Economics at the FTC: Data Intensive Mergers and Policy R&D

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I. Introduction

The Federal Trade Commission's (FTC) Bureau of Economics (BE) is composed of 70 PhD-level economists, a small cadre of accountants, and 25 other staff who support the FTC's two missions of promoting competition (antitrust) and protecting consumers. The bulk of the work done by the Bureau is related directly to law enforcement activities, such as case investigation or litigation support. Other activities involve policy analysis and research related to the missions. That research helps support our efforts in promoting competition-based policies at the state and federal levels and in fostering coordination in policy development and law enforcement around the globe.

Last year's contribution to the Antitrust and Regulatory Update program focused heavily on economists' roles in antitrust cases and research in the oil industry. We continue to work diligently on issues related to the oil industry (and we will later mention one significant piece of that work), but this year we will focus more on health care and consumer-industry competition issues along with some consumer protection work on identity theft.

II. Competition Policy Issues

In the March 2006 Commentary on the Horizontal Merger Guidelines, the FTC and Department of Justice (DOJ) Antitrust Division provided guidance regarding how the two agencies implement the Guidelines' analysis and provided examples of actual recent investigations to illustrate the analysis. One of the changes that occurred over the past two decades is the increased reliance on empirical evidence from large data sets to test various propositions related to the analysis of a merger. For example, scanner data are used, when available, to examine the effects of price changes of one good on the quantity sold of another good. The Commentary discusses the importance of data analysis in the definition of markets (pp. 10–14) and discusses several instances in which the agencies simulated the effects of a merger on sales and prices of the merging firms and nearby rivals (pp. 27–31).[1] Below we discuss two recent merger investigations where large-scale empirical work played an important role.

[1] See http://www.ftc.gov/os/2006

1. HOSPITAL MERGERS: THE EVANSTON ANALYSIS

From 1995 through 1999, the FTC, the DOJ, and the California Attorney General's Office together lost six straight hospital merger challenges.[2] In most of these cases, the courts reasoned that it was unlikely that the merging parties would increase prices anti-competitively because patients and their health insurers would continue to have many hospital choices. This conclusion was based on findings of relatively large geographic markets for hospital services, which in turn were based on the observation that many patients travel long distances for hospital care. In one case (Butterworth), the court also reasoned that the merging parties would not increase price because they were non-profit organizations that presumably would not exercise market power even if obtained, given their focus on community service.

The courts' reasoning in these cases was roundly criticized by many academic industrial organization economists as well as health economists.[3] The courts' findings of relatively large geographic markets were based on the assumption that patients traveling long distances to the hospitals in question would switch to other hospitals in response to a small nontransitory price increase. However, many economists noted that insured patients rarely face a change in their smaller than the Elzinga-Hogarty test would imply.

merging hospitals in most other respects.[8] Thus, the key to measuring the relevant difference in price differences is the selection of the appropriate control group of hospitals.

Hospitals are highly differentiated across many dimensions, some observable (e.g., number of beds, size of the teaching program) and others difficult to measure (e.g., illness severity of the patient population, perceived quality). With this multidimensional differentiation, it is difficult to select the group of non-merging hospitals that is “most similar” to a merging hospital. For the retrospective studies of the Evanston and Wa

The Evanston and Waukegan retrospective studies were completed in early 2004. The Waukegan study found no evidence of a price increase relative to various groups of control hospitals, and in

ENH also argued that its post-merger price increase reflected its learning about the MCOs' demand for its services and that it had been underpricing its services before the merger. Thus, the observed price increases were simply an effort to bring their prices up to the pre-merger optimal level.

In a decision released in October 2005, the FTC administrative law judge ordered the divestiture of Highland Park Hospital by ENH. At the time of this writing, the decision is under appeal before the full Commission for a final agency determination.

2. PROCTER & GAMBLE'S ACQUISITION OF GILLETTE: TcT4.506 0 Td <E0003>T1951ETf 0

of over 85 percent. Despite this high level of concentration, the most relevant exercise was to determine to what degree P&G's SpinBrush and Gillette's CrossAction Power constrained each other's prices. For this assessment, BE used retail scanner data provided by the parties. During the sample period, both companies had a number of significant product introductions and recalls that provide a 'natural experiment' for

In assessing the relevant product market, one issue was whether body sprays (e.g., Unilever's Axe products), which achieved widespread retail distribution in the U.S. in 2002, constrained the price of APDOs. We concluded that they did not. If two product segments are substitutes, such as APDOs and body sprays, then the growth of one segment would likely cause a decline of – i.e., cannibalize – the other segment's shelf-space. Using a measure of retail distribution, we found that from 2002 to 2005, the average retailer went from carrying no body sprays to carrying a little under ten UPCs.[23] During the same time period, however, the average number of APDO UPCs carried remained virtually unchanged. Thus, body sprays went from a non-existing category to one that grew significantly, while not affecting APDO shelf-space. Clearly, the fact that the introduction of the body spray segment did not cannibalize shelf-space for APDO products is not conclusive evidence of separate product markets; however, it corroborated other evidence that also supported this conclusion.

