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**DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS**
**COMPETITION COMMITTEE**

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## Working Party No. 3 on Co-operation and Enforcement

# ROUNDTABLE ON MANAGING COMPLEX MERGER CASES: HOW AGENCIES DEAL WITH COMPLEX DATA ANALYSIS, SURVEYS AND MARKET STUDIES, AND OBTAIN THE NECESSARY EXPERTISE FOR COMPLEX SUBSTANTIVE ISSUES.

**-- The United States --**

**16 October 2007**

*To be held on 16 October 2007 at the International Energy Agency (IEA), 9 rue de la Federation, PARIS 75015, starting at 10 am.*

Please contact Mrs Wendy Houët if you have any questions regarding this document [phone number:+33 1 45 24 95 59; email address: wendy.houet@oecd.org].

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# 1. Introduction

1. The U.S. agencies reviews of the competitive impacts of proposed acquisitions increasingly rely on acquisition of large datasets and sophisticated analyses. This development is a function both of the increased availability of statistical tools for data analysis *and* an exponential increase in the kinds and amounts of information retained by companies, associations, government agencies, *etc.*, to which those tools effectively can be applied. Thus, for example, econometric studies carried out by agency staff commonly inform the agencies' determinations as to whether to challenge a proposed acquisition, and are often an important part of the proof that staff puts forward in a challenge. The agencies also carefully evaluate econometric studies submitted by the parties. Agency staff routinely replicate such studies and test them for robustness. Even in cases where sound econometric work is not feasible, for example because of a paucity of reliable data, the parties sometime submit an econometric study. In such cases, the agencies may commit substantial resources to establishing that these studies are not reliable.

2. In agency investigations and litigation, statistical analyses most frequently are used to aid in definition of relevant markets and assessment of competitive effects. Each agency has a large staff of Ph.D. economists who are instrumental in aiding attorneys in creating, narrowing, and evaluating responses to data specifications. From the outset, there often will be a trade-off between accessing potentially useful data and limiting the scope/burden of production. Particularly given the limited time periods allowed for evaluation under the U.S. premerger notification process (governed by the Hart-Scott-Rodino Act), there also may be a trade-off between the best use of available time and resources in an investigation and the development of economic evidence that will withstand the rigors of trial. In order to productively manage these trade-offs, it is key for the agencies' to work with the parties to understand the kinds and amounts of available data, and to work with staff economists to assess the likely usefulness of those data. In some instances, the agencies have been able to limit data requests/demands by securing agreements from the parties to take certain evidentiary questions off the table. For example, an agreement that a party will stipulate to or not contest a given market definition may obviate the need to collect and analyze large amounts of data (and documents). This may be particularly practicable where a quick look at a dispositive question, such as likelihood of entry, appears practicable.

3. The agencies conduct many antitrust inquiries, but only a very few matters ultimately reach a courtroom. The agencies have used staff economists as testifying witnesses to good effect in several matters, including prospective and consummated mergers. More often, however, the agencies contract with economic consultants – often prominent academics – as testifying experts, and these experts commonly incorporate into their testimony econometric analyses that provide a basis for estimating competitive effects. Ordinarily, it is only when we determine that there is a strong likelihood that a matter may go to trial that retention of economic consulting firms is financially advisable. That kind of Atriage@ entails unavoidable litigation risk, because the experts are brought in at a later stage.

# 2. Contribution of the Department of Justice

## *2.1 DirecTV/Echostar - Complex Data, Customer Surveys, Econometrics*

### *2.1.1 Background of the Investigation*

4. The Antitrust Division's investigation of, and challenge to, the proposed merger of DirecTV and Echostar presented many issues requiring complex data analysis. On October 28, 2001, Echostar Communications Corp. and General Motors Corp., the parent company of Hughes Electronics Corp., announced a proposed merger valued at $26 billion that would have combined the nation's two most significant providers of direct broadcast satellite television service ("DBS"), Hughes's DirecTV service

