

HOW THE CHICAGO SCHOOL OVERSHOT THE MARK

The Effect of Conservative Economic Analysis
on U.S. Antitrust

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Reinvigorating Horizontal Merger Enforcement

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The past 40 years have witnessed a remarkable transformation in horizontal merger enforcement in the United States. With no change in the underlying statute, the Clayton Act, the weight given to market concentration by the federal courts and by the federal antitrust agencies has declined dramatically. Instead, increasing weight has been given to three arguments often made by merging firms in their defense: entry, expansion, and efficiencies. We document this shift and provide examples where courts have approved highly concentrating mergers based on limited evidence of entry and expansion. We show—using merger enforcement data and a survey we conducted of merger practitioners—that the decline in antitrust enforcement is ongoing, especially at the current Justice Department. We then argue in favor of reinvigorating horizontal merger enforcement by partially restoring the structural presumption and by requiring strong evidence to overcome the government's prima facie case. We propose several routes by which the government can establish its prima facie case, distinguishing between cases involving coordinated versus unilateral anticompetitive effects.

Introduction

For half a century, horizontal merger law in the United States has been framed around a concern with market concentration. The strength of that

concern has steadily eroded over the past 30 years, however, as industrial organization economists have assembled evidence and refined their theories of market structure and competition. As in many other areas of the law, the intellectual assault of the Chicago School of law and economics has been highly influential on the evolution of horizontal merger law.¹

Chicago-oriented antitrust commentators recommended raising the level of market concentration above which horizontal mergers would be presumed to raise competition concerns. They also embraced a more flexible economic analysis. The latter approach gives merger proponents the ability to rebut a presumption of harm to competition based on concentration with evidence about other aspects of the market or the transaction, including ease of entry of new competitors, the likelihood of output expansion by nonmerging firms, or efficiencies flowing from mergers.

These analytical initiatives found an attentive audience in the enforcement agencies and courts, and they led to significant improvements in antitrust merger review. But some courts and enforcers have taken flexibility too far, allowing mergers to proceed based upon dubious economic arguments about concentration, entry, expansion, and efficiencies.

I. Trends in Horizontal Merger Analysis

During the 1960s, the Supreme Court interpreted the Clayton Act §7—the antimerger statute, which had been amended in 1950—to require a presumption of harm to competition from merger based on market concentration. An “intense congressional concern with the trend toward concentration” in the U.S. economy warranted “dispensing, in certain cases, with elaborate proof of market structure, market behavior, or probable competitive effects,” according to the Court.² Accordingly, the Supreme Court held in 1962, in *Philadelphia National Bank*, that “a merger which produces a firm controlling an undue percentage share of the relevant market, and results in a significant increase in the concentration of firms in that market is so inherently likely to lessen competition substantially that it must be enjoined in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects.”³ The Court explained that application of this rule—now often termed the “structural presumption”—“lightens the burden of proving illegality only with respect to mergers whose size makes them inherently suspect.”⁴ It added that the test is “fully consistent with economic theory,” as it is “common ground among most economists” that competition is likely greatest where there are many sellers, none of which has any significant market share.⁵ In the Court’s view, this basic economic proposition “was undoubtedly a premise of congressional reasoning about the antimerger statute.”⁶

The practical result of establishing a strong structural presumption for horizontal merger analysis during the 1960s was to prohibit virtually all

mergers among rivals. The poster child for structural era excess in merger enforcement, according to commentators associated with the Chicago School, was the 1966 Supreme Court decision in the *Von’s Grocery* merger case.⁷ In that case, the Court stopped the merger of two grocery chains serving Los Angeles that together accounted for only 7.5 percent of retail sales. At that time no other firm served more than 8 percent of the market and even after a wave of grocery store consolidations, more than 3500 single grocery stores remained in the area. We very much doubt that a similar merger would draw any enforcement interest today.

