Economics of Class Certification in Indirect Purchaser Antitrust Cases

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ECONOMICS OF CLASS CERTIFICATION IN INDIRECT PURCHASER ANTITRUST CASES

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Introduction

The objective of this paper is to analyze the economics surrounding indirect purchaser antitrust cases. Two key issues considered by the courts are common impact and whether damages are subject to common proof. In such cases, antitrust impact (or fact of injury) and damages often hinge on the actions of wholesalers, distributors, retailers at the intermediate level, and final purchasers at the end-user level. This paper focuses on the following questions:

How do retailers behave? What are the implications of this behavior on the extent to which the alleged overcharge is passed on to consumers?

How do consumers behave and how does their behavior bear on damages?

What are the implications of retailer and consumer behavior for class conflict?

In indirect purchaser antitrust cases, it is often assumed that wholesalers, distributors, and retailers conform to an extreme case of perfect competition (where supply is assumed to be perfectly elastic).¹

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¹ A perfectly elastic industry supply means that any expansion of output does not result in the increase of unit costs.
This assumption means that the intermediaries would fully pass on an alleged overcharge to final purchasers. The first question addressed in this paper is whether real world behavior departs from this assumption of full pass-on. Our review of the empirical evidence shows that the retail sector rarely conforms to this (extreme) perfect competition paradigm. Consequently, pass-on is best assessed empirically. Regarding the second question, how consumer behavior bears on the calculation of damages, we find that consumer differences in purchasing behavior can affect damages. In such cases, an accurate calculation of damages should account for individual-level behavior. Finally, in answer to the third question, whether variation in behavior at the distribution and end-user levels creates class conflict, we find that, in certain circumstances, such a variation may place the financial interests of some of the proposed class members at odds with other class members.

The paper is organized into five sections. Section II provides a brief overview of the landmark court decisions regarding indirect class certification. Section III focuses on the behavior of distributors and retailers to determine if simple descriptions of perfect competition are consistent with empirical evidence. Section IV shifts the discussion to consumer behavior to draw attention to potential diversity in consumer behavior and ways it can complicate damage issues on a classwide basis. Section V characterizes situations where the financial interests of some of the proposed class members may conflict with other class members. Section 5 discusses conclusions.

The Legal Environment Surrounding Indirect Purchaser Antitrust Cases

Three landmark Supreme Court decisions, Hanover Shoe, Inc. v. United Shoe Machinery Corp., Illinois Brick Co. v. Illinois, and California v. ARC America Corp. were instrumental in defining and limiting the certification of indirect classes. The Hanover Shoe decision in 1968 prohibited the use of the pass-on argument by the defense

2 Hanover Shoe, Inc. v. United Shoe Machinery Corp., 392 U.S. 481 (1968); Illinois Brick Co. v. Illinois, 431 U.S. 720 (1977); California v. ARC America Corp., 490 U.S. 93 (1989). Some of the other key cases that set the stage for Illinois Brick are:

Continued on Page 20
Continued from Page 19

*Chattanooga Foundry & Pipe Works v. City of Atlanta*, 203 U.S. 390 (1906): The Supreme Court held that the city could sue for direct purchaser damages due to a water pipe cartel. In this case, no one brought up the argument that the city could pass on the overcharge to its water customers. Some view this case as a precursor to *Illinois Brick* and *Hanover Shoe*.

*Atlantic City Elec. Co. v. General Electric Co.*, 337 F.2d 844 (1964): Defendants protested that plaintiffs would receive a windfall from litigation because they were able to pass on any overcharge to the consumers. The court ruled that the defendants received a windfall from fixing prices and there was no injustice in transferring that windfall to plaintiffs.

*Hawaii v. Standard Oil*, 405 U.S. 251 (1972): The Supreme Court ruled that the State of Hawaii could not pursue a *parens patriae* claim against four oil refiners who conspired to restrain trade. The court was concerned about duplicative recovery. In 1976, Congress enacted the *Hart-Scott-Rodino Antitrust Improvements Act*, which was added to the Clayton Act. This allowed any state attorney general to sue in a federal district court as *parens patriae* on behalf of natural persons residing in such State to secure monetary relief.

3 In *Hanover Shoe*, plaintiff was a direct purchaser, alleging injury by antitrust violation. Defendants argued that they should be allowed to show that the plaintiff passed on the costs of the violation to its customers. The facts of Hanover Shoe presented a particularly complicated problem with respect to the pass-on issue. The product involved, shoe manufacturing machinery, was not itself resold by plaintiff. In effect, the court was being asked to determine whether plaintiff’s pricing decision for shoes reflected the illegal overcharge for the machinery which was used in their manufacture. *See B.W.I. Custom Kitchen v. Owens-Illinois*, 235 Cal. Rptr. 228 (1987).

4 In *Illinois Brick*, the plaintiffs were indirect purchasers, alleging passing on all or part of the overcharge by the direct purchasers. The court summarized the task that lay before it as follows: Having decided [in *Hanover Shoe*] that in general a pass-on theory may not be used defensively by an antitrust violator against a direct purchaser plaintiff, we must now decide whether that theory may be used offensively by an indirect purchaser plaintiff against an alleged violator.
For nearly a decade following the *Illinois Brick* ruling, efforts to overturn the *Illinois Brick* decision took place on several fronts. Congress instigated one unsuccessful front. It considered several bills that would have overturned *Illinois Brick* but was unable to pass any of them. A more successful effort was launched by the individual states. A number of states either repealed the *Illinois Brick* rule for private actions or used their pre-*Illinois Brick* antitrust and consumer protection statutes to authorize indirect purchaser suits. In 1989, the Supreme Court decision in *California v. ARC America Corp.* legitimized indirect purchaser suits in state courts. Consequently, the statutory schemes vary from state to state, and when combined with federal antitrust law, they make for what amounts to a broad spectrum of antitrust law that varies by jurisdiction.

