
Interview: Michael R. Baye

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Initial Observations

The Threshold recently had the opportunity to interview Michael R. Baye, the Director of the Federal Trade Commission's Bureau of Economics in Washington, DC.¹ In a discussion focused on merger analysis and enforcement, Dr. Baye shared with The Threshold his insights into merger policy. The interview was conducted by Rhett R. Krulla, of Proskauer Rose LLP, and Carl Shapiro, Transamerica Professor of Business Strategy at the Haas School of Business, University of California at Berkeley.

Michael Baye became Director of the Bureau of Economics of the Federal Trade Commission in July 2007, and is on leave from his position as the Bert Elwert Professor of Business Economics & Public Policy at Indiana University's Kelley School of Business. He received his B.S. from Texas A&M University in 1980, and earned a Ph.D. in Economics from Purdue University in 1983. Michael has held visiting appointments at Cambridge, Oxford, Erasmus University, Tilburg University, and the New Economic School in Moscow, Russia. He has served on numerous editorial boards in economics and in marketing.

Michael is the author of *MANAGERIAL ECONOMICS AND BUSINESS STRATEGY*, which is in its sixth edition. His research focuses on pricing strategies and their

impact on consumer welfare and firm profits, and uses tools from game theory and industrial organization to derive equilibrium strategies in network industries, mergers, auctions, and contests.

1. *The Threshold:* What has most surprised you about the FTC, now that you have had the opportunity to view it from the inside?

Michael Baye: Number one is the quantity and variety of interesting economic issues that cross my desk each day. While I anticipated many of these on the antitrust side, a plethora of important economic topics related to consumer protection, congressional inquiries, and public policy advocacy were not on my radar screen before I joined the Bureau of Economics (BE). I must say it has also been enlightening to see the many internal "checks and balances" that impact decision-making at the FTC.

2. *The Threshold:* What, if any, changes have you instituted? Why?

Michael Baye: This past fall I updated the organizational structure of BE by creating a Deputy Director for R&D and Operations. I am very fortunate that Pauline Ippolito agreed to fill this post. She serves along side our Deputy Director for Antitrust (Mark Frankena) and Deputy Director for Consumer Protection (Paul Pautler), and is charged with coordinating and evaluating the Research and Development efforts of BE staff to ensure that the knowledge base required for our antitrust, consumer protection, and advocacy missions continues to keep up with that of academic and

¹ The views expressed by Michael R. Baye in this interview are his own and do not necessarily reflect those of the Federal Trade Commission or any of the individual Commissioners.

consulting economists. She, along with Paul Pautler, also oversees the newly created Office of Applied Research and Outreach, headed up by David Schmidt. This new office replaces the previous Division of Economic Policy Analysis (DEPA) and draws upon the talents of all BE staff to conduct policy relevant research to aid in casework, advocacy, and international outreach.

3. *The Threshold:* What are your goals and priorities for the Bureau of Economics?

Michael Baye: My number one goal is to ensure that the Commission has the best possible economic analysis of the issues when making decisions. To this end, I am committed to maintaining and enhancing the strong tradition of economic research that can inform policy, a tradition that dates back to the FTC's predecessor organization, the Bureau of Corporations, and has continued for the nearly 100 years of the FTC's existence. This tradition stems from recognition of the strong complementarities between research and the FTC's competition, consumer protection and advocacy missions. My number one priority has been to foster an environment that best exploits these complementarities to ensure that BE staff have the "state of the art" economic theory and empirical tools needed not only to support Commission investigations and litigation, but also to advise the Commissioners in their evaluation of cases as well as the myriad of other issues facing the Commission. Indeed, this was part of my rationale for the reorganization I just described.

4. *The Threshold:* What capabilities do you plan to build or add to the Bureau of Economics?

Michael Baye: The Bureau recognizes that economics is an evolving behavioral and statistical science, and has a number of initiatives to ensure that we continue to build up our human capital. Beginning this past fall, we started several working groups within the Bureau and are augmenting our capabilities in areas that include bundling and industry dynamics. This spring, we partnered with the Bureau of Economic Analysis at the Department of Commerce to offer our staffs a course on recent advances in econometrics. The course is being taught by Professors Guido Imbens from Harvard and Jeffrey Wooldridge from Michigan State, and has been very well received. Beginning in the fall of 2008, we are launching what I hope will become an annual academic-style conference that will draw in academic economists that work on industrial organization and competition issues. The aim is to improve communication with the academic community, to help academics identify important policy-relevant research questions and to enhance our ability to provide the Commission with the best possible economic analysis when it makes its decisions.

