

CLASS CERTIFICATION IN ANTITRUST CASES: AN ECONOMIC FRAMEWORK

Hal J. Singer and Robert Kulick***

INTRODUCTION

In antitrust class action cases, plaintiffs seeking class certification have often been successful when they have been able to prove that the prices paid by all class members are linked by a common element of pricing and this common element was altered by the challenged conduct in a way that harmed plaintiffs.¹ Despite the fact that this argument is often advanced through economic expert testimony, some have suggested that this approach lacks an economic basis.²

Meanwhile, a number of appellate court decisions pertaining to class certification, including *In re Hydrogen Peroxide Antitrust Litigation* (“*Hydrogen Peroxide*”),³ *In re New Motor Vehicles Canadian Export Antitrust Litigation* (“*New Motor Vehicles*”),⁴ and *Blades v. Monsanto Co.* (“*Blades*”),⁵ have stirred significant controversy among antitrust practitioners. The great legal scholar and Supreme Court Justice Oliver Wendell Holmes, Jr., viewed the common law as an institution that served as a source of legal “prophecies”⁶—in other words, the value of an extensive body of case law and precedent is that it allows us to make predictions about the likely outcome of specific cases. Viewed in this light, there are essentially two conflicting prophecies about the future of the Federal Rules of Civil Procedure’s 23(b)(3) predominance requirement vying for adherents.

A central premise in *Hydrogen Peroxide*, *New Motor Vehicles*, and *Blades* is that the predominance standard can only be satisfied by “rigorous

* Managing Director, Navigant Economics and Adjunct Professor at Georgetown McDonough School of Business.

** Managing Consultant, Navigant Economics.

¹ See, e.g., *In re Ethylene Propylene Diene Monomer (EPDM) Antitrust Litig.*, 256 F.R.D. 82, 87-95, 104 (D. Conn. 2009); *In re Indus. Diamonds Antitrust Litig.*, 167 F.R.D. 374, 381-85 (S.D.N.Y. 1996).

² See, e.g., David T. Scheffman, *Economic Analyses Relevant to Class Certification*, Presentation to the Law Seminars International Conference 7 (May 10, 2007) (on file with the George Mason Law Review).

³ 552 F.3d 305 (3d Cir. 2008).

⁴ 522 F.3d 6 (1st Cir. 2008).

⁵ 400 F.3d 562 (8th Cir. 2005).

⁶ Oliver Wendell Holmes, Jr., *The Path of the Law*, 10 HARV. L. REV. 457, 457-58 (1897).

analysis”⁷ and that district courts must resolve disputes regarding conflicting evidence relating to Rule 23’s class certification requirements offered during the class certification inquiry.⁸ Some antitrust practitioners have averred that the emphasis on rigorous analysis and evidence means that many issues traditionally thought of as merits issues must now be resolved during the class certification inquiry.⁹ Seemingly in conflict with this premise however, *Hydrogen Peroxide*, *New Motor Vehicles*, and *Blades* also state that the class certification inquiry is necessarily a limited one and that plaintiffs are not required to prove the ultimate validity of their allegations in terms of violation, impact, or damages during the class certification inquiry.¹⁰ Relying heavily on the statements from the recent decisions that emphasize these points, another group of practitioners have argued that the evidentiary requirements necessary to satisfy the predominance standard are fundamentally unchanged.¹¹ In this Article, we propose an economic framework that we believe dissolves the apparent conflict between the principle of conducting a rigorous analysis during the class certification proceeding and the principle of conducting a class certification inquiry that does not implicate the validity of allegations at issue. We begin with the simple principle that from an economic perspective, all antitrust cases come down to whether the conduct in question is best explained in terms of monopolization (in the economic sense of a strategy employed by a firm to increase its monopoly power, rather than in the legal sense of a violation of Section 2 of the Sherman Act¹²) or in terms of competition. Resolution of this issue turns on either comparing the predictions of an economic model that explains the conduct in question as a monopolization strategy, or on an economic model that explains the conduct in question as being consistent with competition. Such external comparisons between models are the only way to establish the validity of one economic model over another, and assessments of validity are by definition the purpose of the merits inquiry that follows class certification. Thus, the principle that satisfaction of the predominance standard requires “rigorous analysis” cannot mean that courts

⁷ See *Hydrogen Peroxide*, 552 F.3d at 309 (quoting *Gen. Tel. Co. of Sw. v. Falcon*, 457 U.S. 147, 161 (1982)) (internal quotation marks omitted); *New Motor Vehicles*, 522 F.3d at 17, 25 (quoting *Smilow v. Sw. Bell Mobile Sys., Inc.*, 323 F.3d 32, 38 (1st Cir. 2003)) (internal quotation marks omitted); *Blades*, 400 F.3d at 568-71.

⁸ See *Hydrogen Peroxide*, 552 F.3d at 324; *New Motor Vehicles*, 522 F.3d at 17, 25; *Blades*, 400 F.3d at 568-75.

⁹ See, e.g., Steig D. Olson, “Chipping Away”: *The Misguided Trend Toward Resolving Merits Disputes as Part of the Class Certification Calculus*, 43 U.S.F. L. REV. 935, 935 (2009).

¹⁰ See *Hydrogen Peroxide*, 552 F.3d at 311-12; *New Motor Vehicles*, 522 F.3d at 29; *Blades*, 400 F.3d at 575.

¹¹ Joshua P. Davis & Eric L. Cramer, *Antitrust, Class Certification, and the Politics of Procedure*, 17 GEO. MASON L. REV. 969 (2010).

¹² The economic definition of monopolization would include price fixing, other conspiracies, and unilateral conduct that undermines competition.

must make determinations regarding the validity of the conflicting economic models proffered by plaintiffs and defendants. If courts were required to undertake this inquiry at the class certification stage of a proceeding, a separate merits issue would be redundant, desultory, and unnecessarily costly.

