

FTC Perspectives on the Use of Econometric Analyses in Antitrust Cases*

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I. Introduction

This paper discusses our perspectives, as FTC economists and experienced litigation economists, on how to make econometric analyses more useful in antitrust investigations and litigation. We first briefly discuss the role of econometrics and empirical analyses generally in antitrust. Sound empirical analyses can (and should) provide important evidence in an antitrust investigation or litigation. Based on our experience at the FTC and as litigation economists, we then suggest “best practices” for developing econometric studies that will be useful to the FTC in its decision making. We also provide some examples of the types of useful econometric analyses that are frequently conducted in FTC investigations. Finally, expanding on some the issues raised in the recent FTC working paper,² we discuss the use of scanner data for demand estimation, the use of merger simulation models, and the use of manufacturer level data in consumer products cases.

A. Quantitative Analyses, Generally

Before discussing econometric analyses, we begin with a more general perspective on quantitative analyses. Some of the most important issues in antitrust cases often hinge on quantitative evidence (*e.g.*, levels and trends in prices, market shares, sales, margins, profitability, and shipment patterns). These types of quantitative analyses are often very important and frequently do not involve statistical/econometric analyses. We begin with this basic point because although there has been much attention in recent years to the use of formal modeling and econometric estimation in antitrust, we should not lose sight of the fact that quantitative analyses of various kinds are useful. In addition, some of the basic tenets of sound econometric analysis (*e.g.*, starting with data that are sufficiently reliable for the task at hand and

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² Daniel Hosken, Daniel O’Brien, David Scheffman, and Michael Vita, *Issues in Econometrics Analysis of Scanner Data*, (available at <<http://www.ftc.gov/be/econometrics.htm>>).

utilizing sound economic methodologies suitable to the issues addressed and the data) are tenets for any sound empirical analysis.

B. Overview of the Use of Econometrics in Antitrust

Econometric and statistical analysis of data has come to play an important role in antitrust analysis generally. Recent papers by Rubinfeld and Baker (1999), Rubinfeld (2000), Werden and Froeb (1994), and Werden (2002) have discussed in considerable detail the various types of quantitative analyses that are now used frequently in both merger and nonmerger antitrust cases. Those papers are both descriptive and prescriptive in nature: describing the different techniques that are now commonly used in antitrust proceedings, and prescribing standards for sound application of those techniques, as well as for conveying the results of those applications to the enforcement agencies or the courts in a way that enhances their credibility. Consistent with this trend, econometric analyses in various forms are conducted and submitted and evaluated regularly at the FTC in connection with both antitrust and consumer protection investigations and litigation. While Commission economists and attorneys already recognize the value of solid empirical analyses, we are engaged in an effort to increase the use and improve the utility of such analyses.

The key decision makers at the FTC (and DOJ) and in the courts and their legal staffs are generally not economists or econometricians. Our experience at the FTC and as litigation economists indicates that if the legal staff and decision makers do not have a basic understanding of the economic modeling and econometric analysis in a specific matter, and if they do not see a sufficient link between that analysis and its conclusions with the other evidence, they are not likely to give that econometric analysis much weight. When this occurs it is a failing of the economists, who should ground firmly the econometric analysis in the institutional setting and facts of the case.

C. “Competing” Econometrics

On many matters there are apparently sound econometric analyses on both sides of a key issue. This fact has led to some skepticism by decision makers on the utility of econometric analyses. More needs to be done to educate lawyers and decision makers on scientific methodology. Analyses can lead to different conclusions because of: different data, different economic modeling, different econometric techniques, and/or fundamental “mistakes.” Determining what factors explain the differences in results is crucial to determining how one should assess the results and incorporate them into the decision process.