We also examined the product market overlap in the at-home teeth whitening (AHW) market. AHW products include disposable strips, gels, and trays but do not include other non-dedicated 'whitening' oral-care products such as whitening toothpaste and whitening mouthwash. In AHW, P&G sells its products under the B Tw 12.575 0 Td (white.)Tj 0.i aS-9lSggmP&G sells its ppwas Tm (23)Tj 0.0

price in September 2005 than in August 2005 that could not be attributed to costs or to national and international market trends.

The price of crude oil, the largest cost component of gasoline, accounted for most of the gasoline price increases prior to the hurricanes. In summer 2005, however, refining margins increased as well. The FTC staff had to assess whether the higher margins reflected illegal output restrictions or the normal workings of a competitive market.[26] If the gasoline producers did manage to restrict output below competitive levels, they would have had to do so either by restricting the use of available capacity or by reducing the growth of capacity. The very high refinery capacity utilization rates in recent years, including the summer of 2005, cast doubt on artificial restrictions on capacity utilization as a general explanation for higher prices. In part, however, the high utilization rates were a natural consequence of relatively slow capacity growth – about 1% per year for the past decade. Some have alleged that oil refiners have artificially restricted capacity growth so that unexpected increases in demand or supply disruptions would push capacity utilization to its practical limits and cause refining margins to rise.

Based on a variety of evidence, the FTC staff concluded that these concerns lacked foundation. The FTC staff's evaluation of capital budgeting documents and interviews with company executives revealed that refiners make investment decisions based on forecasts of market prices. The investigation yielded no evidence that companies turned down otherwise profitable investments in refining capacity out of concern for the effect additional capacity would have on market prices. In addition, the investigation yielded evidence of the cost of adding to refining capacity (on a cost-per-daily-barrel basis). Combining that evidence with information on the prices paid for refining capacity (again stated as a cost/daily barrel), the FTC staff was able to estimate Tobin's q for refining capacity.[27] Throughout the past decade, Tobin's q for refining capacity has been less than 1, and at times, much less. Those estimates provided market evidence that the level of capacity has not been held below competitive levels.

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[25] Also see the U.S. Department of Justice and the Federal Trade Commission, Commentary on the Horizontal Merger Guidelines, March 2006, which illustrates how the relative importance of qualitative and quantitative evidence can vary from case to case in merger analyses.
[26] See Federal Trade Commission (2006).
[27] Tobin's q is market value divided by replacement cost. See Carlton and Perloff (2004, Chapter 8).

Some of the concerns that have been expressed about inventory levels are similar to those about capacity. Over many decades, inventory levels

While virtually everyone agreed that some price increase should have been expected after the hurricanes, we had to ascertain whether the price increases were too large to represent a competitive response. Using a simple supply-and-demand model, we concluded that the average price increase was about what would have been predicted given the assumption of perfect competition. A key input into this analysis is an estimate that the short-run elasticity of demand for gasoline is about í0.2.[28] As for regional differences, the regions of the country that experienced the largest price increases were those that normally receive supply from areas affected by the hurricanes.

<insert figure 2 here>

One particularly interesting phenomenon documented in the report is that the dispersion of both wholesale and retail prices within particular cities immediately after the hurricanes far exceeded typical levels. For example, the typical interquartile range in a given urban area is from three to ten cents per gallon. After Katrina, the interquartile ranges typically increased by a factor of two to three, and the increases in the total ranges were even more dramatic. Figure 2, which shows wholesale price dispersions in Atlanta, illustrates the point. This figure depicts price changes for all firms and for all firms other than the firm that raised prices the most in the area: firm A. In general, the wholesalers and retailers that raised prices the most within particular cities in the weeks following the hurricanes were not firms that experienced increases in market power (stemming, for example, from the closing of rivals). Rather, they were firms that experienced the largest reductions in their own supplies and the greatest increases in their own costs.