We propose that courts can avoid assessments of validity during class certification proceedings by limiting the class certification inquiry to issues that can be resolved within the relevant economic model that explains the conduct in question in terms of monopolization. We then develop a rigorous predominance standard within this framework based on the principle articulated by the Supreme Court—namely, that the predominance standard “tests whether proposed classes are sufficiently cohesive to warrant adjudication by representation.”¹³ We propose that this cohesion principle can be interpreted economically if it is construed as the relationship between class members’ individual demand curves and the aggregate firm-level demand curve of the defendant. Satisfying the predominance standard with respect to individual injury or impact then becomes a matter of linking the alleged manipulation of the defendant’s (or defendants’) residual demand curve to the individual class members’ demand curves. This connection must be established through evidence that connects class members’ individual demand curves in a manner that is *consistent* with the specific theory of harm. If plaintiffs can satisfy this evidentiary burden, then the class is sufficiently cohesive in the sense that proof of violation due to the specific mechanism of harm identified during the class certification inquiry will necessarily mean injury to all (or nearly all¹⁴) of the individual class members. Viewed in these terms, plaintiffs’ burden during the class certification inquiry is to articulate a hypothesis linking the conduct in question to a rigorous economic theory of monopolization and to demonstrate by a preponderance of evidence that the hypothesis applies to all or almost all class members. We believe that the value of our approach and its consistency with the underlying jurisprudence guiding class certification is evident in that our framework also provides an economic basis for the common element of pricing test often applied by courts in antitrust cases¹⁵ and because it provides explicit guidance on the appropriate role of expert testimony in antitrust proceedings.

We develop our economic framework as follows: In Part I, we begin by reviewing the statements from the decisions of the appellate courts in *Hydrogen Peroxide*, *New Motor Vehicles*, and *Blades* that implicate sub-

¹³ *Amchem Prods., Inc. v. Windsor*, 521 U.S. 591, 623 (1997).

¹⁴ *See, e.g., Mims v. Stewart Title Guar. Co.*, 590 F.3d 298, 308 (5th Cir. 2009) (“Class certification is not precluded simply because a class may include persons who have not been injured by the defendant’s conduct.”); *Kohen v. Pac. Inv. Mgmt. Co.*, 571 F.3d 672, 677 (7th Cir. 2009), *cert. denied*, 130 S. Ct. 1504 (2010).

¹⁵ *See, e.g., Hydrogen Peroxide*, 552 F.3d at 312-15.

stantive economic issues. An underlying assumption of our approach is that an acceptable economic framework for the predominance standard must be consistent with the case law.¹⁶ Next, we explain the role that the economic model of monopoly plays in the analysis of antitrust cases. The economic model of monopoly underlies the specific monopolization models that guide the economic analysis of antitrust cases. Next, we use the basic principles of economic methodology to draw an epistemological distinction between demonstrating the validity of a model relative to other models and developing a hypothesis within a model. We demonstrate how this distinction can allow courts to avoid delving into assessments of validity during class certification proceedings while adhering to the principle that decisions to certify classes must be predicated on rigorous analysis. We show how our framework provides an economic basis for the common element of pricing test that has been adopted by many courts in antitrust class action proceedings. Finally, we also explain how our approach suggests specific roles for the various economic experts during both the class certification inquiry and the merits inquiry. Assuming that the cohesion requirement has been satisfied according to our proposed interpretation of the predominance standard during the class certification inquiry, proof of violation at the merits phase will necessarily entail proof of common impact.

In Part II, we examine the courts' treatment of the economic arguments presented in *Hydrogen Peroxide*, *New Motor Vehicles*, and *Blades* to demonstrate how our approach can provide a meaningful economic basis for interpreting the predominance standard in those cases. We show that, in each case, the court's approach was consistent with the economic framework we have proposed.

To avoid any confusion, throughout this Article we refer to the act of employing strategic conduct to increase monopoly power as "monopolization." We also develop our economic intuition in the context of a single firm engaging in conduct aimed at increasing its monopoly power. The reason we have adopted this nomenclature is that it simplifies the discussion of the critical economic concepts necessary to develop our framework. Although the Sherman Act uses the term monopolization in Section 2, antitrust violations are motivated by a firm's or a group of firms' desire to impair competition by limiting the ability of consumers to substitute alternative products. Whether this impairment of competition is accomplished by a group of firms acting in concert through price-fixing agreements or by a single firm using a vertical restraint to foreclose rivals, the economic goal is

¹⁶ Other recent articles by economists on class certification standards base their approach on their normative views of how the class certification inquiry should proceed. See John H. Johnson & Gregory K. Leonard, *Economics and the Rigorous Analysis of Class Certification in Antitrust Cases*, 3 J. COMPETITION L. & ECON. 341, 342-43 (2007); Paul A. Johnson, *The Economics of Antitrust Class Certification* 46-47 (May 4, 2010) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1401366.

an increase in monopoly power or monopolization. Our approach is equally applicable to allegations of collusion that implicate a group of defendants or to allegations of exclusionary conduct that implicate a single defendant.

I. AN ECONOMIC APPROACH TO THE PREDOMINANCE STANDARD

To motivate our economic approach to the issue of predominance, we begin this Part with a brief review of how the issue of predominance was treated in *Hydrogen Peroxide*, *New Motor Vehicles*, and *Blades*. We develop our framework in this Part under the assumption that the economic approach to class certification must be consistent with this case law.

A. *The Recent Jurisprudence on the Predominance Standard*

Several appellate courts have recently provided guidance on the predominance standard at the class certification stage. For instance, in *Hydrogen Peroxide*, the Third Circuit cited case law stating that for Rule 23(b)(3)'s predominance standard to be satisfied, "[i]ssues common to the class must predominate over individual issues."¹⁷ The distinction between common and individual issues was explicitly defined by the Eighth Circuit in *Blades*:

If, to make a prima facie showing on a given question, the members of a proposed class will need to present evidence that varies from member to member, then it is an individual question. If the same evidence will suffice for each member to make a prima facie showing, then it becomes a common question.¹⁸

Both the appellate decisions in *Hydrogen Peroxide* and *Blades* cited the Supreme Court's decision in *Amchem Products, Inc. v. Windsor*,¹⁹ in which the Supreme Court explained that the predominance standard "tests whether proposed classes are sufficiently cohesive to warrant adjudication by representation."²⁰ As we explain in more detail below, this cohesion requirement is best understood as a requirement that plaintiffs' theory of harm be linked to individual class members through a common mechanism.