Econometric analyses do not “come from out of the air.” Rather such analyses are typically based on important assumptions. Those assumptions typically should be based on the totality of the evidence in the case. Economists, however, are sometimes not clear in their assumptions, making it difficult for lawyers and decision makers to assess econometric results, particularly when there are “competing” results. Antitrust lawyers are accustomed to weaving a complex set of facts into a theory. This is what the economic model (*i.e.*, the equations that are estimated and the interpretations of the estimates) in an econometric analysis does, albeit in economic “shorthand.” It is up to the economists to explain sufficiently the model and its bases – so that it

can be understood by lawyers. Then the lawyers can “test” the assumptions and modeling against the overall evidence in the case.

It is very common in science for studies to have conflicting conclusions. Indeed, the scientific method highlights the benefits of having multiple studies, perhaps with conflicting conclusions, in determining the “truth.” It is not scientifically appropriate (nor does it serve the objective of sound decision making) to take the general approach that conflicting econometric studies “cancel one another out.” If science took this approach there would be little useful science. As noted, different results come from different modeling or econometric analysis, data, assumptions, or mistakes. With the assistance of economists, attorneys and fact finders should be able to make conclusions on the direction and weight of econometric evidence based on mistakes, appropriateness and limitations of data, and the viability of the economic model given the other evidence in the case, rather than a simple “canceling out,” unless the proper conclusion is that the econometric analyses are not conclusive.

More difficult to deal with is weighing an econometric analysis against a rebuttal based on technical econometrics arguments put forward by another economist. “Technical” critiques (*e.g.*, whether or not the econometrics dealt with potential endogeneity) are outside the realm of most lawyers’ expertise. No econometric analysis is technically perfect. In a given context, some technical criticisms may be important or not. In most circumstances a technically-based critique should be supported by an empirical analysis that shows that dealing appropriately with the technical issue makes a meaningful difference in the results. And sometimes it is possible to deal with technical criticisms through examination of some of the relevant facts. For example, whether or not price is “endogenous” in a regression can be answered, in part, by the evidence on how prices are actually determined.

II. Suggestions for “Best Practices” for Empirical Analyses

As already stated, there is no “perfect” econometric study (and there are few, if any, “perfect” critical facts and analyses in a complex antitrust case). Lack of unachievable perfection should not be a bar to an econometric study being given weight. Statistical inference is about making good inferences about “truth.” (The fact finder might determine facts, but in many instances the facts cannot be known with “metaphysical” certainty). Econometric and economic theory are precise. The application of econometrics in a particular setting does not have the same degree of precision as does theory, but economic and econometric theory plus generally accepted approaches and methodologies guide econometrics, whether used for litigation or in other settings such as studying the effects of various treatments on a certain disease.

An econometric study useful for decision-making at the FTC has the following characteristics:

1. Poses an empirical economic issue that is relevant to the matter at hand;

2. Utilizes an economic model that is consistent with economic theory;³
3. Utilizes an economic model that is consistent with the key institutional factors and the facts in the setting being modeled and generates results that can be evaluated in the context of other evidence;
4. Uses data that are appropriate to the task;
5. Uses statistical techniques and tests of statistical precision that are suitable given the data and the economic issues;⁴
6. Provides relevant results and interpretations that realistically take into account limitations in data;
7. Generates results that stand up under various tests of “robustness;”⁵
8. If conducted by “outside” economists, the data and the details of the modeling are provided with sufficient time and explanation that FTC economists can replicate and sufficiently understand the analyses and conduct their own tests; and
9. Can be sufficiently explained to and incorporated into the decision-making of non-economists.

Although solid, useful studies are submitted to the FTC, in our experience, the most common deficiencies in econometric studies submitted to the FTC are in numbers 3, 4, and 6-9. Specifically:

- (#3) Having an economist develop an econometric analysis without sufficient understanding of the key institutional factors and facts will generally not be very useful. Usually by the time the outside economists submit a “white paper”, FTC lawyers and economists have been conducting an extensive investigation and will have identified key institutional factors and facts. When the economist comes in to discuss the white paper, she will be

³ As Nobel-laureate James Heckman (2001, p. 675) noted in his Noble lecture, “[e]conomic theory plays an integral role in application of econometric methods because the data do not speak for themselves on many questions of interpretation. Econometrics uses economic theory to guide the construction of counterfactuals and to provide discipline on empirical research in economics.”