There appears to be substantial political momentum for federal price gouging legislation. Currently, 29 states have some form of price gouging legislation, with various definitions of price gouging. The FTC staff did find some instances of ‘price gouging’ as defined in the statute mandating the study of post-hurricane pricing. The statutory definition only exempted price increases attributable to higher costs or to national and international trends. However, given the dispersion of the impact across markets, some market-induced price increases were attributable to local market conditions. Virtually all the cases that met the statutory definition of price gouging were attributable to local market conditions.

The finding of price gouging as defined for the purposes of the investigation does not, of course, answer the broader public policy question of whether there should be a federal price gouging statute and, if so, how price gouging should be defined. An excessively vague definition of price gouging might cause sellers perversely to shut down rather than risk violating the price gouging statute. Indeed, the FTC study

[28] Kayser (2000).

reports that some retailers in Florida did in fact shut down after hurricane Rita rather than risk violating Florida's price gouging statute.

III. Policy R&D and Competition and Consumer Advocacy

Competition analysis does not end with cases and litigation. Economists have also been involved in competition advocacy and research activity. These two activities often result in synergies as our research results provide the basis for competition advocacy comments that advise governmental or self-regulatory bodies regarding the potential effects on consumers of legislation or regulation. For example, economists completed a second merger retrospective that empirically examined the outcome of an oil merger in the upper-Midwest.[29] Such research helps us formulate better policy prescriptions regarding future merger policy. On the consumer side, economists continued to survey consumers regarding their interpretation of various advertising claims for foods. One key issue is whether advertisers can effectively convey differing levels of scientific support for health claims. Sometimes that scientific support is substantial, but sometimes it is more equivocal, and we are trying to determine whether consumers comprehend the difference in advertising that tries to make such distinctions. We, and the Food and Drug Administration, continue the search for the best system of health claims enforcement for both nutrition supplements and foods. On the regulatory front, empirical work on the effect of Internet-based on-line sales of contact lenses has provided support for our policy suggestions on state regulation of contact lens sales.[30]

In addition to conducting our own research, we have held conferences on certain topics to expand our understanding of particular markets and the likely effects of regulation in them. For example, we held a conference on various competition and consumer protection aspects of Internet auction markets in October 2005. This gathering brought together academic and government economists and industry professionals to discuss competition between auction sites and between sellers, network effects, fraud by sellers, lemons problems, and the use of auction data for demand estimation.[31] As of the late summer of 2006, preparations are underway for a major set of hearings, to be held jointly with the DOJ, on monopolization.[32] Also, we held a conference on real estate markets that will be discussed more fully below.

[29] Simpson and Taylor (2008) provide a difference-in-differences analysis of gasoline pricing in six Michigan cities compared to that in unaffected cities following the Marathon-UDS merger.
[30] Cooper (2006).
[31] See http://www.ftc.gov/be/workshops/internetauction/internetauction.htm.
[32] See http://www.ftc.gov/os/sectiontwohearings/index.htm.

Over the past few years, the FTC staff filed several state-level advocacy comments on topics of current policy interest in the states, two of which will be discussed below: (1) the regulation of pharmacy benefit managers,[33] and (2) the regulation of new forms of real estate service.

1. PHARMACY BENEFIT MANAGERS

Managing the purchase and distribution of drugs to health insurance beneficiaries is a multi-billion dollar endeavor involving many complicated business interactions in which the net incentives of various parties are not obvious. For drug benefits provided by private health insurance, companies called pharmacy benefit managers (PBMs) typically play a central role in these interactions, and they are likely to play a similar role in providing the new Medicare drug benefits. The FTC was asked by Congress to study potential conflicts of interest between PBMs and their customers.[34] To investigate the issues specified by Congress, the agency obtained data and documents from fifteen PBMs and six retail pharmacy chains for and PBMs. Any shares of the manufacturer payments that are not passed through explicitly may be passed on to the PBMs' clients implicitly through other contract terms.

The degree to which manufacturer payments affect how PBMs behave while administering drug plans for their clients is central to many of the potential conflicts of interest. For instance, it has been alleged that the payments create an incentive for PBMs to drive utilization of branded drugs on which they receive rebates in lieu of generic drugs that would be less expensive for their clients. It has also been suggested that the alleged PBM conflicts of interest may be particularly important in influencing the drugs that are dispensed when the PBM owns the pharmacy that is filling the prescription.[35] Most of the concern are very efficient at filling prescriptions with generics when they are available.[38] Aggregate data show that mail-order pharmacies owned by the largest PBMs dispense generics over 92% of the time that a generic is available. This average is typically one or two percentage points higher than the rate for unaffiliated retail pharmacies. These dispensing data are not consistent with a widespread attempt by PBMs to dispense branded drugs instead of less expensive generics.