and Echostar's Dish Network service. DirecTV and Echostar were essentially the only two satellite distributors of multichannel video programming ("MVPD") to consumers in the United States, with DirecTV having over 10 million subscribers and Echostar having over 7 million. The two firms controlled the only three orbital slots serving the entire United States that were used to provide video service ("full-Conus DBS slots") and each offered a full slate of basic and expanded basic programming, premium channels, foreign language channels, pay-per-view, and, in certain markets, local broadcast stations. In the United States, the largest MVPD provider in most areas was the local cable company; cable companies accounted for about 80% of MVPD subscribers nationwide. The satellite firms' rationale for the merger was that it would allow them to make more effective use of scarce spectrum and therefore become a more effective competitor to cable.

5. The investigation focused, to a substantial extent, on two critical sets of issues. The first involved the related issues of product market definition and competitive effects. In more than 90% of the United States, customers for MVPD services had three options: DirecTV, Echostar, and the local cable company.[1] The merging firms argued anticompetitive effects were unlikely, in large part, because the principal competitor to (and thus principal constraint on) each DBS firm was not the other DBS firm, but rather the incumbent cable provider, which typically had a dominant share. Although the parties conceded some competition between DirecTV and Echostar, they argued that rivalry with cable was the much more significant driver of competition and any potential price effect would be more than made up for by the efficiencies. The second set of issues involved these efficiencies. The parties argued that by merging, they would "reclaim" almost half of the total spectrum devoted to DBS because they would be able to eliminate duplicative transmission of channels. This spectrum then could be used for a variety of purposes including providing local channels throughout the entire country, more high definition television channels, various new advanced services, more specialty channels, and video-on-demand-like functionality. They also argued that the merger would provide savings (through, *e.g.*, lower programming costs, overhead savings, and lower equipment costs via standardization), thereby allowing them to compete more aggressively against cable.

6. The Division conducted its investigation knowing that if it determined that the merger was likely to be anticompetitive, it would have to file a case in federal court seeking to enjoin the merger. The Division cannot simply block a transaction on its own; unless the parties agree to abandon the transaction (or settle the matter on a mutually-acceptable basis), the Division must prove its case before a federal judge. Accordingly, many of the decisions made, and steps taken, by the Division were directed not only at ascertaining the competitive consequences of the merger, but at preparing to prove its case in court should it determine the merger to be anticompetitive.

*2.1.2 Data*

7. In order to evaluate the parties' claims and determine whether the proposed merger was indeed likely to harm competition and consumers, the Antitrust Division gathered large quantities of information using a variety of techniques. Through the statutory Second Request process, the Division compelled the merging firms to produce a substantial amount of material, which ultimately comprised more than 1,600 boxes of documents and extensive other data. The Division also conducted 17 depositions, and numerous other voluntary interviews, with party business executives. As discussed further below, the merging firms also presented a variety of economic models and white papers embodying their analysis (and that of their

[1] Standard over-the-air broadcast television was not considered to be in the relevant product market because it did not include the variety of programming services that are available to MVPD subscribers: it did not provide nearly the number of channels; it did not provide access to popular services such as ESPN, CNN, and TNT; and it did not permit access to premium services such as HBO or Showtime. Thus, most consumers did not consider broadcast television an acceptable substitute for cable and DBS services.

experts) of the transaction's competitive effects and efficiencies. The Division also collected extensive data from third parties. Using several dozen statutory Civil Investigative Demands ("CIDs"), the Division collected more than 600 boxes of documents from third parties and conducted ten depositions. Moreover, the Division conducted more than 100 interviews with third-party business executives. The third party discovery was directed at a variety of types of firms with knowledge of the industry, including cable system operators, smaller MVPD providers, large retailers, and satellite manufacturers.

8. Among the most critical information collected was price and quantity data from the merging firms and large cable systems. As is often the case in merger investigations, the hope was that this data could shed light on the degree of substitution between the offerings of the merging firms and other potential substitutes. In this case, however, such data could be of only limited use for a variety of reasons, including the differing ways firms kept and classified data, the many varied aspects of pricing and quality in this industry, and the very few generalized DBS price increases during the period of analysis (which makes it difficult to infer how customers would react to DBS price changes).