5. *The Threshold:* What methodologies do you intend to emphasize in merger cases?

Michael Baye: I am a firm believer in the use of theory along with facts and, where feasible, econometric or statistical evidence,

to discriminate between situations where competitive effects are mere possibilities and those where competitive effects are likely. Given the abundance of different models of oligopolistic and competitive interaction, it is not difficult for an economist to identify a specific model that “rationalizes” a particular view of the competitive effects of a merger. But different theories are consistent with different facts, and given detailed knowledge of the underlying industry characteristics and facts of the case, it is possible to identify and refine the appropriate theory for a particular case. I also believe that merger simulations can sometimes be useful, but it is important for the underlying “guts” of the simulations to be carefully linked to the underlying facts and industry characteristics.

6. *The Threshold:* Are there any economic studies you are having the Bureau conduct to better inform the Commission’s enforcement policy?

Michael Baye: Yes. Our newly created office of applied research and outreach has initiated a study to determine whether recent advances in the academic literature on dynamic oligopoly might be useful in our analysis of pharmaceutical, retail, and petroleum markets. This analytic framework is in the very early stages of research and development, but I am hopeful that over the longer run it might permit us to enhance our gasoline price monitoring efforts and better understand the cycles in gasoline prices that have been identified in some of the academic literature.

7. *The Threshold:* Do you plan for BE to do merger retrospectives to better inform merger policy?

Michael Baye: The Bureau of Economics has a longstanding interest in merger

retrospectives because they are a potentially useful tool for evaluating our merger enforcement efforts. We have undertaken retrospective work since the early 1980s, and are increasingly able to do that kind of analysis in those cases where data are easy to obtain. Paul Pautler has a 2003 paper in the *Antitrust Bulletin* that reviews much of this work. More recently, Christopher Taylor, Nicholas Kreisle and Paul Zimmerman completed a study of the 1997 ARCO/Thrifty transaction, and found that the merger did not significantly impact retail gasoline prices. Due to data and econometric issues that I won’t bore your readers with, it is not feasible to conduct retrospectives on every merger, and one has to be careful drawing inferences from retrospective studies because of selection and other technical issues.

8. *The Threshold:* You have written about electronic commerce. What plans do you have for the Bureau in the area of Consumer Protection, including on-line privacy and fraud?

Michael Baye: This past December, the FTC released a call for public comment on its proposed principles for self-regulation in the evolving area of online behavioral advertising. In the immediate future, we will be helping others in the FTC evaluate the public comments because we recognize the potential for tension between on-line privacy and the functioning of electronic markets. Because behavioral advertising supports free web content and provides other benefits to consumers engaged in electronic commerce, and the market is dynamic and evolving, it is important to address privacy concerns in a manner that does not have negative unintended consequences on consumers or innovation.

9. *The Threshold:* In some government agencies, Directors insulate themselves, through intermediate layers of management, from the recommendations and analyses of their staff. Have you found this to be the case at the FTC? Have you taken steps to guard against such insulation?

Michael Baye: It certainly has not been my experience in the Bureau of Economics that I or other managers are insulated from staff. I routinely call or meet with staff as well as other managers to discuss cases, and they also take the initiative to ensure that I am well-informed. All of my staff and managers know that I respect people for what they know rather than who they are or what title they hold. I welcome direct and open communication, and encourage a “market for ideas” where everyone is free to voice their opinions. In short, I have not experienced such insulation here at the FTC.

Last Fall I initiated a rotation program in which individual staff economists housed in our New Jersey Avenue office reside a week or two in an office adjacent to mine in Headquarters. I strive to spend Thursday afternoons in our New Jersey office to discuss cases and research with staff and to attend the weekly BE seminar where I interact with BE staff—although meetings with parties and other responsibilities sometimes require me to alter my schedule.

10. *The Threshold:* What are the roles of staff economists in the FTC’s merger investigations? How active are they in identifying and developing relevant facts?

Michael Baye: Among the many roles that staff economists play in investigations, a critically important one is the identification and development of relevant facts. Starting with their industry knowledge and extensive expertise in industrial organization, BE staff

identify potentially relevant theories of competitive harm and examine potential efficiencies—potential stories about how the merger might affect competition, if you will. They communicate these theories and the facts that are needed to test them to Bureau of Competition (BC) attorneys, play an important role in the merger screening process, write relevant parts of Second Requests and work with the parties to reduce the burden of such requests, and interview customers and other parties. Staff economists also evaluate the facts that are obtained in the investigation to test the proffered theories of the case and to refine those theories as appropriate to fit the facts. In some cases, our economists use statistical and econometric techniques to make inferences from the data. Also, BE staff participates in meetings attended by the parties’ economists, and evaluate white papers submitted by parties and other presentations by those involved. If the investigation leads to a proposed divestiture, BE staff evaluate the proposal to determine if it is likely to constitute an effective remedy. And, if the matter appears to be heading for litigation, BE staff play a critical role in preparing the economic evidence for the case. One of the distinguishing aspects of the FTC is that, while staff economists are part of the team and work closely with BC attorneys—articulating the relevant economic theories and identifying the types of data and documents needed to reach a decision—ultimately, staff economists and staff attorneys each provide the Commission with their own recommendations to either close an investigation or issue a complaint.