⁴ Valid statistical techniques are those based on generally accepted principles of econometrics, for example, as described in typical econometrics textbooks.

⁵ Robustness testing addresses whether the results are sensitive to plausible changes in the estimation (*e.g.*, the use of alternative specifications, such as linear or nonlinear, or using subsets of the overall data set) which gives the policy-maker a sense for how much weight to place on the analysis.

confronted with questions as to how her analysis fits these key institutional factors and facts. For example, developing econometric analyses using data from a company without knowing what that company's documents indicate about the issue being econometrically addressed can be counterproductive.

- (#4) Economists should understand any potential limitations of the data and how those limitations may impact the results. No data is perfect. There are likely to be issues concerning how applicable the data are to the analyses under consideration, how reliable or "clean" the data is and whether enough data is available to conduct a meaningful analysis. Statistical analysis can be important in dealing with data imperfections. In some cases statistics allows us in various ways to average out errors in measurement and yield statistically sound estimates.

Thus, a first step before conducting any data analysis is for the analyst to "know" the data. This is of course true in any setting, whether for academics or litigation. The analyst should be well aware of whatever limitations there are in the data. This generally involves knowing both the specifics of the data and whatever institutional factors specific to the industry setting and/or company that may impact the proper interpretation of the data. This step is why data analysis is so often very time consuming. Because the data is often very messy and not in an easy to use format, it takes a significant amount of time to first organize the data so it can be analyzed and then review the data and talk to the individuals who maintain the data to understand what limitations and imperfections might exist that must be considered in the analysis.

As an example, in some industries we analyze transaction level prices at the customer level to understand differences in prices across customers as well as trends in prices over time. The data maintained by companies sometimes do not reflect rebates or discounts that are given in lump sums rather than on invoice. Thus, the invoice transaction data may not reflect the true net prices that customers pay. If so, the analyst must determine if there are ways to incorporate rebate information in to the price data or whether exclusion of such data is likely to have a significant impact on the issue being addressed. For instance, if the question involves understanding the variation in price across customers and all customers get the same percentage rebate, not having actual rebate information will not be important. On the other hand, if rebates vary across customers then not accounting for such rebates would be important.

Another example involves outliers. Data often have observations that appear to be anomalies and may be due to miscoding or some other error. Examples might involve in transactions data negative quantity or revenue numbers or quantity and revenue numbers that imply prices far above or below "normal" levels. Such errors in measurement might impact the analysis, and if so, the analyst should discuss why this might be occurring with the individuals who maintain the data and then can consider how best to adjust for these problems.

It has been relatively common in submissions made to the FTC that deficiencies in data are not acknowledged (or perhaps recognized). As just one example, scanner data varies

substantially in its coverage of different channels of distribution for grocery products. Scanner data coverage is best for products that are mostly sold in supermarkets. Scanner data for products that have substantial sales in mass merchandisers are problematic (particularly since it appears that Wal-Mart no longer makes data available), or that have substantial sales in other channels that do not have scanner data coverage (*e.g.*, liquor stores). Such data limitations are not generally “fatal” as long as they are acknowledged and factored into the interpretation of results.