**Behavior of Distributors and Retailers and Implication for Pass-On**

The assumption of an overcharge paid by direct purchasers is insufficient on its own to guarantee that entities further down the distribution chain pay the overcharge. Fundamentally, it is important to know the extent to which direct purchasers pass on any overcharge to their immediate customers, the extent to which these customers pass on any overcharge they might pay, and so on down the distribution chain until the final customers are reached. An economist asked to determine how an overcharge was passed on through the distribution chain might turn to incidence analysis. Incidence analysis is an economic theory of how an initial overcharge affects prices at the next stage of distribution. Incidence analysis is so named because it draws on the economic literature on tax incidence, which seeks to answer who pays particular taxes. In general, economists simplify incidence analysis by assuming wholesalers and retailers set prices under a realm of perfect competition.

6 Numerous indirect purchaser lawsuits across different states followed this favorable ruling for local repeals of *Illinois Brick*. Table 1 in appendix A reports the outcomes of the key indirect class certification cases across states. This table is adapted from and has been updated with more recent cases (*See* William H. Page, *The Limits of State Indirect Purchaser Suits: Class Certification in the Shadow of Illinois Brick*, ANTITRUST L.J., (1999). It shows how indirect purchasers have fared differently in different states.

Perfect competition imposes a very restrictive set of conditions/assumptions. For example:

It assumes that there are a large number of small buyers and sellers that maximize profits. These buyers and sellers do not have market power on the buying or selling side.

There is no strategic interplay between and across the buyers and sellers. All buyers and sellers, including the ultimate consumers, have full information about prices, products, and availability.

All intermediaries sell an identical product. Consumers are therefore expected to be indifferent between products sold by the sellers.

**Incidence Theory**

Incidence theory implies that an overcharge will be fully passed on to the ultimate consumers under two extreme cases. In the first case, the industry supply at the intermediate level is assumed to be perfectly elastic, meaning that any expansion of output does not result in an increase in unit costs. The second case is encountered when the demand of ultimate consumers is perfectly inelastic, meaning that the consumers continue to buy a fixed quantity of the product irrespective of price changes. However, in reality neither of these two assumptions accurately describes most real-world markets. At the very least, empirical analysis would be required.

More generally, incidence analysis requires estimating supply and demand elasticities and then using those estimates to determine

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8 Note that there are two other extreme cases that predict that direct purchasers do not pass on the overcharge. These two cases are theoretical possibilities and are unlikely to be encountered in a cartel context.

9 Supply refers to the industry supply at the intermediate level while demand refers to the demand of ultimate consumers or indirect purchasers. Elasticity is defined as the sensitivity of quantity demanded (or supplied) to price changes. It can be thought of as the percentage change in the quantity demanded (or supplied) due to a one percent increase in the price of that good.
pass-on under conditions of perfect competition. Pass-on can vary from 0 to 100 percent, depending upon the elasticities. However, it is important to realize that incidence theory assumes perfect competition, a condition that might not be met by all markets.

Simple Stories of Perfect Competition Associated with Incidence Analysis Are Problematic

One major problem with the incidence approach, in addition to the assumption of perfect competition, is that the extent of pass-on is ambiguous without reliable estimates of demand and supply elasticities. In *Illinois Brick*, the court called attention to this limitation. Landes & Posner (1979) reiterate the empirical challenges surrounding the determination of pass-on due to its reliance upon reliable estimates of elasticities of supply and demand.

A more fundamental problem with incidence theory is its assumption that the intermediate level of distribution is perfectly competitive. Courts at both the federal and state levels are cognizant of the inadequacy of simplistic economic models in depicting the realities of the actual market. Furthermore, indirect certification cases, such as *Execu-Tech Business Systems, Inc. v. Appleton Papers Inc.*, *McCarter v. Abbott Labs.*, and *Wood v. Abbott Labs.*, call attention to the importance of test-

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10 Specifically, the rate of pass-on assuming competitive intermediaries is defined as follows: Rate of Pass-On = (elasticity of supply)/(elasticity of supply + elasticity of demand).

11 The court held that, even if these assumptions [of perfect competition] are accepted, there remains a serious problem of measuring the relevant elasticities the percentage change in the quantities of the passer's product demanded and supplied in response to a one percent change in price. *Illinois Brick v. Illinois* (431 U.S. 720, 1977).


13 In *Illinois Brick*, the Supreme Court explained that, in the real economic world rather than an economists hypothetical model, the latter's drastic simplifications generally must be abandoned. Overcharged direct purchasers often sell in imperfectly competitive markets. They often compete with other sellers that have not been

Continued on Page 24
ing whether, in reality, markets conform to the perfectly competitive paradigm. Therefore, an important question to answer is: are intermediaries, such as retailers, perfectly competitive?

The empirical literature on retailing, summarized in Table 1, shows that retail margins and prices vary across time, brands, geographical locations, and stores. These findings suggest a significant departure from perfect competition in the retail sector.

A survey of empirical research shows that a variety of factors contribute to this variation. These factors, explained in Appendix B, include:

- Differences in pricing strategies
- Variation in promotion programs
- Variation in menu costs
- Magnitude of cost shocks and speed of adjustment
- Degree of advertisement
- Differences in types of services offered
- Economies of scale
- Private label penetration
- Informational and locational asymmetries

Continued from Page 23

subject to the overcharge; and their pricing policies often cannot be explained solely by the convenient assumption of profit maximization. In *Execu-Tech Business Systems, Inc. v. Appleton Papers Inc.* (No. 96-9636 CACE 05, 1997 (Fla. App. 4 Dist.)), the court noted that, [t]he unacceptability of the assumptions and the near-impossibility of measuring the relative elasticities renders incidence analysis little more than a guessing game in practice. In at least two other cases (e.g., *Wood v. Abbott Labs.*, 1997 WL 824019, and *Durden v. Abbott Labs.*, No. CV 93-663, 1996), the restrictive assumptions of perfect competition were found to be inconsistent with empirical evidence that showed significant deviation from the competitive paradigm. See Coutroulis & Allen, *The Pass-on Problem in Indirect Purchaser Class Litigation, The Antitrust Bull.*, (Spring 1999).
### Table 1: Empirical Literature on Margins and/or Prices