One problem was the low level of market concentration at which the structural presumption kicked in. Prohibiting mergers among small firms “obviously cuts far too deeply into the efficiencies of integration,” according to Chicago School commentator Robert Bork.⁸ Another problem was the inability, in practice, of the merging firms in *Von’s Grocery* to rebut the structural presumption with evidence of what Bork termed “an intensely competitive market,”⁹ or with proof that what another commentator associated with the Chicago School, Richard Posner, described as “the ease and rapidity of entry,” would deter or counteract the possibility of higher industry prices.¹⁰ As applied in *Von’s Grocery* and other decisions of that era, the structural presumption was virtually conclusive, leading to Justice Potter Stewart’s famous observation in his dissent in *Von’s Grocery* that the one common thread in merger cases at that time was that “the Government always wins.”¹¹ As a result of *Von’s Grocery*, Bork claimed, horizontal mergers had “all but disappeared from the economy.”¹²

These criticisms of *Von’s* had bite because they were rooted in changing economic thinking. During the 1960s, the “structure-conduct performance” (SCP) approach was the dominant paradigm in industrial organization economics.¹³ This approach was based on the idea that industries with market power could be identified through simple, easily observed indicia, particularly by reference to market concentration (at least in industries protected by entry barriers). For several reasons, however, economists largely gave up on this simple paradigm. Empirically, the broad cross-sectional evidence linking market concentration to prices, margins, profits, and hence performance was seriously challenged.¹⁴ Theoretically, it was recognized that tacit collusion was not inevitable even in oligopolistic markets.¹⁵ Conceptually, there was a growing recognition that firms with high market shares could be very profitable either because they exercised market power or because they had achieved low costs or other efficiencies.¹⁶

The courts responded to the Chicago School criticisms of *Von’s Grocery* and other structural era merger decisions by undermining the structural presumption. An opening to do so had been created by the 1974 decision in *General Dynamics*, where the Supreme Court allowed the merging firms to rebut the structural presumption by showing that concentration had been measured incorrectly.¹⁷ The acquired firm’s market share based on historical sales was found to mislead as to its future competitive significance.

When shares were measured in appropriate units (production capacity based on coal reserves rather than past sales), they showed that the firm's future ability to compete was "severely limited," and that showing "fully substantiated" the lower court's conclusion that its acquisition by a rival would not substantially lessen competition.¹⁸

At the time, *General Dynamics* was not thought to have signaled a change of course. Writing two years later, Robert Bork described it and some roughly contemporaneous Supreme Court bank merger decisions as cases that "stress the particular aspects of each situation in ways that do not reform existing doctrine" rather than enunciating "rules of general applicability that would undo the damage done by the earlier cases."¹⁹ But *General Dynamics* nevertheless created a basis for lower courts to reform merger law by reading that decision to permit a wide-ranging analysis of whether market shares accurately reflected the merging firms' ability to compete.

The 1982 Merger Guidelines, promulgated by Assistant Attorney General William Baxter, showed the courts how to proceed.²⁰ The 1982 Guidelines took the view that market concentration was highly influential but not outcome-determinative in evaluating horizontal mergers. They indicated that the Justice Department, in exercising its prosecutorial discretion, would allow the inference of harm to competition from merger to be rebutted by a number of factors, including a showing that entry was easy or that features of the market would make it difficult for firms to collude tacitly even after the merger.²¹ Taking advantage of this flexibility allowed the Justice Department during the later Reagan years to adopt a much more lenient policy with respect to horizontal mergers than was indicated at that time based on the case law.

At the same time, the lower courts, under the influence of Chicago School criticisms of structural era merger policy, seized the opportunity offered by *General Dynamics* and identified by the 1982 Guidelines. During the mid-1980s, for example, two courts and the Federal Trade Commission held that the structural presumption could be trumped by proof of ease of entry.²² By 1990, the D.C. Circuit, in *Baker Hughes*, an influential decision authored by future Justice Clarence Thomas and joined by another future Justice, Ruth Ginsburg, declared that the "Supreme Court has adopted a totality-of-the-circumstances approach..., weighing a variety of factors to determine the effects of particular transactions on competition."²³ The structural presumption had eroded to the point where "[e]vidence of market concentration simply provides a convenient starting point for a broader inquiry into future competitiveness."²⁴ Accordingly, "[t]he Herfindahl-Hirschman Index cannot guarantee litigation victories."²⁵

As a result of this trend, the emphasis in merger enforcement has shifted over three decades from proving market concentration to telling a convincing story of how the merger will actually lead to a reduction in competition. Put simply, market definition and market shares have become far less important relative to proof of competitive effects.