*2.1.3 Expertise*

9. To analyze the issues raised by the merger and process the vast amount of information gathered, the Division needed to employ a variety of different forms of expertise. Some of the expertise was available internally, in the Division's Economic Analysis Group (EAG). But the Division also hired outside experts and consultants.

10. EAG consists of more than 50 Ph.D economists who are regularly integrated into the Division's investigations. The DirecTV/Echostar matter was no exception: several EAG economists were assigned to the investigative staff. They played an important role in analyzing the proposed transaction. If the Division seeks to challenge a transaction in court, it is often helpful to have an economic expert available to testify concerning the anticompetitive effects of the transaction. Thus, in this case as in many others, the Division retained an outside economist to both assist with the evaluation of the transaction and, if necessary, testify should the matter go to trial. Here, the outside economist reviewed documents, analyzed data, and critically examined the merging firms' arguments and models.[2]

11. The parties relied heavily on an econometric model submitted by their own experts. Given the central importance of econometrics, the Division hired a separate econometric expert whose primary role was to evaluate the merging firms' econometric model. As discussed further below, the expert, in conjunction with EAG, found important flaws in that model and, had the matter gone to trial, would have testified regarding those flaws.

12. The DirecTV/Echostar investigation implicated a number of highly technical issues, completely apart from economics. For instance, in evaluating the parties' efficiency claims that the merger would allow them to provide additional programming, it was necessary to understand the present, and potential future, transmission capacity of satellites using various transmission technologies. As is often the case, Division staff were to a great extent able to educate themselves about these issues through interviews and depositions of knowledgeable party and third party executives, as well as through review of relevant documents. However, this was not a perfect solution, in part because many of the relevant documents could not be readily understood without a prior technical background. Accordingly, the Division identified and retained a technical expert to help review technical documents and answer questions that the

[2] For a number of reasons, in most cases where the Division anticipates needing an expert to testify at trial it hires that expert from outside the Division. An outside expert may have greater relevant expertise for the particular matter and fewer discovery issues than a Division employee, and may have more experience testifying.

investigating staff would have. Had the matter gone to trial, it is possible that his testimony might have been offered on relevant technical issues.

13. As discussed further below, the Division also considered conducting a consumer survey to aid its analysis of the issues. Although the Division had considerable internal expertise regarding the subject matter of the investigation, it had no such expertise regarding the design and execution of a reliable consumer survey. Accordingly, the Division hired an outside expert to help design and conduct such a survey. (It also retained a second consumer survey expert to help analyze and critique any consumer survey the merging firms might choose to present.)

14. Finally, the merging firms presented a number of ordinary course business plans and efficiency studies, and an analysis of a possible divestiture, during the course of the investigation – some prepared prior to notification of the merger, others in response to questions raised by the Division. These business plans addressed anticipated efficiencies as well as a possible divestiture remedy that the parties suggested as a means of correcting any perceived competitive problem. To assess these documents and analyses, the investigating staff made use of the Division's Corporate Finance unit, an internal group staffed with individuals with accounting and financial analysis expertise. Because of the specialized nature of the analysis, and because it was desirable to have a retained expert who would be prepared to testify should the matter go to trial, the Division also hired an expert on business plan analysis.

15. To sum up, although the Division has considerable internal resources and made full use of them during the DirecTV-Echostar transaction, for some tasks it was necessary to supplement the Division's expertise with outside consultants. To a considerable extent, this was driven by the fact that the Division thought it might ultimately have to prove its case in federal court and therefore needed to retain expert witnesses who would be available to testify should the matter go to trial. The outside experts also played an important role in helping the Division analyze the transaction and evaluate the competitive effects. Perhaps the biggest problems with the extensive use of outside expertise were the difficulty in identifying appropriate, available individuals; the time and resources required to thoroughly educate them in the relevant issues; and the (often considerable) expense, given the high fees charged by the experts.

