



ECONOMICS COMMITTEE NEWSLETTER

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The Fundamental Economics of Class Certification

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I. Introduction

The Federal Rules of Civil Procedure allow a case to be certified as a class action when, among other criteria, “the court finds that the questions of law or fact common to class members predominate over any questions affecting only individual members.”² In price-fixing and other antitrust cases, economic analysis can assist the court in determining whether common issues predominate by identifying when the alleged antitrust violation can be proven at trial using common evidence, *i.e.*, evidence that is common for all members of the proposed class. In price-fixing cases the role of economic analysis has been particularly important with respect to the “impact” of the alleged conspiracy, which addresses whether the members of the proposed class of plaintiffs were all injured (by higher prices) by the cartel. In its simplest form, the question for economic analysis at the class certification stage is: Is evidence that a cartel increased the price to one or more proposed class members sufficient to conclude that the cartel increased price to all other proposed class members?

As this article explains, fundamental principles of economics can be used to determine when and under what conditions impact may be proven using common evidence. The fundamental principles that are relevant here are the principles of substitution used by economists to define relevant antitrust markets. These principles indicate that impact may be proven using common evidence when prospective class members purchase one or more products that are included in the same relevant product market. These principles do not support the conclusion that impact may be proven using common evidence when the prospective class includes customers who purchase products that are not included in the same relevant market. This inquiry is familiar to antitrust economists and lawyers who commonly use the principles of market definition in assessing liability aspects of antitrust cases.³

II. The Principles of Market Definition

The basic context for our discussion is a price-fixing case. The defendants in the case are alleged to have participated in a cartel to increase either: (1) the prices of

¹ The authors are economists with the Princeton Economics Group, Inc. This paper is based on a presentation the authors made to attorneys at Arnold & Porter. We are grateful for the comments and suggestions received from attorneys at that law firm and from an editor of this newsletter.

² Fed. R. Civ. P. 23(b)(3).

³ This paper does not attempt to address whether all members of a plaintiff class have been impacted by an alleged antitrust violation but instead whether the impact of the alleged violation may be proven using class-wide or common evidence.

multiple products (Products A and B) or (2) the prices of the same product sold in multiple regions (Regions A and B) or (3) more generally the prices of the same product sold to multiple groups of consumers. The question that an economist might be asked to address in the class certification stage is whether common evidence can be used to prove class-wide impact of the alleged cartel. Another way of stating this issue is as follows: In the case of multiple products, if there is evidence that the cartel elevated the price of Product A, does this mean the cartel also elevated the price of Product B? Similarly, in the case of multiple regions, if there is evidence that the cartel elevated the price in Region A, does this mean the cartel also elevated the price in Region B?

A. Demand Substitution

The principles of market definition, namely demand and supply substitution, help us to answer this question. First consider demand substitution. When Products A and B are demand substitutes, an increase in the price for Product A will increase the demand for Product B as consumers substitute away from Product A and toward Product B. Under general conditions, an increase in the demand for Product B will lead to a price increase for Product B. This process implies that if there were evidence that the cartel elevated the price of Product A, then under general conditions, as consumers substituted from Product A to Product B, the price of B would rise as well. Impact then would be common across these two products, which are demand substitutes.

The same thing happens when demand substitution extends across Regions A and B. If prices rise in Region A, then consumers would be expected to purchase in Region B instead of Region A, and prices in Region B would likely rise as well. This means that impact may be common across transactions in these two regions.

This reasoning provides a first conclusion: Impact may be proven using common evidence when the proposed class includes customers who purchased demand substitutes. If a cartel elevated the price of one product, that would lead to substitution that likely would elevate the prices of substitute products. Therefore, evidence that the cartel increased the price of one product would support the conclusion that the price of substitute products would have increased as well. Similarly, if a cartel elevated prices in one region, that would lead consumers to substitute by purchasing the same product in another region, driving up the price in that other region. Therefore, evidence that the cartel increased the price in one region would support the conclusion that the price in the other region would also have increased. The operation of demand substitution provides a link that allows one to find that the impact of a cartel price increase may be proven using common evidence across class members purchasing different products or the same product in different regions.