- (#6) Ignoring deficiencies or overclaiming results is not helpful. Again, no single econometric analysis is generally conclusive. Results properly derived and qualified can be quite useful, particularly when they are integrated into the larger body of evidence in the case.
- (#7) The economist should understand and explain how standard robustness tests impact the results. There are standard types of robustness tests that should be considered. For example, testing for the sensitivity of the results to model specification (*e.g.*, linear or logarithmic), or to the sample of the data (are the results consistent over different geographic areas or different time periods of the data) should be a standard part of the analysis. Other robustness tests are likely to be suggested by key institutional features or facts in the case.
- (#8) This is the most common failing. FTC economists need time to evaluate what is submitted. Submitting an economics white paper with only a short time for review and reaction is almost always counterproductive. Empirical analyses take time to conduct and they also take time to assess. It is very important that parties presenting empirical analyses to the FTC to provide sufficient time for FTC economists (and lawyers) to read and understand the analyses. It is always best to submit a “white paper” with substantial empirical analyses at least a week prior to making a “live” presentation of the results. This is the standard practice in economics, *i.e.*, when economists present papers at professional meetings or universities, the standard practice is to provide the paper prior to the presentation. The white paper should clearly explain the data, the modeling, and the economic and institutional issues underlying the modeling. At the time the results are ready to be presented to the FTC, presumably the data and analyses have been checked and are ready for verification by FTC economists. The data and programs should be provided to FTC economists immediately. The programs should be easy to follow and the data easy to work with. FTC economists will perform some checking of the data, the programming, and the modeling. This will typically include various “robustness checks,” that assess whether the results of the analyses are sensitive to potentially plausible alternative modeling. The presentation of the white paper does not need to wait until the FTC economists have had time to conduct their own analyses, but, again, there must be sufficient time for the FTC economists to have thoroughly read the paper.

Once the FTC economists have had time to conduct some of their own analyses they (with the presence of FTC lawyers) will be prepared to provide their tentative or final conclusions regarding the submission to the outside parties and their economists. In some matters this can involve a number of meetings and conference calls. The FTC economists will be candid in their assessments and in discussing any empirical analyses

they have developed (subject to confidentiality issues and potential litigation).

As a general matter, FTC economists (generally with the presence of FTC lawyers) will meet with outside economists to have informal discussions of empirical analyses) conducted by the outside economists and conducted by FTC economists. Such meetings can begin before outside economists have developed final empirical analyses, with the purpose being to identify important issues, and discuss potential empirical analyses that could be relevant and the availability of and limitations of data. The intention is to be as transparent as possible in discussing important issues, potential empirical analyses, data limitations, and empirical results. Those discussions should begin as early as possible and should recur when either side has useful information to convey. The sharing of ideas is likely to lead to better development of the theories underlying a case and possible tests of those theories. In addition, this dialogue will help the parties understand what the FTC is focusing on and what analyses would be most useful to the FTC in making its decision. Finally, information from the parties at an early stage can help the FTC understand what data is available and therefore what tests are feasible. This can help streamline the process and ultimately help to tailor the second request or CIDs to eliminate unnecessary burdens on the parties.

- (#9) In our experience it is a mistake for outside parties to rely solely on economist-to-economist dialogue to put forward their econometric (or other empirical analyses-based) arguments. Again, FTC lawyers and decision makers need to understand the basics of the analyses, and how those analyses fit in with key institutional factors and facts. Outside economists and lawyers should provide, in part, explanations that can be understood by FTC lawyers. Of course, the outside economists have to deal with more technical issues with FTC economists.

III. Potentially Useful Analyses

The first important step in developing an empirical analysis is to determine what analyses would be most relevant to the matter under consideration. This requires first determining what are the issues and theories underlying the possible antitrust or consumer protection concern in the case and what are the key relevant evidentiary questions. In some matters, assessment of market definition may be the key issue, while in another case entry or analyses bearing on competitive effects may be key issues. It is important to note that as the case progresses and new information is gathered, the key issues may change. Most useful econometric analyses do not reach definitive conclusions on the “cosmic” issues (*i.e.*, what is the relevant market, is the merger likely to be anticompetitive). Rather, more typically the econometric and other empirical analyses shed light on these important issues. For example, that prices of products of type X are much more closely related to one another than to the prices of products of type Y is consistent with (but does not “prove”) that products of type X being a relevant product market. Scanner data analyses may indicate that two products are not very close competitors, but other evidence may suggest otherwise, the both types of evidence will have to be weighed. In our experience there are a number of econometric and/or other empirical analyses that can be usefully brought to bear on the “cosmic” issues.

