competition at the retailer level any market-wide upstream increase in price will be passed on to some degree to consumers. (The amount of the pass-through is related to the elasticities of market supply and demand.) However, the defendants' economics expert will point out that perfectly competitive markets are rare in the real world and that

more complex theoretical models of competition generate diverse predictions of pass-through and may, in certain circumstances, even predict zero pass-through. For example, if the direct overcharge is not market-wide, competition from firms that do not face an overcharge may prevent pass-through to customers.

The defendants' economics expert often argues that real-world pricing practices employed by firms in the distribution chain can indicate a lack of pass-through. Examples include:

- Focal point pricing strategies, such as choosing prices ending in 99, can cause price stickiness in which a small change in cost does not necessarily lead to a change in price.
- If the allegedly price-fixed good is a component of a larger product, cost changes for the component may be very small relative to the overall cost (and price) of the larger product. If so, firms may choose to absorb a cost change in the component rather than pass it through.

Discovery in relation to the actual pricing behaviours of the firms in the distribution chain may enable the determination of whether these types of real-world practices were used.

Empirical analyses are also often performed in order to demonstrate the existence of pass-through and to quantify pass-through. For example, in conducting a regression analysis, a claimants' economics expert may seek to measure how a given reseller in the distribution chain changes price in response to cost changes. However, the defendants' economics expert will argue that such evidence must be properly tested and its limits understood. For example, he may argue that the type of regression analyses used by the claimant implicitly assumes that a given firm's pass-through is the same (common) for all products and all customers. The defendants' economics expert often will test this implicit assumption. Such tests may find that a given reseller's pass-through varies by product and customer, that in some cases there is no pass-through or that the statistical significance of positive pass-through cannot be established.

Such arguments by defendants' experts often are illustrated through the presentation of disaggregated data for cost and price of a specific product sold to a specific customer, showing some variation in cost but no corresponding variation in prices, indicating that the reseller did not pass its cost changes through to its customers.

This kind of empirical analysis is at the level of an individual reseller. However, in practice, in contrast to the simple example shown above (see *box, Distribution channels and pass-through*), vertical relationships in supply chains can be very complex, involving many levels and many resellers at each level.

An indirect purchaser class member is only injured if the direct overcharge is passed through the distribution chain between the initial sale of the price-fixed product and the subsequent sale of the product (which may be a component in another product) to the class member. If the distribution chain is complex, there are many possible paths, involving many resellers. In such cases, a claimants' economics expert often empirically analyses the pass-through behaviour of some selection, or sample, of resellers. The expert may argue that the results from his analysis of the sample can be extrapolated to all of the resellers in the chain that were not studied directly.

The defendants' economics expert often argues that any empirical analysis performed by the claimants' economics expert on a sample of resellers in the distribution chain is incomplete and therefore does not establish pass-through for all or nearly all class members. Instead, complexities and asymmetries of the market necessitate a granular analysis of pass-through. For example, analysis of one reseller's pass-through rate might not provide a reliable basis for estimating the extent of pass-through by another reseller. In addition, if instances of zero pass-through by a particular reseller in the vertical chain are demonstrated, the implication is that any class member whose supply chain included that reseller was not injured.

A complex distribution chain also implies that any calculation of damages is complex, because the quantum of injury felt by any indirect purchaser class member depends on the extent of pass-through at each level of the distribution chain between the initial buyer of the price-fixed product and that class member. If the empirical analyses yield various pass-through rates, in principle, the estimation of the quantum of damages requires an understanding of the path that the product took through the distribution chain.

The extent and nature of the diversity in pass-through rates, across customers and products, has been weighed by US courts. For example, in *In re Flash Memory Antitrust Litigation, Order [...] (ND Cal 2010)* the court determined that "there are thousands of differentiated products with diverse price points...." Determining the pass-through for an individual class member "requires more [than a] one-size-fits-all theoretical construct" and "[t]he products, channels and markets are sufficiently numerous and diverse".

In the UK, the fact that the "all (or nearly all)" requirement does not apply may enable simplification of these analyses. However, even if such simplifications are correct, on average, they will inevitably result in some degree of over- or under-compensation to some individual members of the consumer class or sub-class.

*\* The views expressed in this article are solely those of the authors, who are responsible for the content, and do not necessarily represent the views of Cornerstone Research.*

## Practical Law Contributor profiles

### Peter Davis, Senior Vice President, European Competition Practice Head

Cornerstone Research  
**T** +44 20 3655 0910  
**F** +44 20 3655 0999  
**W** pdavis@cornerstone.com  
**E** www.cornerstone.com

**Professional qualifications.** PhD in Economics, Yale University; MPhil, Oxford University; BSc, London School of Economics.

**Areas of practice.** Anti-trust and competition; energy and commodities; financial institutions; healthcare; fast-moving consumer goods; retail markets; data analytics

**Professional associations/memberships.** American Bar Association

#### Publications

- *Quantitative Techniques for Competition and Antitrust Analysis* (Princeton University Press) (Co-author).
- *Damages Claims for the Infringement of EU Competition Law* (Oxford University Press) (Co-author).
- Research published in numerous journals, including the *Journal of Industrial Organization*, the *Journal of Econometrics*, and the *RAND Journal of Economics*.

### Darwin Neher, Vice President

Cornerstone Research  
**T** +212 605 5026  
**F** +212 759 3045  
**E** dneher@cornerstone.com  
**W** www.cornerstone.com

**Professional qualifications.** PhD in Economics, Princeton University; BSc (Hons), Queen's University at Kingston.

**Areas of practice.** Anti-trust and competition; financial institutions; intellectual property; intellectual property; consumer finance; labour and employment; securities

**Professional associations/memberships.** American Bar Association; American Economic Association

**Publications.** Research published in the *Review of Economic Studies*, the *European Economic Review*, and the *Antitrust Law Journal*.

### Vivek Mani, Principal

Cornerstone Research  
**T** +40 20 3655 0916  
**F** +44 20 3655 0999  
**E** vmani@cornerstone.com  
**W** www.cornerstone.com

**Professional qualifications.** MA, Boston University; MS, Madras School of Economics; BA, Fergusson College.

**Areas of practice.** Anti-trust and competition; financial institutions; healthcare; intellectual property; life sciences; securities

**Professional associations/memberships.** American Bar Association

**Publications.** Article: Economic Approaches to Remedies in Trade Secrets Cases