¹⁷ *Hydrogen Peroxide*, 552 F.3d at 311 (quoting *In re Prudential Ins. Co. of Am. Sales Practices Litig.*, 148 F.3d 283, 313–14 (3d Cir. 1998)) (internal quotation marks omitted).

¹⁸ *Blades v. Monsanto Co.*, 400 F.3d 562, 566 (8th Cir. 2005).

¹⁹ 521 U.S. 591 (1997).

²⁰ *Hydrogen Peroxide*, 552 F.3d at 311 (quoting *Amchem*, 521 U.S. at 623) (internal quotation marks omitted); *Blades*, 400 F.3d at 566 (quoting *Amchem*, 521 U.S. at 623) (internal quotation marks omitted).

The opinions rendered in each of these cases emphasize that the predominance standard must be met through “rigorous analysis.”²¹ In *Hydrogen Peroxide*, the court stated that the “proper task” of the trial court is “to consider carefully all relevant evidence,” and that the “district court errs as a matter of law when it fails to resolve a genuine legal or factual dispute relevant to [class certification].”²² Furthermore, such “[f]actual determinations . . . must be made by a preponderance of the evidence.”²³ The court in *New Motor Vehicles* observed that this determination may “inevitably overlap with some critical assessment regarding the merits of the case.”²⁴ In *Blades*, the court evinced a similar conclusion: “The preliminary inquiry at the class certification stage may require the court to resolve disputes going to the factual setting of the case, and such disputes may overlap the merits of the case.”²⁵

However, these courts have also stated that assessing the “validity” of plaintiffs’ allegations and theory of harm is beyond the scope of the class certification inquiry. In *New Motor Vehicles*, the court stated:

It is true that the validity of plaintiffs’ theory is a common disputed issue. It will be for the fact finder to decide whether this theory is persuasive. At the class certification stage, however, the district court must still ensure that the plaintiffs’ presentation of their case will be through means amenable to the class action mechanism. We are looking here not for hard factual proof, but for a more thorough explanation of *how* the pivotal evidence behind plaintiff’s [sic] theory can be established.²⁶

The court also cited previous case law that explained that in “[e]xercising its broad discretion . . . the district court must evaluate the plaintiff’s evidence . . . critically without allowing the defendant to turn the class-certification proceeding into an *unwieldy* trial on the merits.”²⁷ In *Blades*, the court explicitly described the class certification process as “a limited preliminary inquiry.”²⁸ Focusing specifically on the relationship between predominance and antitrust impact, the court in *Hydrogen Peroxide* stated that “[p]laintiffs’ burden at the class certification stage is not to prove the element of antitrust impact.”²⁹

From this review of the decisions in *Hydrogen Peroxide*, *New Motor Vehicles*, and *Blades*, it is clear that to satisfy the predominance standard,

²¹ *Hydrogen Peroxide*, 552 F.3d at 309 (quoting *Gen. Tel. Co. of Sw. v. Falcon*, 457 U.S. 147, 161 (1982)) (internal quotation marks omitted).

²² *Id.* at 320.

²³ *Id.*

²⁴ *In re New Motor Vehicles Canadian Exp. Antitrust Litig.*, 522 F.3d 6, 17 (1st Cir. 2008).

²⁵ *Blades*, 400 F.3d at 567.

²⁶ *New Motor Vehicles*, 522 F.3d at 29 (citation omitted).

²⁷ *Id.* at 17 (alterations in original) (quoting *In re PolyMedica Corp. Sec. Litig.*, 432 F.3d 1, 17 (1st Cir. 2005)) (internal quotation marks omitted).

²⁸ *Blades*, 400 F.3d at 566.

²⁹ *In re Hydrogen Peroxide Antitrust Litig.*, 552 F.3d 305, 311 (3d Cir. 2008).

plaintiffs must establish the *cohesiveness* of the class based on rigorous analysis and supporting evidence. On the other hand, the inquiry is necessarily a limited one, and it is inappropriate to assess the ultimate validity of plaintiffs' theory of harm at the class certification stage. These decisions also suggest that there is a potential dichotomy between "merits" issues that may have to be resolved during the class certification inquiry and "merits" issues that must be resolved to survive summary judgment. We believe that economic theory can be used to clarify the meaning of the cohesion requirement and firmly separate it from issues that implicate the ultimate validity of plaintiffs' antitrust allegations.

B. *The Monopoly Model and Monopolization*

From an economic perspective, the crux of any antitrust case is whether the defendant has increased or maintained its monopoly power through anticompetitive conduct.³⁰ Thus, the economic model of monopoly plays a crucial role in the analysis of antitrust cases. The defining feature of the economic model of monopoly is that a firm acting as a monopolist faces a downward-sloping demand curve for its product.³¹ The existence of a downward-sloping demand curve means that there are no identical substitutes for the product that is sold by the monopolist.³² Consequently, as the monopolist raises its price, some consumers will continue to buy the product.³³ A firm has, relatively speaking, more monopoly power the steeper the incline of its demand curve.³⁴ Economists describe the relative incline of a demand curve as its elasticity, and a demand curve that is steeper relative to another demand curve is said to be "less elastic"—that is, less responsive to small changes in prices.³⁵ The *aggregate* demand curve a firm faces for its product is simply the aggregation of the demand curves of the individual consumers who desire the product.³⁶ Thus, the elasticity of this demand

³⁰ For ease of exposition, we discuss monopoly conduct in terms of one firm or one defendant, but our approach applies equally to a situation where a group of firms colludes to increase or maintain their collective monopoly power.

³¹ DENNIS W. CARLTON & JEFFERY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 87 (Addison-Wesley 3d ed. 2000) ("A monopoly faces a downward-sloping demand curve and sets a price above marginal cost. As a result, less is sold than if the market were competitive (where price equals marginal cost) and society suffers a deadweight loss.").

³² *Id.*

³³ See William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 937 (1981).

³⁴ See *id.* at 939-43.

³⁵ See *id.* at 940-43.