Once the key issues are identified, one can then consider what empirical analyses can be used to answer those questions. This involves not only statistical modeling but also development of the “hard” facts, *i.e.*, facts that can be developed by “hard” evidence, such as quantitative data. A significant part of the work of accountants and economists at the FTC involves analyzing databases or other source data to get at important factual issues. These analyses can involve summarization of pricing, sales, capacity and other data as well as more sophisticated econometric analyses. Moreover, the former is generally an important pre-cursor to the latter as understanding the basic underlying data is important to understanding what types of econometric tests are useful and feasible. Often, fact-based analyses do not involve sophisticated statistical or economic analyses. They can be as simple as sorting a customer database by customer size, location of customer, or types of products sold by customers to reveal important characteristics of customers or other relevant facts.

Of course, when data is available and such analyses are appropriate to the relevant issues, economists can often develop econometric analyses to try to shed light on key factual issues. For example, with the appropriate data, econometric estimates of own-price and cross-price elasticities of demand can provide important information with regard to the breadth of the relevant product and/or geographic market or the extent to which the two merging parties appear to be close competitors. This approach has been taken in many consumer products mergers, providing detailed information about the extent of substitution among various products. Beyond estimation of own and cross-price elasticities of demand, it is sometimes possible to test whether discrete and substantial changes in price affect market level sales and/or specific competitor sales and/or prices, which provides information relevant to market definition and competitive effects.

A. “Natural Experiments”

A potentially very useful type of analysis can be conducted when there are data that provide “natural experiments” that can be used to test key issues. “Natural experiments” try to exploit differences in data over space, time, and competitors to shed light on market definition, barriers, and the analysis of potential competitive effects. For example, if different geographic markets have different market structures (*e.g.*, different levels of concentration, such as the number of significant competitors), it is sometimes possible to use data and statistical analyses to analyze whether prices vary based on market structure. This could be helpful in determining, for example, whether a “four-to-three” merger affecting one geographic market would be likely to be anticompetitive. One comparison would be of average prices in the different regions. However, it is likely that there will be other factors that vary across these regions and thus an econometric analysis that controls for these factors is likely to be necessary. Variants of this sort of analysis were conducted in the *Staples/Office Depot* matter. A similar sort of natural experiment analysis can sometime be conducted based on differences in market structure over time – one possibility may be to test for any effects of past mergers. Again, it is generally going to be necessary to control of factors other than industry structure that may impact prices over time. Another natural experiment can involve assessing the impact of new entry. For example, if substantial entry did not impact prices of products thought to constitute the product (or geographic) market, that is an indication that the relevant market is broader. Alternatively, if the entry had a significant and sustained impact on pricing, this is an indication that the market may be limited to the candidate set of products (and/or geographic area). Depending on the

availability of relevant data, it may be possible to conduct statistical analyses that are relevant to this issue. Yet another type of natural experiment analysis is to test for the effects of particular competitors submitting bids in bidding markets.

IV. Scanner Data Demand Estimation and Merger Simulations

A. The FTC Working Paper

The FTC Bureau of Economics has put out a working paper pointing out various issues that should be addressed in estimated demand from scanner data.⁶ Although the issues raised in that paper can be significant in some contexts, at the FTC we regularly conduct such analyses and have found them to be useful in some investigations, when combined with all the other evidence developed in a merger investigation (including other empirical analyses). In some cases we have had access to retailer/city-specific data,⁷ which has allowed us to further explore some of the aggregation issues raised in the paper and get alternative estimates of the interactive effects of prices and promotions. It is of interest to note that our understanding is that marketing researchers (include Nielsen and IRI) typically used retailer/city-specific data and further segment the data into two categories, promoted and non-promoted,⁸ and estimate demand separately for each data set. In our opinion a further avenue of investigation should compare in more depth the approach used by marketing researchers with those of economists. This is something we expect to pursue in the future.

B. Other Uses of Scanner Data

Scanner data is useful for relevant analyses other than structural demand estimates. For example, with retailer/city-specific data the effects of retailer “sales” can be assessed, which sometimes leads to different conclusions on the magnitude of cross-elasticities than structural demand estimates. Given the richness of the scanner data, we are devoting more attention to developing other useful analyses.