*2.1.4 Consumer Survey*

16. As noted above, perhaps the most critical issue in the investigation involved the interrelated problem of product market definition and competitive effects. It was critical to understand the extent to which the merging firms constrained each other, as opposed to the extent that cable was the chief constraint. In many cases, the Division can gain considerable insight into consumer preferences and degrees of substitutability by interviewing large, sophisticated customers. But here, virtually all of the DBS firms' sales were to individual consumers. Similarly, in many matters, good price and quantity data (such as supermarket scanner data) is available and, thus, econometric analysis can be especially effective. But, here, the data contained numerous flaws and weaknesses. Accordingly, the Division determined that it might be useful to analyze customer preferences, and the degree of substitutability between the DBS firms and cable, via a consumer survey. In theory, such a survey could show that DirecTV and Echostar were particularly close substitutes and, therefore, that the merger could reasonably be predicted to have substantial anticompetitive effects; alternatively, it could show the converse was true.

17. The Division hired a survey expert and commissioned him to design an appropriate survey. The process, however, proved to be complicated. First, the Division had great difficulty identifying and hiring a survey expert. Many potential candidates either did not have sufficient time available or had various disqualifying entanglements. Once the Division did locate and hire a survey expert, other issues emerged. Although the survey expert was quite knowledgeable regarding the proper design and execution of unbiased, representative surveys, he was not particularly knowledgeable regarding the industry, and the

multidimensional nature of competition in the industry (*e.g.*, differences in package prices, equipment prices, promotions, channel content of packages) made the task especially difficult. Like most survey experts, moreover, the Division's expert was accustomed to focusing on commercial marketing issues, rather than the sort of precision required of surveys conducted for us in matters tried to a court. As the process unfolded, it became clear that a reliable, statistically valid survey would be very expensive and time-consuming to conduct. Ultimately, the matter ended before the survey was ever finalized or executed. It is not clear whether it would have produced useable results.

18. In summary, the DirecTV/Echostar experience suggested that it may be possible to design and conduct a consumer survey that aids antitrust decision-making, but that it is a difficult, expensive, and time-consuming process. Accordingly, a survey should probably be viewed as a secondary means of analyzing the issues, to be resorted to only when other means are inadequate.

### *2.1.5 Econometrics*

19. Econometric analysis played a major role in the Division's investigation. Given weaknesses in the data, it was unlikely that econometric analysis could be sufficiently robust to form the primary basis of any enforcement decision, but such analysis could and did help inform that decision. At a minimum, econometric analysis was central to the investigation because the merging firms relied heavily on an econometric model prepared by their experts in arguing that the merger was unlikely to have anticompetitive effects.

20. The experts for the merging firms submitted an econometric model that relied on data on what alternatives subscribers moved to from DBS services ("churn" data) to derive diversion ratios, and used a nested logit model to predict post-merger price effects. It predicted a relatively small price increase in the absence of efficiencies. But after the marginal cost savings predicted by the parties were included, it showed price decreases. It thus projected a substantial consumer welfare benefit.

21. The Division's economists and outside experts carefully reviewed the parties' model and made some corrections, including related to weighting and the appropriate diversion ratio to be derived from the churn studies. The Division's new estimates of consumers' sensitivity to MVPD prices and the closeness of the two DBS products lead to starkly different estimates of the likely price effect of the transaction. Moreover, the Division conducted its own analysis of likely marginal cost efficiencies, including those attributed to a reduction of programming costs (a major part of the claimed cost savings). By careful analysis of MVPD programming contracts, the Division estimated the likely merger-specific merger savings that, while substantial, was significantly less than that claimed by the merging firms. When this, and other, revised efficiency estimates were included in the corrected econometric modeling, they only slightly reduced the likely price increase from the proposed acquisition.