<table>
<thead>
<tr>
<th>Index</th>
<th>Year</th>
<th>Source</th>
<th>Data</th>
<th>Product</th>
<th>Typical Variation</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>1964</td>
<td>Canaves &amp; Truex</td>
<td>1988</td>
<td>Average Retail Gross Margin for a Given Store Type</td>
<td>Explain margins across different types of stores</td>
<td>N/A</td>
</tr>
<tr>
<td>18</td>
<td>1964</td>
<td>U.S. Direct</td>
<td>1964-66</td>
<td>Linear and 2SLS</td>
<td>Cross Sectional &amp; Time Series Variation</td>
<td>N/A</td>
</tr>
<tr>
<td>19</td>
<td>1964</td>
<td>Divisia &amp; Sheppard</td>
<td>1966-67</td>
<td>Grocery</td>
<td>Cross Sectional &amp; Time Series Variation</td>
<td>Retail margins explain medley effect on retail margins across stores in different market conditions.</td>
</tr>
<tr>
<td>20</td>
<td>1964</td>
<td>Shum</td>
<td>1985</td>
<td>Information Economics</td>
<td>Cigarettes</td>
<td>Cross Sectional Variation</td>
</tr>
<tr>
<td>21</td>
<td>1964</td>
<td>Stone</td>
<td>1985</td>
<td>Chain Store Age Supplement, 2.3</td>
<td>Cross Sectional</td>
<td>Cross Sectional Variation</td>
</tr>
<tr>
<td>22</td>
<td>1964</td>
<td>Adams</td>
<td>1987</td>
<td>Author's survey of 23 cities and 1,226 stores</td>
<td>Cross Sectional</td>
<td>Cross Sectional Variation</td>
</tr>
<tr>
<td>23</td>
<td>1967</td>
<td>Arnold, 1970</td>
<td>1972</td>
<td>Consumer Acceptability of 100 brands</td>
<td>Variety of Items</td>
<td>Cross Sectional variation</td>
</tr>
<tr>
<td>24</td>
<td>1967</td>
<td>Lacey et al.</td>
<td>1973</td>
<td>10 brands</td>
<td>Skidmore-Hudleth (1968)</td>
<td>Cross Sectional &amp; Time Series Variation</td>
</tr>
<tr>
<td>25</td>
<td>1966</td>
<td>Ambrose, Jr.</td>
<td>1975</td>
<td>King survey conducted by Ambrose in Illinois, data from 92 supermarkets and 1,000 stores</td>
<td>Cross Sectional</td>
<td>Cross Sectional Variation</td>
</tr>
</tbody>
</table>


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A more realistic characterization of the retail markets downstream from the manufacturer, which is consistent with the empirical evidence, is that of monopolistic competition with varying degrees of oligopoly and monopsony, depending on the product class.\textsuperscript{14,15} In these markets, the retailers are price-makers rather than price-takers.\textsuperscript{16} When retailers interact in a world of imperfect competition, the extent of pass-on cannot be determined by incidence theory alone. In such a world, pass-on is best assessed empirically.

### Select Features of the Empirical Approach and Court Rulings on Empirical Analyses

An empirical approach need not assume that the wholesale level and retail level are perfectly competitive. Rather wholesalers and


\textsuperscript{15} In some markets, retailing is viewed as an oligopoly because strategic interaction exists between a few competitors that enjoy substantial market shares. Such market shares are often exploited to dictate relationships with manufacturers in order to earn varying degrees of profits. See Shepard, A., \textit{Price Discrimination and Retail Configuration}, \textit{J. Pol. Econ.}, (1991); Cotterill & Haller, \textit{Barrier and Queue Effects: A Study of Leading US Supermarket Chain Entry Patterns}, \textit{40 J. Indus. Econ.}, (1992); Bruce W. Marion, \textit{Changing Power Relationships in US Food Industry: Brokerage Arrangements for Private Label Products}, \textit{Agrifood Business}, (April 1998); Park & Weliwita, \textit{Competitive Behavior in the Food Retailing Industry}, \textit{Can. J. Agric. Econ.}, (March 1999). Leveraged buyouts, increasing concentration in food retailing due to mergers and acquisitions, and financial restructuring are some of the reasons for the shift away from competitive behavior. See Judith A. Chevalier, \textit{Capital Structure and Product Market Competition: Empirical Evidence from Supermarket Industry}, \textit{Am. Econ. Rev.}, (1995); Park & Weliwita, \textit{supra}. A detailed discussion of changes in channel structure can be found in Messinger & Narasimhan, \textit{Has Power Shifted in the Grocery Channel?}, \textit{Marketing Sci.}, (1995). In some other markets, retailing is better approximated by monopolistic compe-

\textit{Continued on page 27}
retailers can be studied and market dynamics are incorporated in the determination of pass-on. Some of the key features of the empirical approach, as well as some court rulings that support an empirical assessment of pass-on, are:

**Estimating Pass-On at the Store Level**

A key feature of the empirical approach is to determine whether manufacturer price increases during an alleged cartel period were in fact passed on by wholesalers and retailers in the form of higher retail prices. This involves determining whether retail prices rise predictably after manufacturer prices increase. It is also important to determine whether retailers responses to price increases change during the alleged cartel period. A lack of consistent relationship between manufacturer list prices and retail prices suggests that impact can be established and damages calculated only on an individualized basis. On the other hand, a consistent relationship between list prices and retail prices may suggest that overcharges to direct customers would have a classwide effect determinable through common proof.