11. *The Threshold:* How effective are the staff economists in communicating economic theory and analysis to the attorneys in the investigation?

Michael Baye: I have been very impressed with BE staff’s expertise in industrial

organization and microeconomics. They do an excellent job of communicating economic theory and analysis to attorneys, notwithstanding the fact that it is not always easy to communicate complicated theoretical and econometric issues to non-economists.

12. *The Threshold:* What steps are you taking to improve this process?

Michael Baye: We have ongoing programs at the FTC that are designed to ensure effective communication between economists and attorneys. As an example, last fall and this winter several of our staff economists offered mini-courses to attorneys in BC on such topics as critical loss analysis and the use of financial and accounting data in antitrust investigations and litigation. We also have annual training classes on statistics and on antitrust economics designed for FTC attorneys.

13. *The Threshold:* What do you regard as the proper role for the staff of the Bureau of Economics in the FTC's litigated cases?

Michael Baye: Once the Commission issues a complaint and we enter the litigation stage, BE staff provide support for our attorneys. This includes a range of services, such as interfacing with our experts, verifying work done by our own and the parties' experts, deposition preparation, and so on.

14. *The Threshold:* What is your view regarding use of the FTC's career economists as testifying experts versus use of retained expert economists? Why?

Michael Baye: I think it makes a lot of sense for the FTC to use BE staff economists in cases where this economist has considerable expertise and is willing to run the gauntlet associated with testifying.

One of our economists, John Simpson, was a testifying expert in the Chicago Bridge case. The fact that the Fifth Circuit unanimously affirmed the Commission's decision on January 25, 2008 illustrates that the use of FTC career economists can be effective in litigation.

15. *The Threshold:* What do you regard as most significant about the *Chicago Bridge & Iron* decision?

Michael Baye: The Fifth Circuit's decision provides a useful discussion of barriers that are likely to prevent an entrant from constraining post-merger price increases. The entry barriers in this case largely stemmed from intangibles, such as a reputation for performing well in the past, experience obtained by years of learning-by-doing, and so on. The decision in this case is noteworthy in that it recognized that factors such as these can function as entry barriers that prevent another firm—even one that had built similar structures in other countries—from entering at a scale sufficient to constrain the likely anticompetitive effects.

16. *The Threshold:* The analytical methodology employed within the FTC and the Department of Justice to determine whether a merger is likely to lessen competition differs from the approach followed by some courts, for example, with respect to analysis of unilateral effects, the role of market definition, and presumptions. In your opinion, what, if any, changes with respect to analysis should the FTC follow when it shifts from investigation of a proposed merger to presentation of a case in court?

Michael Baye: I don't think the analysis changes when an investigation shifts to court. Rather, there is recognition that it can be a big challenge to effectively

communicate the analysis in a way courts can understand. While some judges have considerable antitrust experience, many do not. It is important to connect all the dots to ensure that the judge sees that the analytical methodology used in a particular case is in fact consistent with the Guidelines and the law.

17. *The Threshold: What efforts are you taking at BE to avoid another litigation defeat such as Whole Foods?*

Michael Baye: We have an appeal pending in the Whole Foods matter, so the jury is actually still out on that one. But the question seems to suggest that a defeat implies that the FTC or BE must be doing something wrong on the antitrust side, and I strongly disagree with that premise. As you know, the vast majority of our merger investigations do not lead to litigation either because the mergers do not raise competitive concerns or because the parties agree to divest assets in markets where there are concerns. So, a scorecard that tracks litigation defeats misses the lion's share of the work we do here in the Bureau of Economics. Moreover, there is a great deal of uncertainty in the outcome of any litigation. As a statistical matter, if one looks over a couple of decades there will naturally be sequences of "wins" and "losses," and such sequences do not imply that things were being done "right" in some periods and "wrong" in others. We in the Bureau of Economics will continue to maintain and develop the skills required to evaluate each case on its own economic merits, to provide our own recommendations to Bureau of Competition, the Chairman and Commissioners, and to provide our attorneys with the support they require in the comparatively small number of antitrust cases that are ultimately litigated.