22. The fact that the Division's revisions to the parties' econometric model suggested substantial anticompetitive harm from the transaction was only one factor underlying the Division's ultimate enforcement decision. Importantly, that econometric finding was buttressed by the documentary evidence collected from the parties. The documents indicated a high degree of competitive interaction between Echostar and DirecTV. Not only did the documents show extensive competition between the two DBS firms over a variety of price and quality parameters, but they also showed a number of instances where each DBS firm's conduct was driven by the other DBS firm rather than by cable.

### *2.1.6 Outcome*

23. Ultimately, the Division was able to come to a number of conclusions as a result of its investigation. The Division concluded that the appropriate product market was MVPD services, including

cable and DBS, but that the two DBS providers were particularly close substitutes to each other and that competition between the two yielded important consumer benefits. Moreover, although the merger would generate some efficiencies, those efficiencies were not of sufficient magnitude to offset the substantial harm that the merger would cause to competition. Accordingly, on October 31, 2002, the Division filed suit in federal court seeking to block the merger on the grounds that it would have substantial anticompetitive effects in MVPD markets all across the United States. For millions of households without access to cable television, the merger would have reduced the number of competitors from two to one. For the vast majority of American households that have three options for MVPD--Echostar, Hughes's DirecTV, and an incumbent cable firm--the merger would have reduced the number of competitors from three to two. Thus, the Complaint alleged that the merger would likely adversely impact the price and quality of MVPD service for the roughly 95% of the U.S. population that resided in areas served by three or fewer MVPD providers. Shortly after the filing of the Complaint, faced with the opposition of not only the Antitrust Division but also the Federal Communications Commission, the parties abandoned the deal.

## ***2.2 Monsanto/Delta and Pine Land Company - Intellectual Property***

24. The Antitrust Division confronted significant intellectual property ("IP") issues in analyzing the August 2006 merger proposal of Monsanto Company and Delta and Pine Land Company and developing a remedy that preserved current and potential competition in traited cottonseed. The Division relied on significant in-house expertise in order to understand the various IP issues, and also sought the views and documents of market participants. The Division has consciously hired attorneys with expertise in IP issues to develop its capability, and has over time dedicated substantial resources to IP issues (*e.g.*, guidelines, advocacy on proposed legislation and regulatory developments, business review letters and enforcement matters).

### *2.2.1 The Traited Cottonseed Market*

25. Most cottonseed sold in the U.S. today contains "transgenic traits" – genetic material from other organisms that is inserted into the cottonseed to give the cotton plant desirable characteristics. A seed company's breeding material is referred to as "germplasm," which is the genetic material in the cottonseed that gives the plant its characteristics – *e.g*., yield, fiber quality, and performance in particular climates or soil conditions.

26. Monsanto is the dominant supplier of genetic traits used in cottonseed in the Southeast and MidSouth United States. It currently provides two types of cottonseed trait technologies – one type makes plants tolerant to glyphosate-based herbicides, while the other makes plants resistant to various types of insects. Monsanto has patented these technologies and licenses them to all United States cottonseed companies, who in turn receive a share of the fee that Monsanto charges farmers for use of the traits. Monsanto accounts for over 90% of all trait sales. At the time it announced the DPL acquisition, Monsanto, operating through its Stoneville Pedigreed Seed Co. subsidiary, was the second-largest traited cottonseed company in the MidSouth and Southeast cotton growing regions of the United States.

27. Prior to the acquisition, DPL was the largest producer and seller of cottonseed in the United States; its seeds accounted for over 50% of the cottonseed acres planted in the United States and approximately 80% in the Southeast and MidSouth. Unlike Monsanto, DPL was predominantly a seed company and obtained the traits bred into its seeds from third party trait developers, such as Monsanto. At the time we investigated the merger, all of DPL's cottonseed offerings contained Monsanto's traits. However, DPL had been working with other trait providers to develop cottonseed with non-Monsanto traits. In particular, DPL had been working with Syngenta to introduce a trait that would compete with Monsanto's insect-resistant trait. DPL and Syngenta had anticipated that DPL cottonseed with Syngenta's trait would be ready for commercialization within the next two to three years.