B. Supply Substitution

The same conclusions do not apply to products that are supply substitutes. Products A and B are considered substitutes in production (supply substitutes) when an increase in the price of Product A induces firms to produce less of Product B in order to use that capacity to produce more of Product A. When this happens, the reduction in supply of Product B can lead to an increase in the price of Product B.

Although this process might be sufficient to conclude that certain kinds of market shocks would be transmitted from Product A to Product B, it is not sufficient to conclude that the effect of a cartel would be transmitted from Product A to Product B. Since cartels must generally restrict output in order to bring about higher prices, the cartel would be undermined if its members were permitted to expand output of the cartelized product by shifting production capacity from other products to make more of the cartelized product. As such, when Products A and B are substitutes in production, evidence that a cartel increased the price of Product A does not mean that the price of Product B would rise as well. This motivates a second conclusion, which is that the principles of substitution do not provide a reason for concluding that impact may be proven using common evidence when the proposed class includes customers who purchased supply substitutes.

This analysis serves to illustrate the weaknesses of the “price structure” approach frequently taken to class certification. Plaintiffs may argue that impact must be common when prices of different products move together over time. Co-movement of prices is measured either by calculation of correlation coefficients or even by visual inspection of diagrams. When co-movement is detected, it is interpreted as meaning that prices of different products have “structure,” and this “structure” is adduced as a basis to conclude that impact from a cartel could be proven using common evidence. The unarticulated assumption embodied in this approach is that if prices have historically responded in common to a variety of market shocks, then the impact of the alleged cartel must have been common across these products as well. This assumption is incorrect. Although the prices of demand substitutes may move together, prices of different products may also move together because they are supply substitutes or are subject to common movements in demand. Thus, observations of correlation over time in prices are not sufficient to demonstrate that impact to class members from a cartel could be proven using common evidence.

C. Neither Demand nor Supply Substitution

When Products A and B are neither demand nor supply substitutes for one another, evidence that a cartel elevated the price of Product A would not imply that the price of Product B must have risen as well. Similarly, when firms in Regions A and B are not competitors with one another, evidence that a cartel elevated the price in Region A would not lead one to believe that the price in Region B must have risen as well. This means that the principles of substitution provide no support for the conclusion that impact may be proven using common evidence when the

proposed class includes customers who purchased products that are not substitutes.

D. Price Discrimination

Price discrimination occurs when suppliers charge different prices (for a given product) to different customers within a relevant market. Price discrimination may be possible when three conditions are met. First, the firm or firms charging the discriminatory prices must have some market power. Second, there is an identifiable group of customers who are less willing than others to substitute away from a product in response to higher prices. Third, buyers who purchase the product at relatively low prices are not able to resell the product to those who are charged higher prices. When these conditions are met, the relevant product market may be limited to the customers subject to price discrimination.

Price discrimination has obvious implications for assessing when the impact of a price-fixing cartel may be proven using common evidence. When price discrimination occurs, evidence that a cartel increased the prices charged to customers subject to price discrimination would not mean that higher prices must also have been charged to other customers. The lack of arbitrage between the high- and low-priced versions of the product that made price discrimination possible rules out the demand side substitution that would otherwise transmit the cartel impact from one group of buyers to another. For the same reasons that customers may be subject to price discrimination, they may be victimized by a cartel price increase without that increase spilling over to prices paid by other customers. The principles of substitution provide no support for the conclusion that impact may be proven using common evidence beyond the boundaries of the narrower price discrimination market.⁴

III. Common Evidence and Market Definition

A. Synthesis

The conclusions of this analysis parallel the standards for market definition. The conclusion that only demand substitution and not supply substitution permits proving class-wide impact using common evidence parallels the U.S. Department of Justice and the FTC Merger Guidelines which distinguishes between these forms of substitution:

Market definition focuses solely on demand substitution factors—*i.e.*, possible consumer responses. Supply

⁴ This finding applies whether the proposed class includes customers who purchase multiple products or even a single product. In the single product case, evidence that higher prices were charged to some customers would not mean that other customers, not included in the price discrimination market, were impacted as well.

substitution factors—*i.e.*, possible production responses—are considered elsewhere in the Guidelines in the identification of firms that participate in the relevant market and the analysis of entry.⁵

The Merger Guidelines consider supply substitution in the analysis of determining who does or would compete in the relevant market in response to a sustained price increase.⁶ However, in the context of an alleged cartel, this form of competition is unlikely to materialize, especially if it is in the hands of members of the cartel. Similarly, both the Merger Guidelines and our analysis recognize that in markets where price discrimination is possible, the locus of effect from a merger or an alleged cartel may be limited to a particular group of buyers.⁷

The relationship between the principles of market definition and the prospect that impact may be proven in a class action using common evidence can be summarized as follows:

- (1) When prospective class members purchase products that are in the same market based on demand substitution, impact may be proven using common evidence.
- (2) When price discrimination is possible, then impact may not extend beyond the boundaries of the price discrimination market, so the principles of substitution may not be relied upon to establish impact using common evidence for all participants in the broader market.
- (3) When prospective class members purchase products that are supply substitutes, the principles of substitution may not be relied upon to prove impact using common evidence.
- (4) Finally, when products or firms are not in the same market, once again the principles of substitution may not be relied upon to prove impact using common evidence.

B. An Example: The *Flat Glass* Cases

⁵ U.S. Dep't of Justice & FTC, Horizontal Merger Guidelines § 1.0 (rev. 1997), available at <http://www.justice.gov/atr/public/guidelines/hmg.htm#10>.

⁶ *Id.* at § 1.321.

⁷ *Id.* at § 1.12.

These ideas may be illustrated in the context of a group of products, flat glass, that have been the subject of two separate price-fixing cases since 1997.⁸ In the first case, filed in 1997, a class of direct purchasers alleged a conspiracy to fix the prices of a range of products made from flat sheets of glass manufactured using the “float” process, a procedure by which molten glass forms smooth sheets while floating on a bath of molten tin. The products that were the subject of the allegations included products with varying compositions that imparted different tints or other properties to the glass and included products finished in differing fabrication processes after leaving the float plant. The allegations encompassed automotive replacement glass (replacements for windshields, and side and back windows for cars and trucks), architectural glass (used in the construction of large office and apartment buildings), and residential glass (used for single-family homes). The differing properties of specific types of glass meant that many of the products in question could not be considered demand substitutes, but their common origin in the float tanks meant that they were supply substitutes. Eleven years later a second lawsuit was filed alleging that substantially the same manufacturers had colluded with respect to the price of construction glass, a definition that appears to encompass both architectural glass and residential glass but did not include automotive replacement glass.

In the earlier case, the court established separate sub-classes for automotive replacement glass and what the plaintiffs in the second case would come to call construction glass. The decision to put these two groups of products in separate sub-classes was consistent with our reasoning – namely that the principles of substitution do not support concluding that impact can be proven using common evidence when products are not in the same relevant market by virtue of demand substitution.⁹ This decision was also consistent with our conclusion regarding supply substitution, for construction glass products and automotive replacement glass products are both manufactured from float glass, which is made in the same float glass plants. However, as we have explained above, supply substitution is not sufficient to ensure that common evidence can be used to prove the impact of an alleged conspiracy. Indeed, the second flat glass case underscores this point. In that case, filed in 2008, a class of plaintiffs alleged a conspiracy to fix the prices *only* of construction glass products.

⁸ The two cases are: *In re Flat Glass Antitrust Litigation*, 385 F.3d 350 (3d Cir. 2004) and *In re Flat Glass Antitrust Litigation (II)*, No. 08-mc-180, 2009 WL 331361 (W.D. Pa. Feb. 11, 2009). The Princeton Economics Group worked on behalf of the defendants in the first case.