Given the profitability of generics, it is reasonable to ask why generics are not dispensed 100% of the time when they are available. There are several potential explanations. First, some plan sponsors choose benefit designs that do not encourage their members to have prescriptions filled with generics; for instance, a plan may charge the same co-payment regardless of the drug type or price. Second, even when the plan design encourages the use of generics, some doctors and patients request that prescriptions be filled with branded drugs through the use of 'Dispense as Written' (DAW) orders. Data obtained by the Commission indicate that DAW orders affect from 5% to 15% of all prescriptions filled under plans administered by PBMs. Finally, although the price differential between brands and generics is high on average, for some drugs the cost differential may be small or negligible.

The Commission's empirical analyses of generic dispensing did not uncover any substantial evidence of conflicts of interest between PBMs and their clients. The results of this empirical analysis suggest that contracts between PBMs and their clients tend to align their interests, rather than create conflicts.

2. REAL ESTATE INDUSTRY

The FTC is actively involved in advocacy work that questions the wisdom of minimum-service requirements in state laws or regulations in real estate brokerage. The vast majority of home sellers contract with real estate agents to provide them with assistance on all aspects of their real estate transactions from pricing and listing through closing. New business models have emerged over recent years, however, that offer consumers the option of purchasing only some of the brokerage services associated with selling a home. So-called 'limited-service brokers' (LSBs) provide consumers with a-la-carte pricing for the bundle of traditional brokerage services. For example, a popular option that these brokers offer is the 'Multiple List Service (MLS)-only' listing,[39] where a consumer pays a flat fee (typically around $500) to the broker in exchange for having his or her house listed in the local multiple

[37] This finding is consistent with the common observation that supermarkets and other retailers earn higher margins on 'store brand' products than on comparable nationally branded items.
[38] This same result was also found by independent academic researchers; see Wosinska and Huckman (2004).

listing service and some selling aids (e.g., 'for sale' signs, open house signs, lock box). In addition, the seller's house is displayed on the limited-service broker's Web site and on a variety of national Web sites that take their feed from local MLSs, such as Realtor.com.

In response to competition from LSBs, realtor organizations in several states lobbied for 'minimum-service' laws. These laws typically require a broker to assist the client in developing, communicating, and presenting offers and counteroffers, and answering all of the client's questions relating to the transaction.[40] In 2005, the FTC, in conjunction with the DOJ's Antitrust Division, sent letters to regulators and legislators in Texas, Missouri, Alabama, and Michigan arguing against the adoption of these laws. These letters argued that minimum-service laws will likely lead to higher real estate brokerage prices by preventing some consumers from purchasing their preferred combination of price and service and by reducing competition between full-service and limited-service business models. The letters also pointed out that, despite assertions by proponents that minimum-service laws are needed to protect consumers, there is no evidence that consumers have suffered harm from limited-service brokerage.[41]

In conjunction with our advocacy efforts, in October 2005 the FTC held a workshop to examine competition issues involving the real estate industry. The workshop examined both privately and publicly imposed restraints on competition from various perspectives. After initial presentations on the mechanics of the real estate brokerage industry, panels focused on specific competition issues including: minimum-service laws and private discrimination against for-sale-by-owners; and the effects of competition restrictions on home buyers, specifically examining state and private restraints against Internet brokers known as 'virtual office Web sites' (VOWs).

The final panel of the day presented two very different views of the real estate industry and the equilibrium that seems to be reached in local real estate markets. In one view, the industry is characterized as highly fragmented, with low entry barriers, high variation in actual employment, widely accessible information about comparable home prices, and low average brokerage

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[39] An MLS is a database that allows a real estate agent representing a seller to share information about the property with a wide array of brokers representing potential buyers. Full access to the information in an MLS database is typically limited to members of the MLS and of the National Association of Realtors.

[40] See, e.g., Broker's Responsibility, 30 Tex. Reg. 1400, 1401 (proposed Mar. 11, 2005); Mo. H.B. 174; Ala. H.B. 156. Michigan House Bill 4849 also would have required a broker to provide assistance to the client through closing.