³⁶ WILLIAM J. BAUMOL & ALAN S. BLINDER, *MICROECONOMICS: PRINCIPLES AND POLICY* 110 fig. 5-3 (7th ed. 1997) ("[W]e obtain the market demand curve by adding horizontally all points on each consumer's demand curve at each given price.").

curve is determined by the degree to which individual consumers substitute to alternative products as the price of the monopolist's product increases.

The antitrust laws do not prohibit monopoly pricing; rather, the antitrust laws prohibit certain nonproductive means that firms may employ to *maintain or increase their monopoly power*.³⁷ From the discussion in the previous paragraph, it follows that monopolization—maintaining or increasing monopoly power through anticompetitive conduct—occurs, in an economic sense, when a firm restricts consumers' ability to substitute alternative products. The categories we often use to distinguish antitrust offenses, including collusion, exclusive dealing, tying, and bundling, are simply different strategic avenues that may facilitate this process.³⁸ The monopolization models that guide the economic analysis of antitrust cases are all specific cases of this general model.³⁹

C. *Validity*

The epistemological distinction between proving the validity of a specific monopolization model on the one hand, and developing a rigorous hypothesis within a monopolization model on the other, provides a systematic framework for distinguishing true “merits” issues from issues that are appropriately treated during the class certification process of an antitrust case. To clarify this distinction, we begin by considering the use of economic models in antitrust litigation. Economic models in general are useful insofar as they accommodate the phenomena under consideration and allow one to analyze the consumer welfare implications of the phenomena under scrutiny. Elaborating on this basic principle, Nobel Laureate Milton Friedman wrote in his seminal treatise on economic methodology:

More generally, a hypothesis or theory consists of an assertion that certain forces are, and by implication others are not, important for a particular class of phenomena and a specification of the manner of action of the forces it asserts to be important. We can regard the hypothesis as consisting of two parts: first, a conceptual world or abstract model simpler than the “real world” and containing only the forces that the hypothesis asserts to be important; second, a

³⁷ *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966) (noting that monopolization is characterized by “the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident”).

³⁸ See, e.g., Dennis W. Carlton & Ken Heyer, *Appropriate Antitrust Policy Towards Single-Firm Conduct 5* (U.S. Dep't of Justice Antitrust Div. Econ. Analysis Group, No. EAG 08-2, 2008), available at <http://www.justice.gov/atr/public/eag/231610.pdf>.

³⁹ See, e.g., Steven C. Salop, *The First Principles Approach to Antitrust, Kodak, and Antitrust at the Millennium*, 68 ANTITRUST L.J. 187, 188 (2000).

set of rules defining the class of phenomena for which the “model” can be taken to be an adequate representation of the “real world”⁴⁰

Friedman reasoned that economic models are analytically useful for two related reasons: (1) they allow us to examine issues of causality within a simplified world, and (2) the process of applying formal logic or mathematical rules within that simplified world suggests evidentiary criteria that can be used to assess the validity of the model.⁴¹ However, because models are limited to “forces that the hypothesis asserts to be important,”⁴² the specific model chosen limits the conclusions that can be drawn from it. For instance, the monopoly model explicitly defines monopoly power as the differential between price and marginal cost and demonstrates the mechanism by which a firm can increase its monopoly power.⁴³ On the other hand, under the model of perfect competition, a firm faces a horizontal demand curve and has no power over the price it charges.⁴⁴ Consequently, in the simplified world of the perfect competition model, it would be impossible to raise prices above marginal cost—that is, to exercise market power. Because of the inherent limitations of economic models, competing theories must be evaluated by comparing the predictions of the alternative models that purport to explain the phenomena. In other words, establishing the validity of one model over another requires examining the available evidence and determining which model’s predictions provide the best fit with the evidence. Thus, there is a crucial economic distinction between forming a hypothesis within an economic model and establishing the validity of the hypothesis relative to alternative explanations for the phenomenon under scrutiny.

This distinction between proving the validity of an antitrust allegation and conducting a rigorous analysis during the class certification inquiry becomes analytically tractable if plaintiffs’ burden during the class certification inquiry is to articulate a logically rigorous anticompetitive hypothesis and to demonstrate through a “preponderance” of the evidence that this anticompetitive hypothesis applies to all class members.⁴⁵ The validity of the anticompetitive hypothesis is then tested in the proceedings that follow class certification. Indeed, the idea that class certification requires the for-

⁴⁰ Milton Friedman, *The Methodology of Positive Economics*, in *ESSAYS IN POSITIVE ECONOMICS* 3, 24 (1953).

⁴¹ *See id.* at 24-26.

⁴² *Id.* at 40.

⁴³ Landes & Posner, *supra* note 33, at 939.

⁴⁴ Alan Devlin, *A Proposed Solution to the Problem of Parallel Pricing in Oligopolistic Markets*, 59 *STAN. L. REV.* 1111, 1116 (2007).

⁴⁵ Friedman also explicitly discussed the necessity of using empirical evidence to both develop hypotheses and confirm their validity: “Empirical evidence is vital at two different, though closely related, stages: in constructing hypotheses and in testing their validity.” Friedman, *supra* note 40, at 12. This conclusion strongly parallels the “rigorous analysis” standard articulated by the courts.

mulation of predictions—the essence of any hypothesis—was explicitly articulated by the First Circuit in *New Motor Vehicles*. The court stated that as part of the class certification inquiry, “a district court must formulate some prediction as to how specific issues will play out in order to determine whether common or individual issues predominate in a given case.”⁴⁶

A direct implication of our economic framework is that arguments concerning the feasibility of monopolization and competitive justifications for the conduct in question are beyond the scope of the predominance inquiry. Because evaluation of such arguments will necessarily require comparing the alternative predictions of a model that explain the conduct as consistent with competition, such arguments will necessarily implicate the issue of validity.

In contrast, our framework guides the analysis for the predominance requirement without implicating issues of validity. Under our framework, predominance can be assessed purely within an economic model that explains the conduct in terms of monopolization, and the cohesiveness of the class with respect to the violation and impact can be meaningfully established through the rigorous use of economic theory and evidence.