**Continued from page 26**

...the many levels of distribution separating these...
Testing Variation in Prices or Lack Thereof

Another important feature of the empirical approach is to test whether there is a significant variation in retail prices, as this is indicative of departure from the competitive market assumptions. Observed variation in retail prices, given uniform manufacturer prices, under reasonable conditions shows that retailers have different markups and/or their wholesalers have different markups. These retailers are making different pricing decisions and therefore different pass-on decisions. This suggests that any overcharge is not likely to be uniformly passed on to consumers. In other words, the determination of common impact and quantification of damages is complicated by the presence of the wide variation in the prices that proposed class members paid during the alleged class period. Conversely, lack of variation in retail prices, given uniform manufacturer prices, suggests that an overcharge is likely to be uniformly passed on to consumers.

Continued from page 26

consumers from the defendants makes it completely unmanageable in the absence of clear methodology for proof of damages by common evidence. [T]he jury will still have to consider the extent to which any price increase was passed on at each stage of distribution. Page, 1999 (Id. note 6), notes that most of the decided cases in the past have involved one intermediate actor. For example, courts in the infant formula cases construed toy stores and supermarkets as a single intermediary. Similarly, the Florida Circuit Court in the thermal fax paper case construed all paper converters as a single intermediary (Execu-Tech v. Appleton Papers, No. 96-9636 CACE 05, 1997). In the prescription drug cases, however, the courts differed in their interpretation of the number of intermediate sellers. In Maine and Minnesota, where the class was denied certification, the courts recognized two intermediate levels between the defendants and the indirect purchasers (Karofsky v. Abbott Labs., No. CV-95-1009, 1997; Kerr v. Abbott Labs., No. 96-002837, 1997). In the District of Columbia, where the class was certified, the court held that wholesalers were part of the conspiracy and that there was a single intermediate seller (Goda v. Abbott Labs., No. 1445-96 1997).

27 Some of these alternative pricing strategies are described in Appendix B.
Several courts have considered empirical evidence on retail prices in deciding whether damages are individualized for each member of the class. For example, in *Execu-Tech v. Appleton Papers*, the court held that the defendant's empirical findings showing variation in retail prices were vitally important. In *Wood v. Abbott Labs.*, the defendant's expert was also able to demonstrate tremendous variation in pricing and discounting by manufacturers. In *Kerr v. Abbott Labs.*, the court held that, [t]he dissimilarities inherent in purchases of various brand-name drugs, from various retailers, under varying terms, precludes a uniform method for calculating damages. In *Durden v. Abbott Labs.*, the court held that, [w]hether infant formula price increases are passed on to consumers would have to be evaluated on at least a retailer by retailer basis. Since different consumers bought from different retailers, the evaluation would need to be made one consumer at a time. Injury and damages are therefore not common issues. 

28 In this case, the defendant's expert used survey data to show significant variation in thermal fax prices across store locations, types of stores, and within types of stores. The expert also used regression analysis to reveal that most of the variation in retail prices could not be explained by the observables. The court denied certification on the ground that only individual level analysis of the transactions could explain the bulk of the variation in prices paid by the indirect purchasers (*Execu-Tech v. Appleton Papers*, No. 96-9636 CACE 05, 1997).

29 The court noted, examining 7 drugs over 2 different time periods, showed that, when manufacturers increased their list prices, 24.4% of the retailers did not increase their prices to consumers (*Wood v. Abbott Labs*, 1997 WL 824019).

30 *Kerr v. Abbott Labs.*, 1997-1 Trade Cas. (CCH) f 776, 1997 WL 314419, Minnesota District Court.

31 *Durden v. Abbott Labs.*, No. CV 93-663, Alabama Circuit Court, Calhoun County, January 16, 1996. Furthermore, the court emphasized the importance of empirical investigations: Dr. McLeod [defendant's expert] reviewed extensive empirical evidence. McLeod testified that, during the relevant period, some stores passed on 100% of manufacturer price increases, some stores passed on part of these increases, and a significant number of stores did not pass on any part of the price increase at all. Moreover, the court criticized the Plaintiff's expert for Continued on page 30
McCarter v. Abbott Labs., the courts also interpreted the variation in retail prices to mean that retail sales were decidedly individualized.\textsuperscript{32} In Fischenich v. Abbott Labs., the court noted that, the indirect purchasers paid different retail prices for the formula and that the plaintiffs had no idea of the prices paid, quantity purchased, and the dates of purchase.\textsuperscript{33} This inability to reconstruct purchases in Fischenich v. Abbott Labs. was pointed out by the court in Gordon v. Microsoft. In that case, in certifying the class, the court held that, consumers are much more likely to remember, and perhaps even to have a record of, when they purchased a computer than when they purchased baby food [a]lthough class members may recall fewer details about purchasing a shrink-wrapped product than a PC, there will still be far fewer purchases to reconstruct than the weekly or even daily purchases of infant formula.\textsuperscript{34}

These cases illustrate that an empirical examination of variation in retail prices, or lack thereof, as well as the ability to reconstruct the retail prices actually paid by the consumers, are important in establishing whether damages are individualized for each member of the class.

Examining Variation in Promotion Programs and Participation

An examination of variation in promotion programs (offered by manufacturers, wholesalers, and retailers) and variation in participation in these programs (by entities down the

\textit{Continued from page 29}

not testing theory with data: Unlike Dr. McLeod, Dr. Beyer’s theory is not supported by any empirical data. Dr. Beyer admitted that his theory is not only not tested but not testable. (p. 7) Dr. Beyer’s theory of 100% passthrough of the price of baby formula and the damages, if any, being confined only to that class of individuals purchasing baby formula amounts to evidentiary voodoo.

\textsuperscript{32} McCarter v. Abbott Labs., No. CV 91-050, Alabama Circuit Court, Shelby County, April 9, 1993.


\textsuperscript{34} Gordon, et al. v. Microsoft Corporation, No. 00-5994, Minnesota District Court, Hennepin County, February 5, 2001.
distribution chain) can be critical as it may lead to variation in prices at the wholesale and retail levels and thus varying degrees of pass-on. This is because only a subset of wholesalers and retailers may qualify for these programs and, of those that qualify, some may choose not to participate. Furthermore, the degree of participation may also vary across the participants. This variation in participation results in purchasers effectively paying different prices. Conversely, if most wholesalers and retailers qualify for promotion programs and the participation rates are similar, then such promotion programs are less likely to contribute towards variation in wholesale and retail prices.