*2.2.2 The Complaint and Proposed Final Judgment*

28. On May 31, 2007, following a thorough investigation, the United States filed a Complaint seeking to enjoin the merger, alleging that the proposed transaction would likely substantially lessen competition. At the same time it filed its Complaint, the United States filed a proposed Final Judgment that, if approved by the United States District Court for the District of Columbia at the conclusion of the Tunney Act process, will resolve the United States' competitive concerns.

29. The proposed Final Judgment seeks to preserve the competition that existed to sell traited cottonseed, to prevent any significant delay in commercializing cottonseed with non-Monsanto traits, and to ensure that trait developers have sufficient access to germplasm held by cottonseed companies independent of Monsanto to support future cotton trait development and commercialization. To accomplish these goals, the proposed Final Judgment requires Monsanto to divest its own cottonseed company (Stoneville) and other assets, to divest to Syngenta assets relating to its trait development project with DPL, and to make certain changes to the licenses it had with U.S. cottonseed companies for Monsanto's cotton-related biotechnology.

30. Monsanto and DPL closed the transaction shortly after the filing of the Complaint and proposed Final Judgment and merged operations after the United States had approved the acquirers of the Stoneville divestiture assets.

*2.2.3 Intellectual Property Issues*

31. Throughout its investigation, the Division recognized the importance of IP to competition in the traited cottonseed industry. For example, the traits themselves are patented; the U.S. Plant Variety Protection Act provides firms that develop certain novel seeds the right to exclude others from selling copies; and, increasingly, seed companies seek patents on particularly valuable lines of seeds to provide further IP protection.

32. Firms in this industry have entered into various licensing and cross-licensing relationships running between all levels of the traited seed development chain – *e.g.*, trait developers obtain certain rights to competitive IP, cottonseed companies have licenses with trait providers (some trait providers, like Monsanto and Dow, had vertically integrated into the seed business) and seed companies license proprietary breeding lines to and from various sources.

33. Moreover, it is not uncommon to have competitors in one part of the industry be collaborators in another – for example, Monsanto and DPL competed with respect to cottonseed sales yet worked together to develop and commercialize new traits. Similarly, IP disputes frequently occur throughout the traited cottonseed industry. In fact, the Monsanto and DPL merger served to settle long-running litigation and arbitration between the two companies, that involved licensing issues in part.

34. The following two examples demonstrate some of the issues the Division faced in analyzing the effects of the merger and crafting an appropriate remedy against this web of IP rights, disputes, and complex licensing arrangements.

- "Stacking" Rights

35. Most traited cottonseed sold in the U.S. contains both herbicide tolerant and insect resistant traits. DPL's trait licenses with Monsanto permitted it to combine or "stack" Monsanto traits with those of any third party (*e.g.*, DPL could potentially create a cottonseed with Monsanto's herbicide tolerant trait and Syngenta's insect resistant trait). DPL was unique in this regard; Monsanto's trait licenses with other seed

companies did not allow stacking or restricted stacking to a particular trait developed by that seed company. Trait developers consider stacking rights to be important to the development of new traits in that they allow a developer of one type of trait (*i.e.*, insect-resistance) to combine its offering with another, established trait (*i.e.*, Monsanto's herbicide-tolerance trait). DPL's full stacking rights for Monsanto traits made it an efficient partner for trait developers.

36. Thus, in seeking to preserve the competitive benefit that DPL offered trait developers pre-merger, the proposed Final Judgment requires Monsanto to change its trait licenses with existing seed companies (including the acquirer of Monsanto's Stoneville seed company) to allow them, without penalty, to stack non-Monsanto and Monsanto traits

- Syngenta's Trait Development Project

37. As noted above, DPL and Syngenta were in the late stages of their efforts to create cottonseed containing Syngenta's insect-resistant trait that would compete against Monsanto's similar trait. DPL and Syngenta had invested millions of dollars and committed significant resources to developing this project. During our investigation, Monsanto claimed that it would likely move to block attempts by DPL and Syngenta to commercialize the trait on the grounds that it would infringe Monsanto's IP, and on this basis argued that there was no competition to be preserved.