C. Merger Simulations

⁶ Daniel Hosken, Daniel O’Brien, David Scheffman, and Michael Vita, *Issues in Econometrics Analysis of Scanner Data*, (available at <<http://www.ftc.gov/be/econometrics.htm>>).

⁷ That is, the data is by retailer and by “city.” If retailers charge similar prices across their stores in a “city” during an observation period, retailer/city-specific data provide a basis for assessing some of the aggregation issues identified in the working paper.

⁸ Promoted means the product is on sale and there is promotional activity (e.g., a special display, signage, or local advertising).

For some time now it has become common to use scanner data estimates of demand elasticities as inputs into a simple model of oligopoly to simulate price effects of a merger.⁹ The usage and sophistication of these analyses is at a very early stage. Beyond obvious critiques (*e.g.*, much too simplistic treatment of retail/manufacturer issues, and too simplistic oligopoly modeling), simulations have also often produced absurdly large “projected” post-merger price increases. Nonetheless, simulations can be of some use in that they put the estimated demand elasticities through a simple model out of which can be calculated a simulated price increase. That is, a simulation is a convenient way of putting together the estimates of own and cross-price elasticities to assess their potential implications and to test the sensitivity of the simulated price increase to the parameter values. In our view, however, because this sort of analysis involves a compounding of many important assumptions along with a complex econometric estimation, simulations can at best be used as crude indicators rather than solid evidence. For example, if the simulations project a small price increase, the econometric evidence probably does not provide strong (if any) support for a unilateral effects theory. On the other hand, if the econometric estimates are very solid and indicate substantial (but not implausibly large) price increases, the results provide a rebuttable presumption of adverse unilateral effects. Important rebuttal evidence would include evidence of the (in)consistency of actual manufacturer pricing with the simulation model’s assumptions about manufacturer-level elasticities *and* manufacturer-level pricing.

V. Manufacturer Level Data and Analyses

A. Manufacturer Level Data

Although scanner data can be very useful, manufacturer-level data can also be very useful. We have found in a number of instances that manufacturer level data was able to provide more conclusive evidence than could be obtained from scanner data. For example, in one matter involving a potential niche product market, analysis of the effect of entry of a successful new product in the niche on manufacturers’ average revenues net of trade promotions (a measure of average manufacturer net “price”) and manufacturers’ unit sales showed that the entry did not have a significant effect on pricing or sales of other products in the niche, indicating that the market was broader than the niche.¹⁰ The econometric analyses of scanner data did not provide such definitive results. This was one important piece of evidence that led to a conclusion that the niche was not a relevant market. In another matter, estimates of elasticities from scanner data were inconclusive on whether two products were close competitors, yet an analysis of manufacturer trade promotions showed that one product targeted another in its trade promotions, which provided one basis for a conclusion that the two products were close competitors.

⁹ Epstein and Rubinfeld (2001), Werden and Froeb (2002), Werden and Froeb (1996), Werden (1997a), Werden (1997b), Shapiro (1996), Hausman and Leonard (1997), Hausman, Leonard and Zona (1994).

¹⁰ This is one example of a “natural experiment” analysis.

There may be retail and manufacturer level data issues that impact on econometric estimation and the interpretation of estimates. For example, in some mergers we have been involved with, there was little if any variation in pricing by manufacturers during the period of scanner data – *i.e.*, list prices and discount schedules were unchanged and promotional spending (*e.g.*, as a percentage of sales) was basically unchanged. Nonetheless, there was sufficient variation in prices *at retail* to estimate retail demand systems. Important questions that arise in this context (and generally) are: (i) what is the source of variation in prices at retail? and (ii) what does the source of variation imply about the meaning of estimated retail elasticities and their relationship to manufacturer pricing? If the variation in retail prices arises primarily from differences in pricing strategies by retailers that is not related to net prices paid *by* retailers to manufacturers, the relationship between demand elasticities at retail and manufacturer pricing is unclear. Alternatively, if variation in pricing at retail arises primarily from retailer “sales” that are financed by manufacturer trade promotions, then what is being estimated is some sort of “sales” elasticity. In this case, the demand when products are “on sale” may differ from when the product is at “normal” prices, and the appropriate approach might be to estimate the two demands separately.¹¹ One difficulty with doing this is that it requires retailer/city-specific data, which is generally not available in merger investigations. This discussion suggests two tentative conclusions: more work should be done in clarifying the sources of variation in prices at retail, and more thought should go into determining how to handle “sales.”