D. *Establishing Cohesion Within a Monopolization Model*

Monopolization occurs when a firm is able to manipulate the shape of the demand curve it faces for its product.⁴⁷ The firm-specific or “residual” demand curve faced by a particular firm is the aggregate industry demand curve less the demand supplied by rival firms, which is often referred to as the “fringe” supply.⁴⁸ Thus, monopolization strategies generally rely on either recruiting rival suppliers into a conspiracy or impairing the ability of rivals to respond to price increases by increasing their marginal costs.⁴⁹ This manipulation of the residual demand curve is successful only if the firm can manipulate the demand of individual consumers.⁵⁰

The predominance standard must be satisfied with respect to both fact of antitrust violation and fact of antitrust impact.⁵¹ As we discussed above, proving an antitrust violation involves demonstrating that the residual demand curve faced by the customers of the defendant has become substan-

⁴⁶ *In re New Motor Vehicles Canadian Exp. Antitrust Litig.*, 522 F.3d 6, 20 (1st Cir. 2008) (quoting *Waste Mgmt. Holdings, Inc. v. Mowbrey*, 208 F.3d 288, 298 (1st Cir. 2000)) (internal quotation marks omitted).

⁴⁷ See Devlin, *supra* note 44, at 1115.

⁴⁸ See CARLTON & PERLOFF, *supra* note 31, at 99.

⁴⁹ See *id.* at 353-57, 361-69.

⁵⁰ See *id.* at 98-103.

⁵¹ *New Motor Vehicles*, 522 F.3d at 20 (“In antitrust class actions, common issues do not predominate if the fact of antitrust violation and the fact of antitrust impact cannot be established through common proof.”).

tially less elastic. Economic research has identified a number of avenues involving both horizontal and vertical restraints that a firm may use to execute this strategy.⁵² In developing formal models of monopolization, economists have identified evidentiary requirements that can be used to test the validity of a given economic model that explains the conduct in question in terms of monopolization depending on the specific conduct under scrutiny. The particular mechanism of harm will suggest the nature of the evidence necessary to establish the validity of plaintiffs' allegations. From there, as the Eighth Circuit observed in *Blades*, "[t]he nature of the evidence that will suffice to resolve a question determines whether the question is common or individual."⁵³ In other words, by articulating a rigorous hypothesis predicated on the economics of monopolization during the class certification proceeding, plaintiffs will be able to enumerate the evidence necessary to prove their claims at trial, and the class certification will focus on whether this evidence will allow for common proof of violation.

The question of whether individual injury or impact can be proven on a class-wide basis then becomes a matter of whether plaintiffs can link the alleged manipulation of the firm-level demand curve to the demand curves of the individual class members. We believe that this connection must be established through evidence that connects class members' individual demand curves in a manner that is *consistent* with the specific mechanism of harm. If plaintiffs can satisfy this evidentiary burden, then the class is sufficiently cohesive in the sense that proof of violation due to the specific mechanism of harm identified during the class certification inquiry will necessarily entail injury to all (or nearly all) individual class members.

In sum, our framework limits the economic inquiry at the class certification stage to those issues that must be resolved for plaintiffs to articulate a rigorous hypothesis of monopolization that is common to the class. By using formal economic theory to develop a theory of harm, plaintiffs can articulate a mechanism of harm that suggests the specific evidence necessary to prove the existence of an antitrust violation. Under our framework, cohesiveness is established through evidence and analysis linking individual class members' demand curves to the shifting of the defendant's aggregate firm-level demand curve implied by the mechanism of harm.

⁵² See, e.g., CARLTON & PERLOFF, *supra* note 31, at 353-69; David T. Scheffman & Richard S. Higgins, *Twenty Years of Raising Rivals' Costs: History, Assessment, and Future*, 12 GEO. MASON L. REV. 371, 371-87 (2003); Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L. J. 209, 230-42 (1986); Steven C. Salop & David T. Scheffman, *Raising Rivals' Costs*, 73 AM. ECON. REV. 267, 267-71 (1983).

⁵³ *Blades v. Monsanto Co.*, 400 F.3d 562, 566 (8th Cir. 2005).

E. *The Common Element of Pricing Test*

In antitrust cases, plaintiffs seeking class certification have often been successful when they have been able to prove that the prices paid by all class members are linked by a common element of pricing and that this common element has been materially affected by the conduct in a way that is harmful to class members. A recent paper by Professor Joshua Davis and Eric Cramer summarized this approach as “a form of the ‘rising tide lifts all boats’ metaphor;” the crux of the argument is that “the baseline from which prices were set is higher due to the anticompetitive conduct as reflected in an observed ‘pricing structure.’”⁵⁴ Despite the fact that this argument is often advanced through economic expert testimony, Dr. David Scheffman, a leading antitrust economist, has stated that this approach lacks an economic basis:

In certain of these circumstances, that courts have found that even though there is tremendous variation in prices across customers, the prices are based on some common pricing mechanism - a “base” price. The theory espoused by plaintiffs in such cases is that if such a price exists, then individual negotiations begin from that base price and to the extent the alleged conspiracy has raised the base price, then the starting point for all individual negotiations is higher and thus, the resulting price paid is higher than it would have been absent the alleged conspiracy. *There is no economic principle that would support such a proposition generally.*⁵⁵

Dr. Scheffman’s statement suggests that there is no basis in economic theory to support the proposition that inflation of a common element to pricing harms all consumers whose prices are linked to that common element. We disagree. The basic economic paradigm used to analyze price dispersion among customers for the *same* product is third-degree price discrimination, in which a firm with market power charges varying prices based on individual consumers’ elasticities of demand.⁵⁶ To implement a third-degree discriminatory pricing strategy, however, a firm needs to know the individual elasticities of each of its customers.⁵⁷ Because such knowledge is generally not available to the firm *ex ante*, it can post a starting price based on the *aggregate* demand elasticity and then negotiate downward based on revealed price sensitivities and the countervailing bargaining power of individual consumers. Indeed, it is common for firms to charge consumers list

⁵⁴ Joshua P. Davis & Eric L. Cramer, *Of Vulnerable Monopolists?: Questionable Innovation in the Standard for Class Certification in Antitrust Cases*, 41 RUTGERS L.J. (forthcoming 2010) (manuscript at 26) (on file with the George Mason Law Review).

⁵⁵ Scheffman, *supra* note 2, at 7 (emphasis added).