38. Rather than attempt to assess the likely success of the merits of such a claim, the Division's remedy seeks to preserve the competition that would have occurred but for the merger. To do so, the proposed Final Judgment requires Monsanto to divest to Syngenta certain DPL germplasm containing Syngenta's traits that had been progressing through DPL's breeding program along with a license similar to the one DPL had which would allow Syngenta to offer cottonseed containing the new trait stacked with Monsanto's herbicide tolerant trait.

39. Syngenta will thereby have the ability to bring its trait to market in DPL germplasm on roughly the same schedule as it could have done prior to the merger while still being subject to the possibility that Monsanto may seek to enforce its IP rights to block sales of Syngenta-traited cottonseed. As such, the remedy seeks to preserve the pre-merger status quo.

## 3. Contribution of the Federal Trade Commission

### *3.1 Carnival/Princess and Royal Caribbean/Princess ("Cruises") – Complex Data and Econometrics*

#### *3.1.1 Background of the Investigation*

40. In 2002, the Federal Trade Commission conducted simultaneous investigations of two proposed transactions in the cruise line industry: a non-reportable proposed alliance between Royal Caribbean Cruises, Ltd. and P&O Princess Cruises plc (Princess), and a hostile tender offer by Carnival Corporation for Princess. As both transactions involved three-to-two mergers of significant competitors, the Commission conducted an intensive investigation over a ten-month period. Complex data analyses, including econometric studies, were cited in an explanatory statement as the reason for the Commission's decision not to seek to enjoin either transaction.

#### *3.1.2 Data and Econometrics*

41. The Commission's investigation of the proposed cruise line mergers involved a tremendous document production – roughly 2000 boxes were produced – and a highly data-intensive merger review. The FTC obtained enormous amounts of data on, among other things, capacity utilization and actual

transaction prices, from the merging parties and others, and financial matters. These data were used for extensive empirical analyses of the industry. The statistical analysis done by FTC staff was important in the Commission's decision not to challenge the proposed transactions.

42. Given the importance of explaining Commission decisions and the extensive media interest in the proposed transactions, the Commission issued a detailed explanation of its decision, detailing work done to analyze these voluminous documents, and stressing the importance of the extensive empirical analyses of quantitative data on prices, bookings, ship deployments, and the financial characteristics of the industry and the parties.[3] These quantitative analyses bore particularly on the question of whether the cruise companies' use of yield management systems would enable them to coordinate on price discrimination between more and less price-sensitive customers based on characteristics of bookings, such as time of booking or category of berth. To evaluate this theory, the investigation used, among other techniques, extensive empirical analyses of actual transactions to search for systematic pricing patterns indicating that an identifiable type of transaction might be subject to coordinated interaction. The analyses showed that actual transaction prices in the cruise industry displayed substantial, unsystematic variation. In fact, there was not even a consistent correlation among the prices of "head-to-head" cruises offered by different cruise lines using similar ships and sailing identical itineraries from the same port at the same time. The prices of different categories of berths also varied unsystematically over time and over categories. The Commission concluded that this evidence was inconsistent with any claim that either proposed merger would enable the putatively coordinating cruise lines to agree tacitly on, and successfully implement, a price increase based on booking characteristics, and, for that and other reasons, closed the investigation without seeking to enjoin the transaction.

### *3.2 Western/Giant – Econometric Evidence and Expertise*

#### *3.2.1 Background of the Investigation*

43. In 2007, the FTC reviewed Western Refining, Inc.'s (Western) approximately $1.4 billion acquisition of rival energy company Giant Industries, Inc. (Giant). Both companies supplied light petroleum products, including motor gasoline, diesel fuels, and jet fuels that are used in cars, airplanes, and other vehicles, to northern New Mexico. After an extensive investigation, the Commission authorized FTC staff to seek a preliminary injunction in federal district court to block the transaction pending an administrative trial on the merits. A federal district court judge declined to issue a preliminary injunction, and the acquisition was consummated in May 2007. On October 3, 2007, the Commission voted to dismiss its administrative complaint against the merged parties.