The courts recognized these arguments in *McCarter v. Abbott Labs.* and *Execu-Tech v. Appleton Papers.* In the former, the Alabama Circuit Court called attention to the occasional volume discounts offered by the defendants to certain retailers. In the latter case, William H. Page notes that the court found that prices at the manufacturing level were negotiated for each transaction. Some sales involved price-protection clauses, which prevent any general price increase from being imposed on a particular buyer, and others involved discounts, bonuses, or rebates. Moreover, some price increases were not applied to certain intermediate purchasers. All of these factors contributed to the conclusion that the individual issues would outweigh the class issues in the proof of impact on indirect purchases.

**Identifying Product Heterogeneity or Lack Thereof**

Another feature of the empirical approach relates to identifying product heterogeneity, or lack thereof, because impact and damages may vary across heterogeneous products. Since product heterogeneity in terms of types, brands, and grades implies that markups and pass-on are likely to vary, it is relatively easy to demonstrate that the impact and the amount of damages are likely


36 *Id.* note 6.
to differ across class members. In Execu-Tech v. Appleton Papers, the court rejected plaintiffs proposed expert testimony because it rested on unrealistic assumptions that were contradicted by empirical realities. One of those assumptions was that the product was homogeneous. This assumption did not hold because manufacturers sell different types and grades of thermal fax papers that are not perfectly substitutable. In Kerr v. Abbott Labs., the court identified the existence of various brand-name drugs as one of the factors that would make a class action unmanageable.

Any alteration in the product across the distribution levels also complicates the pass-on analysis. If the product is transformed or altered in a significant way between manufacturer and consumer, then it may be very difficult to determine the extent to which final retail prices incorporate any of the manufacturer overcharge to the ultimate consumer. This is because the final retail price also incorporates the value added by intermediaries between manufacturer and consumer. Although a Minnesota court accepted this type of argument in City of St. Paul v. FMC Corp., the California Superior Court in Microsoft was not fully persuaded by a similar argument. Specifically, in City of St. Paul v. FMC Corp., the court held that the chlorine product was sold in cylinders of different sizes and the smaller cylinders were repackaged. Direct purchasers and other intermediaries added value in terms of

37 According to Coutroulis & Allen, [i]f product differentiation exists, the initial premise of incidence analysis is not satisfied because there is no well-defined single market. Separate supply and demand elasticities would need to be estimated for each relevant product market. If the degree of product differentiation, as shown by the actual evidence, is substantial, this will militate against using common proof to estimate pass-on and will instead require an individualized analysis. See Coutroulis & Allen, The Pass-on Problem in Indirect Purchaser Class Litigation, THE ANTITRUST BULL., (Spring 1999).

38 Execu-Tech v. Appleton Papers, No. 96-9636 CACE 05, Florida Circuit Court, Broward County, December 15, 1997.


inspection, testing, delivery, and maintenance services. In certifying Microsoft in California, however, the court was not persuaded by defendant’s argument that a class action would be unmanageable because Microsoft software is a small component of the ultimate product, a personal computer (PC) that consists of hundreds of other components and is sold by intermediaries as part of a package with other products and services.\(^4\)

The Microsoft case calls attention to an extreme case of product alteration where the alleged product is used as an input to produce another product. Page, 1999, cites cases where this type of product alteration was decisive in the denial of class certification.\(^4\) In Michigan, this factor played a major role in the denial of certification in Wilcox v. Archer-Daniels-Midland, of a class of purchasers of products (such as soft drinks and cereal) in which allegedly price-fixed high fructose corn syrup or citric acid was an ingredient. In Alabama, the court questioned the validity of plaintiffs expert testimony that all Alabama hog farmers had purchased feed containing price-fixed synthetic lysine since not all feed contained synthetic lysine.\(^4\)

\(^4\) The defendants argued that, Microsoft software is often incorporated as a very small component no more than about three percent of the total cost according to one plaintiffs experts of a larger product, i.e., a personal computer (PC) made by an original equipment manufacturer (OEM) such as IBM, Compaq or Dell. Indeed, PCs are built with hundreds of hardware and software components in addition to the Microsoft software, and are very often sold as part of a package with a huge variety of other products such as printers, monitors and storage devices. Intermediaries often sell PCs containing Microsoft software together with installation, maintenance, training and technical support services. The court held that, at this point, the court is not persuaded that a comprehensible analysis of these issues cannot be made within the context of properly managed trial proceedings. Coordination Proceeding Special Title [Rule 1550(b)], Microsoft Cases, Judicial Council Coordination Proceeding No.: 4106, Superior Court of California, County of San Francisco, August 4, 2000.

\(^4\) Id. note 6.

Alternatively, when the product is not altered across the distribution chain, courts may view this favorably with regards to certifying a class. For example, in California, the court in *B.W.I. Custom Kitchen v. Owens-Illinois* held that:

> [W]here the product in question is ultimately sold to the consumer, and is largely unchanged in form from the price-fixing manufacturer to the indirect purchaser, assessing whether the manufacturer's overcharges were passed on is less difficult. Plaintiff and class members herein bought the price-fixed item itself, empty glass containers, from a middleman. The effects of the price-fixing were not obscured by substantially altering or adding to the item received from the manufacturer. Therefore, a class should be able to show on a generalized basis that its members absorbed at least some portion of the alleged overcharges. 44

**Consumer Behavior and Implications for Damages**

Variation in consumer purchasing behavior may further complicate the calculation of damages by common formula. Differences in consumer behavior can affect damages in two distinct ways. First, consumers may differ in their day-to-day purchasing habits, for example, use of coupons, frequency of visits to the store, type of stores frequented, valuation of goods, degree of store/brand loyalty, etc. Second, consumers with otherwise identical purchasing habits may respond differently to a price increase. For instance, consumers may pursue coupons more aggressively, switch to other stores, substitute away to another product/brand, delay purchases over time, etc., in case of an overcharge. Therefore, an accurate damage calculation should account for individual-level information, such as the amount of purchase, the time of purchase, and the purchase price.45

45 Moreover, this calculation would also have to account for the fact that some consumers may have modified their behavior because of a conspiracy. To accurately quantify damages in the presence of mitigation efforts, one needs to model consumers' behavior *absent* an alleged conspiracy. The need for such an individualized study precludes calculation of damages by common proof.
Empirical research on three aspects of consumer behavior—coupon usage, store loyalty, and brand loyalty—are explored below. This exploration details how manufacturer price increases might affect specific consumers.