⁵⁶ See HAL R. VARIAN, MICROECONOMIC ANALYSIS 248 (3d ed. 1992).

⁵⁷ CARLTON & PERLOFF, *supra* note 31, at 284.

prices accompanied by private discounts in the U.S. economy.⁵⁸ As we discussed above, in an antitrust case, the challenged conduct potentially imposes harm by limiting the substitution opportunities available to consumers.⁵⁹ Because any private discount would tend to shrink with the restriction of opportunities to substitute alternative products, it is highly unlikely that the presence of private discounts will ever offset any inflation in the common base price caused by anticompetitive conduct. Accordingly, evidence that the common base price was inflated by the conduct (along with evidence that the individual prices are generally linked to the base price) is generally sufficient to establish cohesion, notwithstanding any private discounts.

This method of satisfying the predominance requirement with respect to impact has been used successfully in several cases. For example, in *In re Ethylene Propylene Diene Monomer (EPDM) Antitrust Litigation*⁶⁰ (“*EPDM*”), the U.S. District Court of Connecticut certified a class of purchasers of EPDM (a synthetic rubber) based on allegations that defendants conspired to fix prices.⁶¹ Professor Davis and Mr. Cramer summarize the main economic principle adopted by the court in *EPDM* as “variation in prices paid by, or bargaining power of, class members are not impediments to a finding of common impact where there is a standardized pricing structure or the conspiracy affects the ‘base’ price from which negotiations begin.”⁶² To satisfy the predominance requirement:

[P]laintiffs have submitted evidence of six national lock-step price list increases within two broad categories of EPDM products: clear elastomers and oil extended elastomers. . . . These price list increases indicate that the five primary EPDM suppliers increased the cost of their products by the same amount, at about the same time, at least six times during the class period. The plaintiffs allege those price hikes were not in line with input prices and were the result of communications between the defendants to sustain supracompetitive prices.⁶³

On the other hand, defendants argued that:

[B]ecause the plaintiffs have not conclusively demonstrated how those price increases raised prices for each transaction with each plaintiff, they cannot serve as common proof of impact, pointing to individual discounts, price rebates, and contract terms that would have lowered the price of EPDM below the list price for certain plaintiffs.⁶⁴

⁵⁸ Examples of firms that use list prices with private discounts include car dealers, appliance stores, jewelers, and men’s apparel stores.

⁵⁹ See *supra* Part I.D.

⁶⁰ 256 F.R.D. 82 (D. Conn. 2009).

⁶¹ *Id.* at 83-84.

⁶² Davis & Cramer, *supra* note 54, at 26 n.91.

⁶³ *EPDM*, 256 F.R.D. at 85 (footnote omitted).

⁶⁴ *Id.* at 89.

Thus, the economic implications of the “base price” approach were under direct examination in *EPDM*.

The issue of predominance with respect to proof of violation was easily resolved in this case because collusion was the operative economic mechanism of harm advanced by plaintiffs. Because the evidence required to demonstrate collusion—for example, concrete evidence of agreements to fix prices—would definitely not vary from class member to class member, the violation inquiry should generally meet the predominance standard. Indeed, the court in *EPDM* explicitly recognized this conclusion.⁶⁵

In *EPDM*, the main dispute was whether the predominance standard could be satisfied with respect to the issue of antitrust impact.⁶⁶ Recall from the discussion above that identification of a mechanism of harm suggests not only how violation will ultimately be proven, but also how plaintiffs will contend that consumers’ ability to substitute alternative products was restricted by the conduct.⁶⁷ Individual firms involved in a collusive scheme may benefit insofar as they are able to reduce the elasticity of their firm-level demand curves.⁶⁸ In a competitive market, a buyer will either negotiate a price at the competitive level or simply purchase from another seller.⁶⁹ Identification of a base or list price that has risen uniformly for all producers may indicate that the opportunities for substitution of alternative products have been limited and that the individual consumer-level demand curves have shifted in a manner consistent with the collusive mechanism posited by plaintiffs.⁷⁰

The court ultimately concluded that the predominance requirement had been met with respect to the issue of injury:

[I]n light of the general agreement among the experts that the EPDM market was susceptible to a conspiracy, I find that the plaintiffs have met their burden of demonstrating that the element of injury-in-fact can be proved by evidence common to the class—the six national price lists that ostensibly applied to every customer, in conjunction with the general analysis of the characteristics of the EPDM market, support the notion that the price list increases had class-wide impact.⁷¹

The court’s conclusion can be rephrased in economic terms as follows: the national price lists were construed as evidence linking the overall shift in

⁶⁵ *Id.* at 87 (“Similarly, the plaintiffs here have alleged that EPDM producers engaged in an illegal price-fixing agreement to raise, maintain, and/or stabilize the price of EPDM in the United States. That issue is common to the class, and if proven true, would satisfy the first element of an antitrust cause of action, namely, a violation of antitrust law. Therefore, the plaintiffs have met their burden of showing predominance on this element.”).

⁶⁶ *See id.* at 89.

⁶⁷ *See supra* Part I.D.

⁶⁸ CARLTON & PERLOFF, *supra* note 31, at 124.

⁶⁹ *See* Devlin, *supra* note 44, at 1116.

⁷⁰ *See* CARLTON & PERLOFF, *supra* note 31, at 124.

⁷¹ *EPDM*, 256 F.R.D. at 95.

the firm-level demand curve that would occur as a result of successful collusion to a shift in the class members' individual demand curves.

District courts granted class certification based on similar "base-price" arguments in *Johnson v. Arizona Hospital and Healthcare Association*⁷² and in *Meijer, Inc. v. Abbott Laboratories*.⁷³ In *Johnson*, a class of per-diem travel nurses was able to demonstrate that a common agency bill rate paid by the defendant hospitals to nurse agencies satisfied the predominance standard with respect to impact for the class of per-diem nurses, despite the fact that each nurse may have been paid a different hourly rate.⁷⁴ In *Meijer, Inc.*, a class of pharmaceutical wholesalers successfully argued that the predominance standard was satisfied with respect to impact by proving that, despite the presence of some individual discounts negotiated by wholesaler class members, all class members paid prices tied to the list or wholesale average cost ("WAC") price, which had increased substantially as a result of the conduct in question.⁷⁵

This analysis suggests that one economically rigorous path plaintiffs can pursue to satisfy the predominance requirement is: (1) to demonstrate how an appropriate economic model indicates that violation can be established through common evidence, and (2) to prove that there is a common component of price that has increased for all class members in a manner consistent with the alleged mechanism of harm. The logic of this approach is that once a rigorous economic hypothesis that applies to all class members has been articulated, proof of violation will necessarily entail proof of impact at trial.