#### *3.2.2 Econometric Evidence and Expertise*

44. The assessment and litigation of the competitive effects of the Western/Giant merger illustrates the process and potential problems involved in marshaling econometric evidence. FTC staff conducted an extensive investigation of the proposed acquisition, including identifying all of the firms able to supply light petroleum products to northern New Mexico and understanding the logistics for bringing supply to this area. Data relating to prices, refinery production, refined product pipeline capacity and use, refined product terminal use, and trucking informed staff's definition of the geographic and product markets and analysis of the likely competitive effects of the acquisition.

45. The initial investigation focused on understanding the flow of supply into the market, constraints on bringing additional supply into the market, and historical prices in northern New Mexico and nearby

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3 *See* FTC press release, "FTC Closes Cruise Line Merger Investigations" and accompanying statements, at http://www.ftc.gov/opa/2002/10/cruiselines.shtm.

areas, as well as shipping trends in response to changes in relative prices. An academic expert in econometrics who was affiliated with an economics consulting firm was retained to help the Commission decide whether to challenge the merger and provide testimony in the event of a challenge. The econometrician drew upon his past work to model and simulate the likely effects of the merger, taking into account a large number of facts, market details, and general demographic information, including production and transportation costs, elasticity of demand, competitor behavior, and arbitrage constraints.

46. The analysis of the merger's competitive effects was complicated by the fact that the expected anticompetitive effect from this merger was the negation of an anticipated price decline, instead of an increase from prevailing prices. To model the market, the econometrician first analyzed supplier responses to price differentials between Albuquerque (located in the heart of northern New Mexico and containing almost all the refined product terminals in the area) and other cities. Because of the small number of observations on shipments for each supplier (relative to the number of explanatory variables), the econometrician built a reduced form predictive model rather than a fully structural model. While the predictive model could not determine the value of a variable's structural effect (such as the degree to which a supplier alters shipments in response to changes in a price differential) it could be used to conclude that a variable has no structural effect (*e.g.* could allow the analyst not to reject the hypothesis that a supplier had a zero supply elasticity). After using a separate model to estimate the response of gasoline demand to price in the greater Albuquerque area, the econometrician modeled the impact on price of the increase in supply that was anticipated absent the merger. The econometrician concluded that the merged entity could profitably increase the gasoline price in the Albuquerque area to the level it was before the planned increase in supply.

47. The costs of developing the necessary econometric models, obtaining workable data, and running and analyzing regressions were considerable. However, the out-of-pocket cost likely would have been higher had the Commission not reached an agreement with the consultant to use the FTC economics staff for some back-office work.

48. Any discussion of econometric evidence would seem incomplete without some consideration of the ability of the finder of fact properly to assess that evidence. In the United States, preliminary injunction applications are tried before federal district court judges, who may have little or no antitrust law experience and less empirical economics training. It is often helpful if the econometric evidence that is presented to the court is offered to support other substantial evidence that can be understood without economics training. [4] Commission attorneys and economists find that it is sometimes necessary to work with testifying economic experts so that they will present an intuitively clear explanation of the theory and evidence on competitive effects.

[4] A close reading of the federal district court decision in a previous transaction reviewed by the FTC, Staples/Office Depot, may suggest that the court was more profoundly impressed by the Commission's relatively simple comparisons of advertised prices in localities in which there were differing numbers of competing office supply superstores than the Commission's strong econometric evidence that the proposed acquisition was anticompetitive. *See Federal Trade Commission v. Staples, Inc.*, 970 F. Supp. 1066 (D.D.C. 1997). Some commentators have suggested that the parties encourage courts to engage their own economic consultants to assist them in evaluating the parties' analyses. The Federal Rules of Civil Procedure permit such a practice, which a few courts have used. The Federal Trade Commission does not have experience with this practice, though the Commission itself is able to avail itself of Bureau of Economics expertise.