B. Manufacturer-Level Pricing

One of the most important outstanding issues in the use structural demand estimates using scanner data is the relationship between estimates of retail demand elasticities and manufacturer pricing. As a matter of economic theory (and common sense), there is a relationship, but that relationship may be complex. Thus, it is very important to develop the relevant evidence bearing on pricing *at the manufacturer level*. Unlike many industries, the process of manufacturer-level pricing of grocery products is relatively transparent. A brand manager usually has to justify a change in list prices and of significant changes in promotional spending (at least as a percentage of sales), and those decisions and the outline of their bases can generally be found in documents. However, there are complex dimensions of manufacturer-level pricing. For example, manufacturers of branded grocery products have two major pricing instruments – list prices (including standard discounts), and promotional payments to retailers.¹² Promotional payments to retailers include manufacturer “sales” and payments for displays, features or advertising (or slotting). In assessing pricing (and competition) at the manufacturer level, both types of “pricing” are relevant. That is, a theory of post-merger pricing may involve changes in list prices and/or changes in promotional spending (as a percentage of sales or in how promotional spending is targeted).¹³ For example, list price (and standard discount structure) changes for two

¹¹ This is the standard approach used by Nielsen and IRI, and market researchers. This overall issue is related to the aggregation issues discussed above, *i.e.*, if sales and normal demands are aggregated because the data are aggregated.

¹² Promotions directed to consumers, specifically (coupons) is discussed above.

¹³ In some cases there consumer couponing may also be an important issue.

products may not suggest that the products are particularly close competitors, but trade promotions may be to a significant extent be targeted by one or both products against the other.¹⁴ This may not be adequately captured by the typical demand analyses using scanner data, if the targeting is not consistent across regions (as might be the case because shares typically vary significantly across regions). Alternatively, list price changes may suggest that products are particularly close substitutes but increased trade spending may substantially erode list price changes. Or trade promotions may directed to gain or defend shelf space or in-store displays against a range of products broader than those within the specific category of the products at issue.

Finally, if the evidence does not support a unilateral effects theory, it is possible that a coordinated interaction theory is viable. This can only be determined by an investigation of manufacturer-level competition. For example, the stylized facts of the ready-to-eat cereals industry in the 1970s suggest that that there was evidence of coordinated pricing, but that price changes were similar across products. This could have been a basis for a challenge of a hypothetical 1970s merger based on coordinated interaction even though the products involved were not close substitutes.

VI. Conclusion

Empirical analyses, including econometric analyses, have an important role in antitrust investigations and litigation. The Bureau of Economics has been increasing its emphasis on developing empirical analyses in antitrust (and consumer protection) investigations. We have found the “audience” for these analyses to be “receptive” (when we follow our own best practices).¹⁵ As we have explained, for such analyses to be useful, they must be done based on sound economic principles, statistical techniques and reliable data, be robust, and be able to be explained to non-economists. Most importantly, these analyses must be firmly placed in the overall evidence in the investigation – either being consistent with other evidence, or when not, the economist must be able to explain why the different sources of evidence differ in their conclusions. When conducted in such a fashion, empirical analyses can, and do, play a very important role.

¹⁴ This is generally difficult to discern in brand manager level documents. Such targeting is more likely to show up in regional sales management documents and in promotions budgets.

¹⁵ The recent cruise line merger is just one specific example.

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