**Empirical Evidence on Coupon Usage**

Several studies show that coupon usage rates vary by product, household income, age of female head, composition of household, education of household head, etc.\(^46\) This implies that individual class members pay different effective prices based on their coupon usage. Therefore, any changes in the types of coupon offering during the alleged cartel period is likely to result in different damages for different class members. Furthermore, consumers may also pursue coupons more aggressively during the class period in order to mitigate the effects of an overcharge. Consequently, any determination of damages would require detailed information about coupon usage at the individual level over time.

Alternatively, all else being equal, when coupon offerings and coupon usage rates do not change during the alleged cartel period, it may be easier to calculate damages by common formula.

**Empirical Evidence on Store Loyalty**

Calculation of class member damages requires, among other thing, a careful examination of the class members store loyalty during the conspiracy period. If the proposed class members shop at many

stores (on a random basis), then calculation of damages using a common formula may be appealing. For such class members, an average overcharge estimate might be a good approximation. However, store-loyal class members are monetarily impacted differently than class members who shop at many stores. Determining which customers shop at many stores may therefore be necessary to assess damages accurately.

Further, class members that switch stores in search of the lowest price may have yet another different damage pattern. For example, a class member who shifts purchases to a lower-price (but less convenient) store may be damaged less than a store-loyal customer.

Therefore, before calculating damages using a common formula, an important question to answer is whether customers are generally loyal to stores. Table 1 in Appendix C reports empirical findings on store loyalty. These findings suggest that store loyalty is related to the following factors:

- Type of product purchased
- Customer’s subjective perception of service quality and merchandise quality
- Age of customer
- Income of customer
- Price expectation for the basket of goods
- Convenience of store
- Previous experience in the store
- Advertisement/store deals
- Availability of store loyalty programs such as frequent shopper cards
- Household’s awareness of coupons and access to coupons

The directions of correlations between these factors and store loyalty are explained in Table 1. This review of the empirical literature demonstrates that store loyalty can vary across consumers and that several factors explain this variation. Consequently, a careful account of store loyalty during the conspiracy period is required to assess damages accurately.
Empirical Evidence on Brand Loyalty

Variation in brand loyalty is another important factor in determining damages. Individuals who are less loyal to brands may offset price increases by switching to other brands. For example, some individuals who are less loyal to a particular brand may switch to a cheaper brand in the face of a price increase. Such customers are monetarily impacted differently than class members who are loyal to their brand and decide not to switch.

Again, before ascribing damages using a common formula, we need to answer the question of whether customers are generally loyal to brands. Table 2 in Appendix C reports the empirical findings on store loyalty. This survey shows that customers vary in terms of their adherence to brands across several dimensions. Some of these dimensions are:

Product type: essential versus non-essential products

Household characteristics: age of the household head, presence of children in the household, prior experience with the product, future business conditions, and household’s payment relative to the median price

Customer preferences: choice of the brands versus quantity to be consumed, frequency of shopping

Consumer’s impression of brands based on past consumption.

Potential Class Conflict Issues

Both the typicality requirement and the adequacy requirement bear directly on class conflict issues. If the goal of class certification is to extract aggregate compensation from the alleged conspirators, then the precise distribution of the aggregate compensation is irrelevant. On the other hand, if fair and adequate allocation of the compensation across class members is a significant concern, conflicts may exist. In this case, failure to account for heterogeneity among class members (in terms of the extent of damages) is likely to result in an unfair and inadequate distribution of compensation.
Transparent Cases of Class Conflict

One example of class conflict is when the proposed class consists of both retailers and end-users. In such a case, the conflict is clear-cut because full pass-on implies no damages to the retailer but complete damages to the end user. To demonstrate their damages, retailers will want to contend that they did not pass on much or any of the overcharge. End-users, on the other hand, will want to argue the opposite, i.e., that retailers passed on most or all of the overcharge.

Heterogeneity and Class Conflict

Earlier, we discussed that variation in retail prices (assuming that manufacturer prices are equal across direct purchasers) implies variation in pass-on, which in turn implies variation in damages. A uniform formula or methodology on a classwide basis that does not account for the fact that purchasers bought different quantities and paid different prices is likely to overcompensate some purchasers and undercompensate others. In some cases, such a uniform formula or methodology may indicate that some class members are unharmed and therefore fail to compensate them at all. In this case, conflict arises because consumers who are likely to be overcompensated may subscribe to a uniform formula or methodology while consumers who are likely to be undercompensated may object to such an approach. Furthermore, if the quantity consumed and prices paid vary with factors such as race, gender, income, and age, there may also be a conflict with regard to whether these differences should be aggregated or separated out in a damages model.

Conclusions

Our review of the empirical evidence shows that, in many instances, intermediaries behavior does not conform to the perfect competition paradigm. In these situations, pass-on is best assessed empirically. Also, consumers can differ across several dimensions in terms of their purchasing behavior. In such cases, an accurate calculation of damages may require analysis of individual level information. In addition, class conflict can arise when damage models use a uniform formula or methodology. Consumers likely to be overcompensated by a uniform formula or methodology may endorse it while consumers likely to be undercompensated by such a model may object.
Appendix B
Determinants of Variation in Retail Prices/Margins

Differences in Pricing Strategies

Everyday-Low-Price Strategy Versus High-Low-Price Strategy

Levy et al., 1997, show that differences in the number of weekly price changes across supermarket chains in the U.S. are due in part to different pricing strategies. Some chains follow an everyday-low-price strategy, maintaining low prices for an extended duration of time and offering few promotional discounts. Alternatively, some chains follow a high/low price strategy, charging higher prices and offering frequent discounts through sales and promotions. The pricing strategy is thus responsible for price differences.