F. *Implied Roles for Economic Experts*

Our approach is also useful in that it suggests specific roles for class certification experts, liability experts, and damages experts. Our economic framework suggests that the role of the class certification expert is to articulate an economic mechanism of harm and establish cohesion within the model of monopolization articulated by plaintiffs. In other words, the class certification expert operates *as if* a violation has occurred. Assuming that the class has been certified, the liability expert must prove violation by comparing the predictions of the monopolization model articulated during the class certification stage with the predictions of an alternative (competitive) model. Because the cohesion requirement has been satisfied during the class certification proceeding, proof of violation at the merits phase will

⁷² No. CV 07-1292-PHX-SRB, 2009 WL 5031334 (D. Ariz. July 14, 2009).

⁷³ No. C 07-5985 CW, 2008 WL 4065839 (N.D. Cal. Aug. 27, 2008). Dr. Singer served as class certification expert for the plaintiffs in both cases.

⁷⁴ *Johnson*, 2009 WL 5031334, at *9, *11.

⁷⁵ *Meijer, Inc.*, 2008 WL 4065839, at *1, *9.

necessarily entail proof of impact. The liability expert at the merits phase generally does not analyze impact directly—that is, he does not examine the *direct* linkage between the challenged conduct and the prices paid by class members. Instead, he empirically attempts to show that the conditions of an economic model are satisfied—an *indirect* proof of anticompetitive harm. Finally, the damages expert assumes that a violation has been established so that the damages model can be constructed based on the inputs and economic intuition that have been developed by the class certification expert and the liability expert.

II. ANALYSIS OF THE SUBSTANTIVE ECONOMIC ISSUES IN *HYDROGEN PEROXIDE*, *NEW MOTOR VEHICLES*, AND *BLADES* UNDER OUR APPROACH

We now examine the courts' treatment of the economic arguments presented in *Hydrogen Peroxide*, *New Motor Vehicles*, and *Blades* to see if our approach can be usefully applied to the economic issues raised in those cases.

A. Hydrogen Peroxide

In *Hydrogen Peroxide*, the Third Circuit vacated the district court's decision to certify the class because "the District Court apparently believed it was barred from resolving disputes between plaintiffs' and defendants' experts."⁷⁶ However, the ultimate decision as to whether to certify the class was remanded to the district court.⁷⁷ The Third Circuit summarized its rationale as follows:

We do not question plaintiffs' general proposition, which the District Court accepted, that a conspiracy to maintain prices could, in theory, impact the entire class despite a decrease in prices for some customers in parts of the class period, and despite some divergence in the prices different plaintiffs paid. But the question at class certification stage is whether, if such impact is plausible in theory, it is also susceptible to proof at trial through available evidence *common to the class*. When the latter issue is genuinely disputed, the district court must resolve it after considering all relevant evidence.⁷⁸

The Third Circuit's description of the expert testimony offered to the district court indicates that there was indeed substantial uncertainty that the evidentiary burden suggested by our approach had been satisfied. Plaintiffs' expert argued that "similarity in price movements over time indicates that

⁷⁶ *In re Hydrogen Peroxide Antitrust Litig.*, 552 F.3d 305, 325 (3d Cir. 2008).

⁷⁷ *Id.* at 327.

⁷⁸ *Id.* at 325 (emphasis added).

hydrogen peroxide prices . . . are affected by the same market forces,”⁷⁹ and he also “pointed to coordinated increases in list prices by defendants as evidence of common impact.”⁸⁰ Defendants’ expert argued to the contrary that “there is no tendency for prices charged to individual customers to move together,”⁸¹ and that “defendants’ price-increase announcements were ineffective—actual prices did not follow the purported announcements—suggesting list prices could not be used to measure antitrust impact on a basis common to the class.”⁸² To satisfy the predominance standard, as we have suggested, the district court would have to identify evidence that (1) is *consistent* with the theory that collusion had led to higher industry-level prices and also (2) establishes that the shift in defendants’ residual demand curves would be reflected in individual consumers’ demand curves. Without access to the record, it is impossible to conclude whether these criteria were met. Nevertheless, the Third Circuit’s decision that the district court had erred when it failed to resolve these disputes is consistent with the economic approach we have proposed.

B. New Motor Vehicles

In *New Motor Vehicles*, the First Circuit vacated a class certification decision in favor of a nationwide class of new car purchasers but stated that “the district court is free to reconsider the class certification orders on a more complete record.”⁸³ The court justified its decision based on concerns about the nature of the economic evidence offered by plaintiffs.⁸⁴ The evidentiary concerns raised by the First Circuit are exactly those that would require resolution under our approach.

For instance, the court observed that although “[i]njury in price-fixing cases is sometimes not difficult to establish,” the “novel and complex” nature of plaintiffs’ theory demanded additional scrutiny.⁸⁵ Specifically, the court stated:

The first step of plaintiffs’ theory requires demonstrating that the defendants’ actions did result in an increase in dealer invoice prices and MSRPs in the United States. This in turn depends on at least two factors. First, there would have had to be, in this but-for world, a flood of significantly lower-priced Canadian cars coming across the border for resale in the United States during times of arbitrage opportunities, enough cars to cause manufacturers to take steps to protect the American market from this competition by decreasing nationally set prices. As plaintiffs themselves note, without a very large number of cars poised to cross the

⁷⁹ *Id.* at 313.

⁸⁰ *Id.*

⁸¹ *Id.* at 314 (internal quotation marks omitted).

⁸² *Hydrogen Peroxide*, 552 F.3d at 314.

⁸³ *In re New Motor Vehicles Canadian Exp. Antitrust Litig.*, 522 F.3d 6, 9 (1st Cir. 2008).