⁹ This is not to say that the classes the court approved in *Flat Glass I* were not too broad, but merely to acknowledge that the decision to separate automotive replacement glass and construction glass was appropriate.

IV. Examining Demand Substitution More Closely

Our assessment indicates that when a proposed class includes customers who purchase multiple products, based on the principles of substitution, impact may be proven using common evidence only when these products are included in the same market as demand substitutes. But demand substitution is not a sufficient condition for using common evidence to show class-wide impact. There may be instances where products are in the same market as demand substitutes, yet evidence of higher prices to some proposed class members is not sufficient to conclude that higher prices would have been charged to all class members. Similarly, there may be instances where multiple regions or multiple groups of consumers are included in the relevant market, yet evidence of higher prices to some is not sufficient to conclude that higher prices have been charged to all. The question that has to be considered is whether higher prices to some customers would necessarily have been transmitted in one way or another to all other class members.

There are several situations in which the higher prices to some need not result in higher prices to all others. One such situation occurs when one or more customers have long-term contracts that insulate them from price increases by the alleged cartel. When firms have long-term contracts that span the entire alleged cartel period, these customers will not be impacted if the prices specified in these contracts are determined independently of the prices charged by the cartel to other customers. Another such situation occurs when one or more firms cheat on the alleged cartel by failing to increase prices to some customers for the entire alleged cartel period. This might be likely to occur when the defendants sell to large firms with special bargaining power or to some large customers who purchase irregularly. Large customers are particularly attractive for cartel members to “poach” by cutting price, and this conduct is harder for cartel members to detect when the large customers purchase irregularly. One further situation where common impact need not occur is when substitution from the impacted product to a second product does not cause the price of the second product to rise. This happens under certain circumstances when the incremental cost of producing that product is constant.

These exceptions illustrate an important point: Even when the theoretical underpinnings are in place to be able to prove impact using common evidence, careful assessment is required to determine whether price impacts would necessarily be transmitted across products and across customers. Demand substitution is not sufficient to prove impact using common evidence because practical limitations may interfere with the transmission of price effects.

V. Conclusion

When a proposed class includes customers who purchase multiple products that are not demand substitutes, or when the class includes customers in different

regions that do not belong in the same relevant market, then the principles of substitution do not support concluding that impact may be proven using common evidence. Evidence of a price effect on some transactions would not suffice as proof of impact on other transactions. To prove impact using common evidence, there must be some reason that evidence of a price effect for some customers *ensures* that there will be price effect for all customers in the alleged class.

It is possible, of course, that a single conspiracy might encompass products or regions that are not demand substitutes and, so, do not fall in a single relevant market. The impact of such a conspiracy, however, is not susceptible of proof by common evidence. In the case of a multi-market conspiracy, impact would have to be demonstrated separately for each relevant market. Such a case would have arisen if the plaintiffs in the *Flat Glass II* litigation had also alleged that the conspiracy included manufacturers of vinyl siding and that the prices of vinyl siding had also been affected by the alleged conspiracy. The two products are not demand substitutes and would not be considered part of a single relevant market. If a cartel succeeded in raising the price of construction glass, that fact alone would not imply that the price of vinyl siding had increased. That is, impact could not be proven using common evidence. The impact of such a conspiracy would have to be demonstrated separately for construction glass and for vinyl siding, so it would be inappropriate to include both construction glass and vinyl siding in a single class, even if a unified group of conspirators had colluded over the prices of both.

The impact of a price-fixing conspiracy may be proven using common evidence when: (1) the proposed class includes customers who purchased the same product or multiple products that are included in the same market as demand substitutes, and (2) when there is no impediment to the transmission of this price effect to all other class members as there might be when there are long-term contracts or when the cartel cannot be expected to impact larger customers, particularly those who purchase irregularly.