Loss Leaders

Some stores discount highly advertised brands as loss leaders or traffic builders in order to generate sales of other products in the store. In other words, a markdown on a key product increases the number of buyers who come into the store and thus increases the potential number of buyers for other products. Here, lower prices of one commodity is strategically linked to higher prices of other products (Epstein, 1998). Since consumers cannot know all prices, consumers use the well-known advertised brands as benchmarks to assess prices across stores. In that sense, the more-advertised brands are often sold at or below competitive levels thereby reducing the margin for some retailers. A necessary condition for traffic building via loss leader is that retailers sell a sufficient variety of products. A specialty store with a few products is less likely to use the loss leader strategy (Albion & Farris, 1987). Consequently, differences in loss leader can result in variation in retail prices and margins across stores.

2 J.D. Hess & E. Gerstner, Loss Leader Pricing and Rain Check Policy, 6 MARKETING SCI., No. 4., (Fall 1987).
Price Discrimination

At times, retailers price discriminate against groups of customers who value a product differently. Every now and then, retailers also discriminate against groups that are less likely to switch to other stores. For example, Borenstein, 1991, found that gas stations discriminate against customers who are less likely to switch stations. Hence, to the extent that the distribution of such customers is not random across retailers, prices vary.5

Quantity Discounting and Surcharging

Murillo, 1998, showed that price dispersion may also result from the way stores set unit prices for larger packages of a certain product.6 This practice is called quantity discounting and quantity surcharging. He found systematic differences between upscale and downscale stores. Specifically, he found that upscale chain stores use quantity surcharges less frequently than the downscale chain stores and that these practices persist through time.

Focal Pricing

In some cases, stores follow a focal pricing strategy. For example, prices are made to end with a 9. This strategy gives a more favorable price perception to customers in order to stimulate greater demand (Anderson, 2000).7 In other cases, price-setting strategy reflects mere convenience. For example, prices can be set so that they end in 5 or 0 after taxes are tacked on so that store clerks do not have to deal with pennies.

Variation in Manufacturer/Wholesaler Promotion Programs

Manufacturers often promote their products by offering a wide range of incentive programs to both wholesalers and retailers. For

example, manufacturers may at times offer discounts to wholesalers for prompt payment. Similarly, manufacturers may also reduce prices if wholesalers assist in selling certain brands. Wholesalers that do not participate in these programs are likely to set higher prices. Manufacturers also offer direct incentives to certain retailers. For example, retailers may receive price discounts when they assist manufacturers in terms of signage, shelf space, etc.\textsuperscript{8} Again, retailers differ in the degree of participation in these programs and consequently induce variation in prices paid by the ultimate customers.\textsuperscript{9} To summarize, the relative cost advantage varies across participants and depends upon the degree of participation in these programs. This variation in costs may trickle down through the distribution chain resulting in a variation in retail prices.

**Variation in Menu Costs**

Another determinant of variation in retail prices is variation in menu costs. Menu costs refer to the cost of changing nominal prices. Levy et al., 1997, show that supermarket chains in the U.S. face different costs of changing nominal prices. Some of these costs consist of (i) the labor cost of changing shelf prices, (ii) the costs of printing and delivering new price tags, and (iii) the cost of in-store supervision of the price change process. In another study, Levy et al., (1998) outline the complex process that underlies price changes at five large supermarket chains and one drugstore chain in the U.S.\textsuperscript{10} This process consist of (i) collecting information on competitors, (ii) managerial decision-making regarding a change in price at corporate headquarters, (iii) price change preparation, (iv) actual physical price change, (v) price change verifica-

\textsuperscript{8} The buyer power at the intermediate level is also an important predictor of extracting these discounts. Differences in buyer power may translate into different negotiated prices.

\textsuperscript{9} It is important to note that wholesalers also offer promotional programs that can also contribute to variation in retail prices.

\textsuperscript{10} The chains studied operated an average of 400 stores each. In addition, the chains represented all large U.S. supermarket chains from the Northeast to the West Coast and were similar in the variety, selection, and quantity of products they carried. Daniel Levy, et al., *The Magnitude of Menu Costs: Direct Evidence from Large U.S. Supermarket Chains*, Q. J. Econ., (August 1997)
tion, (vi) in-store and corporate resolution of the price mistakes, and (vii) scan guarantee refund. Cecchetti, 1986, confirms that menu costs vary by the size and frequency of price changes.11

**Magnitude of Cost Shocks and Speed of Adjustment**

The ways that retailers adjust to changes in costs is another determinant of variation in prices. Carlton, 1989, argues that some firms may be reluctant to raise their prices in response to unanticipated temporary cost increases so that their customers do not mistake such price increases as permanent and react in the long run by substituting away from the store.12 Bergen, et al., 1998, show that refrigerated and frozen orange juice prices at a large midwestern supermarket chain were more rigid in response to temporary and small cost shocks than to permanent and large cost shocks.13 Furthermore, research shows that the ability of prices to adjust to cost shocks also differ across products (Cecchetti14, 1986; Kashyap15, 1995; Blinder, 1994).16 Therefore, it follows that any variation in the duration and magnitude of cost shocks across stores and products will result in a variation in prices.

Moreover, Murillo, 1998, presents evidence of differences in retailers’ response to wholesale changes in prices depending on the size of the chain store. Specifically, he finds evidence of downward price rigidity in large supermarket chains and upward rigidity in small chains. Ultimately, heterogeneity in price flexibility across different products and stores reflects the variation in institutional characteristics across different markets such as extent of competition, industry concentration, and market power (Dutta et al., 1997).