18. *The Threshold: Some advocates of "critical-loss" analysis assert that all else equal, high pre-merger margins of the merging parties make it unlikely that a merger will be anticompetitive. What role do margins appropriately play in analysis of mergers?*

Michael Baye: Unfortunately, critical loss analysis is sometimes abused by experts and is not well-understood by some attorneys and courts. The usual story by the "advocates" to whom you refer is that a high pre-merger margin implies a low critical loss—which means a firm doesn't have to lose a lot of sales to make a small but significant and non-transitory increase in price (SSNIP) unprofitable. These "advocates" stop their analysis here, wanting the court to erroneously conclude that a profitable post-merger price increase is highly unlikely because the critical loss is so low that it would surely be exceeded by the actual loss that would result from the price increase. In fact, however, an exercise that stops here provides absolutely no useful information about the competitive effects of a merger: Pre-merger, no profit-maximizing firm can increase its profits by implementing a SSNIP—if it could, it wouldn't have been maximizing profits in the first place. Furthermore, a fundamental pricing theorem in economics states that a profit-maximizing firm's pre-merger margin equals the reciprocal of its elasticity of demand: The higher the pre-merger margin, the more inelastic the firm's demand at the pre-merger price, and hence the smaller its actual lost sales from a SSNIP. So, while a high margin does imply a low critical loss from a SSNIP, it also implies a low actual loss. And, based on pre-merger conditions, the implied actual loss must be greater than the critical loss for any profit-maximizing firm, for the reasons mentioned earlier.

What all of this misses is that a horizontal merger that reduces the number of available substitutes makes demand for the merged entity's product more inelastic than it was pre-merger. Given the fundamental pricing theorem, the fact that the firm's post-merger demand is more inelastic implies that its profit-maximizing margin is higher post-merger than pre-merger. Regarding the correct inference to draw from a merger where firms have high pre-merger margins, I note that for the standard homogenous product Cournot oligopoly model, higher pre-merger margins imply higher post-merger price increases, other things equal (e.g., in the absence of any merger-specific efficiencies). For instance, when the merging parties' pre-merger margins are 12.5 percent, a four to three merger leads to a 5 percent price increase; when the pre-merger margins are 25 percent, the same merger leads to a 12.5 percent price increase. In both cases, comparing the critical and actual losses based on pre-merger margins would lead one to erroneously conclude that a merged firm would not unilaterally raise price.

19. *The Threshold:* How do diversion ratios between the merging parties affect analysis of the likely effects of a merger?

Michael Baye: Diversion ratios are a step that is added to critical loss analysis to attempt to account for the effects I just articulated, namely that a horizontal merger changes the elasticity of demand facing the merged entity and thus changes its incentives to increase price. Conceptually, if a firm unilaterally raises its price pre-merger, it will lose some sales to the party

with which it wishes to merge. Post-merger, it will recoup some lost sales because it owns a rival to which it lost sales pre-merger. Thus, the firm's post-merger demand is more inelastic than it was pre-merger. Other things equal, the greater the diversion ratio—that is, the greater the sales diverted to the target of the acquisition relative to all lost sales—the more inelastic the post-merger demand and the greater the post-merger price increase. So, if critical loss analysis ignores the information given by the diversion ratio, it is missing an absolutely critical piece of the analysis.

20. *The Threshold:* What advice or observations do you have for practitioners representing clients in Commission investigations?

Michael Baye: As with other things in life, good communication is critical. I encourage early and frequent contact with staff, and when an economic expert has been retained by the parties, between that expert and staff. This communication should include discussion of the possible relevant theories of the case, identification of the evidence or facts needed to assess these theories, identification and use of available data to conduct empirical analysis, and a discussion of the results of such analyses. Be candid and upfront with the economists and attorneys investigating the case. Engage in dialogue with staff on the issues and address the concerns raised expeditiously. If data analysis is part of the case, follow the "Best Practices for Data, Economics and Financial Analysis" that BE published in 2002. Essentially, these practices boil down to providing the data in a timely manner and in a form usable by BE's economists. I

encourage active discussion early to minimize the burden of data provision while ensuring that we have the data needed to do the relevant analyses. If a practitioner is hiring an economic or a financial expert, the earlier in the process that the expert's analysis is presented to staff, and the more complete the supporting materials, the more

likely we are to resolve differences outside of the courtroom. Last-minute data or document dumps are unlikely to impact our recommendations.

***The Threshold:* Thank you very much for taking the time to share your views with us.**