[41] Despite the advocacy efforts, the Texas, Missouri, and Alabama legislatures ultimately passed laws embodying minimum-service requirements.

salaries. These characteristics are taken as indications of the industry's flexibility and inherent competitiveness.[42] In the alternative view,[43] real estate agents are seen to be earning potentially theft" yields thirty articles in 1995, but more than 12,000 articles in 2005.[44] A recent survey found that 71% of respondents said they were personally concerned about becoming ID theft victims.[45] This concern may stem in part from the realization that ID theft is more difficult to avoid than are many other frauds. While most frauds can be avoided by simple rules (e.g., deal with reputable firms) and common sense (e.g., if it is too good to believe it's true – it probably isn't), ID theft can occur as a result of actions – or inactions – of someone with whom the victim has had no interaction. Furthermore, technological progress seems to be making this problem worse.

Because there were no hard data on the extent of the problem, the FTC undertook a survey of U.S. adults in spring 2003. That survey found that 4.6 percent of those surveyed said that they had discovered that they were victims of ID theft in the last year. While some of these incidents of ID theft were limited to having charges placed on a lost or stolen credit card, 1.5 percent of those interviewed indicated that they had discovered that their personal information had been used by identity thieves to open new accounts in their names or to commit other types of fraud. ID theft victims reported that their identities had been used to open new credit card accounts, obtain loans, sign up for telephone service, rent an apartment, obtain medical care or employment, and provide false identification when stopped for a crime.[46]

Since the FTC survey, a private group – Javelin Strategy and Research – obtained similar results in 2004 and 2005 surveys using a questionnaire and methodology much like that used by the FTC (Conkey (2006)). Even with slight differences in the way the questions were asked, the results of the surveys are not significantly different.[47]

Using the data from the FTC's survey, Anderson (2006) found that members of some demographic groups are more likely than others to suffer identity theft. One relevant factor is

[44] Based on a search of the Lexis U.S. Newspapers database.
[45] Mayer (2006).
[46] The survey results are reported in FTC (2003). Some of the key findings of the survey are also reported in Anderson K. B. (2006).
[47] In addition to the FTC and Javelin surveys, in the past few years there have been a number of other surveys that have sought to measure the extent of ID theft. These include a November 2004 survey by AARP, May 2003 surveys by Gartner, Inc., and by Privacy and American Business, and a November 2002 survey by STAR Systems. Not surprisingly, the exact estimates of the incidence of ID theft vary from survey to survey depending, at least in part, on the particular way in which the questions were phrased. However, each of these surveys found rates of ID theft that are generally consistent with the results from the FTC survey.

income: Those with incomes in excess of $100,000 are estimated to have a 75 percent greater risk of experiencing ID theft than those with incomes of less than $25,000. At least, in part, this increased risk appears to be consistent with people with higher incomes having more credit cards and using those cards more frequently. On the other hand, older people may face a somewhat reduced risk, with the risk faced by those over 75 being 60 percent lower than that faced by those between 35 and 44. Household composition also seems to matter: One is more likely to be a victim if he or she is the only adult who lives in the household. More children are also associated with an increased likelihood of becoming a victim of identity theft. Finally, women are more likely to be victims than are men.

Identity theft can be quite lucrative for the thief and costly, both in terms of time and money, for the victim. ID theft victims often had over $5,000 of merchandise purchased in their names, and in a small subset of cases (two percent) over $50,000 was obtained by the thief.

The victim of ID theft, however, does not typically wind up paying for the goods or services. For example, where items are purchased using a credit card in the victim's name, the cost is typically borne by the credit card issuer or the merchant who made the sale, depending on the particulars of the transaction. However, victims may ultimately pay some of the direct cost of what was stolen – if for no other reason, just to resolve the matter and protect their credit rating. In addition, the victim may expend both time and money in attempting to resolve the problems that result from the ID theft. In 12 percent of incidents, victims reported that they had incurred resolution expenses of $500 or more, and 10 percent of victims said they spent 80 hours or more resolving problems associated with being a victim of ID theft.

V. Conclusion

Economists at the FTC examine a wide range of issues covering both competition and consumer protection. In this year's article we have focused on a small portion of the work that the Commission's economists have completed: data-intensive merger cases in hospitals and consumer products, gasoline price volatility, and policy R&D and its use in consumer advocacy on the administration of drug benefits and real estate markets. On the consumer protection side, we discussed the problem of ID theft – a surprisingly common crime that is more difficult to avoid than are many other forms of fraud.

Figures and Tables

Figure 1: Daily Retail Gasoline Prices Without Taxes 6-3-2005–11-30-2005 Source: Oil Price Information Service, 2005.

Figure 2: Atlanta Gasoline Rack Prices – Mean Centered 7/1/2005 – 11/30/2005 Source: Oil Price Information Service, 2005.

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