**Degree of Advertisement**

A substantial amount of empirical evidence shows a negative correlation between advertising intensity and retail gross margin (Steiner, 1993). Therefore, any variation in advertising intensity across products in the same store is likely to result in variation in retail gross margins across products for a given store.

**Types of Services**

Betancourt and Malanoski, 1999, identify differences in additional services offered by retail stores as important determinants of retail behavior. Some of these services consist of short waits at checkout counters, cleanliness, availability of a produce department, unit pricing, convenient location, etc. Any variation in these services is likely to result in variation in retail margins. In an earlier study, Betancourt and Gautschi, 1993, show that retail distribution services such as accessibility of location, assortment of goods, assurance of product delivery, information, and ambiance are critical determinants of retail margins.

18 *Id.* note 6
Economies of Scale

An examination of operating costs in the retail sector suggests that there are economies of scale such that the percentage operating costs are lower for larger stores (Nooteboom, 1982). Hence, variation in retail gross margins also stems from the variation in store size.

Private Label Penetration

Retailers strategically introduce private labels in order to gain profits directly and obtain better terms of trade from a national manufacturer. Lemon and Winer, 1993, and Sethuraman, 1995, empirically show that private label promotions can be quite effective in taking share from the national brand sales. Furthermore, Narasimhan & Wilcox, 1998, show that private label penetration is not always positively correlated with retail gross margins. Rather, the correlation depends upon (i) the perceived risks that the customers associate with purchasing a product and (ii) the ability of retailers to steal market share from the manufacturer.

Informational and Locational Asymmetries

Price dispersion for homogenous products can occur due to differences in information and location costs for consumers (Stigler, 1961; Adams, 1997). Differences in information result from the cost of acquiring information, as customers are not fully aware of all the prices at different stores. With location costs, consumers may be aware of prices across stores but the convenience of location dominates other considerations. In this case, the opportunity cost of time and the cost of transportation are sufficiently high to prevent consumers from taking full advantage of distant stores. In a quasi-experimental study, Devine and Marion, 1979, examined price dispersion for major Ottawa supermarkets before and after publishing of comparative prices in daily newspapers. They found that significant dispersion in prices existed for a standardized basket of food products before the dissemination of comparative price information. Furthermore, they found that the dissemination of information altered the dispersion of prices between stores and lowered the average price level in the market.

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Table 2: Literature Review on Brand Loyalty

Appendix C
**Appendix C**

**Table 2: Literature Review on Brand Loyalty**

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<thead>
<tr>
<th>Index</th>
<th>Year</th>
<th>Source</th>
<th>Data/Product</th>
<th>Key Finding</th>
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</table>
| 3     | 1995 | Gilboa & Pazgal\(^1\) | Scanner data on purchases of crackers, yogurts, and ketchup | • Brand switching can be explained by consumer's impression of brand based on past consumption.  
• The authors also show that, “choosing the same brand out of inertia” is more likely than choosing brands based on a dynamic re-valuation of decisions based on “cumulative memory.” |
| 4     | 1995 | Allenby & Lenk\(^2\) | Household brand choices for ketchup and detergents | • Authors found systematic differences between frequent and infrequent buyers of products in terms of their sensitivity to price, displays, and advertising |
| 5     | 1991 | Krishnamurthi & Raj\(^3\) | BURKE data on a frequently purchased (uniclustered) product class and BR scanner data on caffeinated ground coffee | • Brand loyal customers are less price-sensitive (relative to less loyal customers) with regard to the choice of brands  
• Brand loyal customers are relatively more price-sensitive with regard to decisions that concern the quantity to be consumed. |
| 6     | 1993 | Newman & Werbel\(^4\) | Major household appliances | • Authors found the age of the household head, presence of children in the household, prior experience with the product, future business conditions, and household's payment relative to the median price to be important predictors of brand loyalty. |

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<th>Key Findings</th>
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Table 1: Literature Review on Store Loyalty
Appendix C

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<th>Index</th>
<th>Year</th>
<th>Source</th>
<th>Data/Product</th>
<th>Key Findings</th>
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</table>
| 4     | 1998 | Sirohi, et al. | Customer data for a multi-store grocery retailer | • Store loyalty as measured by “intent to continue shopping,” intent to increase purchases and intent to recommend the store depend upon service quality and merchandise quality perception. 
• Customer’s perception of store value is an especially important factor in the determination of store loyalty if there exist a high degree of competitor attractiveness. Absent that, the perceived value is not important. |
| 5     | 1998 | Tomas | AC Nielsen, Second Annual Frequent Shopper Survey | • “Fully 55% of U.S. households actively participate in at least one grocery store loyalty program.” 
• “Cheevo leads the way with the highest percentage of frequent shopper card holders at 94%, followed by Charlotte (87%), Los Angeles (84%), Buffalo/Rochester and New York (70%/each).” 
• Convenience location and store deals are important reasons for joining the loyalty program. |
| 6     | 1995 | Carson | Customer Survey | • Convenience of location and the level of staff knowledge regarding products and their use are important determinants of store loyalty. |

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<td>The client should be able to see the benefits of the proposal.</td>
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**Table 1: Literature Review on Store Loyalty**

### Appendix C

Index Year Score

Table of contents:
### Appendix C

#### Table 1: Literature Review on Store Loyalty

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<tr>
<th>Index</th>
<th>Year</th>
<th>Source</th>
<th>Data/Product</th>
<th>Key Findings</th>
</tr>
</thead>
</table>
| 12    | 1977-78 | Goldman\(^2\) | Study of customers' shopping patterns and store loyalty | - Store loyalty patterns vary across product categories.  
- The loyal customers engage in "less pre-purchase search among stores, know less about the stores selling the products, and makes less use of the set of stores known to them." |

Note: *This tendency appears to hold because not all stores carry all of the brands. N/A refers to not available.*

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