⁸⁴ *Id.* at 26, 29.

⁸⁵ *Id.* at 27.

border, a nationwide impact on the automobile market of the sort required by plaintiffs' theory is implausible, and the theory collapses. In our view, plaintiffs' expert Professor Hall had not yet, at the time of class certification, fully answered such potentially relevant questions as how the size of the but-for influx of cars would be established or how large that influx would have to be to affect the national market sufficiently to raise effective dealer invoice prices and MSRPs.⁸⁶

The court was also concerned that plaintiffs' theory of harm would not be able to differentiate between the effects of the allegedly anticompetitive horizontal conspiracy and the effects of permissible and potentially efficient vertical restraints.⁸⁷ The court's concerns suggest that plaintiffs must clearly articulate the evidence necessary to prove their case at trial.⁸⁸ As we discussed above, in economic terms, this requires plaintiffs to articulate a mechanism of harm that specifically defines the manner in which defendants' residual demand curves have been rendered more inelastic.⁸⁹ The court's concern over the lack of a specific articulation of the mechanism of harm is consistent with our proposed economic standard.

The court also found plaintiffs' approach to the issue of cohesion insufficient. It explained: "Plaintiffs seem to rely on an inference that any upward pressure on national pricing would necessarily raise the prices actually paid by individual consumers. There is intuitive appeal to this theory, but intuitive appeal is not enough."⁹⁰ The court emphasized that the problem with plaintiffs' approach was not with the concept, but with its evidentiary support in the case at hand. Rather, it stated that it could be incorrect to "allow an assumption" of class-wide impact based solely on this assertion.⁹¹ Under the approach we have suggested, establishing whether there exists evidence that supports such a connection is one of the primary purposes of expert testimony during the class certification process.

C. *Blades*

In *Blades*, the Eighth Circuit upheld a decision not to certify a class of direct purchasers of genetically modified "Roundup Ready" soybean seed or genetically modified "Yieldgard" corn seed.⁹² Specifically, the court found that "parts of the extensive evidence produced in this case demonstrate that not every member of the proposed classes can prove with com-

⁸⁶ *Id.*

⁸⁷ *Id.* ("Second, the plaintiffs must be able to sort out the effects of any permissible vertical restraints from the effects of the alleged, impermissible horizontal conspiracy.").

⁸⁸ *See id.*

⁸⁹ *See supra* Part I.D.

⁹⁰ *New Motor Vehicles*, 522 F.3d at 29.

⁹¹ *Id.*

⁹² *Blades v. Monsanto Co.*, 400 F.3d 562, 565-66 (8th Cir. 2005).

mon evidence that they suffered impact from the alleged conspiracy.”⁹³ The Eighth Circuit observed that the district court’s initial decision was based on four factors:

(1) farmers buying GM seeds often received varying discounts from the list prices, so each farmer would have to prove separately that he paid an actual transaction price that was supra-competitive; (2) the market for seeds is highly individualized, requiring particularized evidence to determine the competitive price that would have prevailed in the locality of any individual farmer; (3) prices for GM seeds varied widely, and some farmers paid negligible premiums or no premiums at all for GM seeds, as compared with corresponding non-GM seeds; (4) plaintiffs’ expert did not show that the fact of injury could be proven for the class as a whole with common evidence.⁹⁴

The Eighth Circuit based its decision on factors (2), (3), and (4), but did not rely on factor (1) in rendering its decision.⁹⁵

Again, this approach is consistent with the economic approach we have proposed. Factors (2), (3), and (4) all suggest the absence of an established relationship between the determinants of class members’ individual demand curves and the determinants of the aggregate demand curves faced by defendants. On the other hand, factor (1) merely suggests that the shapes of class members’ individual demand curves are different. Differences in the shapes of class members’ demand curves are inapposite if a common element of demand consistent with the mechanism of harm has been established.

Indeed, the court’s discussion of the specific factual setting of the case suggests that it would have found evidence of such an element of demand, a compelling reason to reverse the denial of class certification. According to the decision, “plaintiffs allege[d] that only the ‘premium’ portion of the seed product is the result of the price-fixing scheme.”⁹⁶ The court noted that genetically modified corn seeds were often sold alongside a corresponding non-genetically modified corn seed and that “[b]ecause no pricefixing [sic] conspiracy is alleged as to non-GM hybrids [non-genetically modified seeds], such pairings establish clear list-price premiums for the GM corn hybrids [genetically modified seeds].”⁹⁷ Citing uncontroverted evidence that many of the genetically modified seeds at issue were sold at “zero or negligible list price premiums,” the court stated:

While a negligible or zero list premium may not conclusively establish the absence of price inflation as to the hybrid at issue, such a premium presents very different factual issues, and

⁹³ *Id.* at 571.

⁹⁴ *Id.* at 572.

⁹⁵ *Id.*

⁹⁶ *Id.* at 570.

⁹⁷ *Id.* at 573.

requires different proof, than do list premiums that approximate Monsanto's technology fee.⁹⁸

Because the connection between the *mechanism* of harm (collusion) and the *evidence* of that harm (inflated premiums) would not apply to every class member, the court concluded that the class was not sufficiently cohesive.⁹⁹

CONCLUSION

In this Article, we have proposed an economic framework for satisfying Rule 23(b)(3)'s predominance requirement. We believe that our approach is particularly appealing because it distinguishes the issue of validity from the issue of cohesion; the predominance standard must be satisfied through a rigorous analysis, but the class certification inquiry maintains a distinct purpose. Furthermore, our approach is guided by the principles set forth by the appellate courts in *Hydrogen Peroxide*, *New Motor Vehicles*, and *Blades*. It does not require a fundamental break with the prior case law emphasizing the limited nature of the class certification inquiry. Indeed, we have shown that the "base-price" approach to class certification that many district courts have found compelling is consistent with the economic framework we have proposed. Finally, we note that by focusing class certification on the economic relationship between class members' demand curves and the aggregate firm-level demand curve, economists and lawyers can use our framework to improve the efficiency of the class certification process by developing specific methods for establishing this connection through rigorous analysis.

⁹⁸ *Blades*, 400 F.3d at 573.

⁹⁹ *Id.* at 573-74.