The 1992 Horizontal Merger Guidelines, promulgated in the wake of *Baker Hughes*, set forth two classes of competitive effects theories, coordinated and unilateral, and outlined the factors that the federal enforcement agencies would look to in order to determine whether they applied.²⁶ But market concentration remains important in competitive effects analysis, and properly so. All else equal, greater market concentration makes both coordinated and unilateral effects more likely, and empirical studies show that in comparisons involving the same industry, higher concentration is associated with higher prices.²⁷ Accordingly, the federal enforcement agencies continue to rely on market concentration in analyzing the competitive effects of merger, and concentration remains an important predictor of agency action, even in recent years.²⁸

We believe that the 1992 Horizontal Merger Guidelines, now 15 years old, offer a good general framework in which to analyze horizontal mergers, especially for cases in which the theory of harm is based on coordinated effects. Satisfaction with the current overall framework for analysis is reflected in the conclusion of the Antitrust Modernization Commission, which stated,

The Commission does not recommend legislative change to the Sherman Act or to Section 7 of the Clayton Act. There is a general consensus that, while there may be disagreement about specific enforcement decisions, the basic legal standards that govern the conduct of firms under those laws are sound.²⁹

By its nature, however, the modern approach, which involves many judgment calls and a great deal of balancing of the evidence, gives a great deal of discretion to decision makers at the agencies. Likewise, a "totality of the circumstances" approach gives a great deal of discretion to the courts. Predispositions and burdens of proof are very important in applying this framework.

Concerns about the effectiveness of merger enforcement using an economically sophisticated, fact-specific inquiry are far from new. Nearly half a century ago, Derek Bok, writing about the interpretation of section 7 of the Clayton Act, foresaw the problem:

Economic theory has provided us with much of what little sophistication we now possess in identifying and measuring market power and in comprehending the interdependence, and its significance, of large, powerful firms. The aims and applications of section 7 are rooted in these concepts, and it would be arrogant to suppose that we could muddle through without further assistance. But neither can we succumb to the economists who bid us enter the jungle of "all relevant factors," telling us very little of the flora and fauna that abound in its depths, but promising rather vaguely that they will do their best to lead us safely to our destination.... This problem cannot be solved, nor can the economist-critic be placated, by embracing more and more of the niceties of economic theory into our antitrust

proceedings. Unless we can be certain of the capacity of our legal system to absorb new doctrine, our attempts to introduce it will only be more ludicrous in failure and more costly in execution.³⁰

Below, we consider explicitly the limits on our ability to predict the specific effects of individual horizontal mergers and the implications for establishing burdens of proof and burdens of persuasion. Unlike Bok, we do not question the utility of a fact-intensive approach based on economic principles. Rather, we explore whether such an approach, now firmly established at the agencies and in the courts, has been properly implemented in ways that reflect current economic theory and empirical evidence.

II. Some Courts and Agency Leaders Have Gone Too Far

Many of the changes in merger enforcement law and policy over the past 30 years, going back to *General Dynamics*, have been significant improvements. They have reflected new economic learning and corrected for certain structural era excesses. Generally speaking, the shift from a more formulaic approach based on market definition and market shares to an approach that places less weight on market structure, pays closer attention to possible expansion by smaller suppliers and entry by new ones, and exhibits less hostility to merger efficiencies, has been a big step toward more effective merger control policy. Like most economists, we support the modern approach, with its more nuanced, fact-intensive economic inquiry focusing on mechanisms of competitive effects. We are concerned, however, that the pendulum has now swung too far in the direction of nonintervention.³¹

A. Judicial Decisions With Dubious Economic Reasoning

The modern trend in horizontal merger law toward a lessened significance for concentration does not mean that firms can merge with their rivals without antitrust scrutiny. The modern approach simply substitutes a more wide-ranging factual analysis of likely competitive effects for a strong presumption based on market concentration. But some courts, perhaps overly impressed by Chicago School criticisms of structural era excess, have in reaction overshot the mark in the other direction.

One leading example is the 1990 appellate decision in *Syufy*, upholding a district court decision declining to enjoin a merger to monopoly in the Las Vegas movie theater market on grounds of ease of entry.³² The holding of the case is unremarkable given its procedural posture. But the reasoning and rhetoric of Judge Alex Kozinski's opinion shows what mischief can arise when a court, having discarded the discipline of the structural presumption, chooses to indulge its noninterventionist prejudices rather than engage in serious economic inquiry and careful antitrust analysis.

The case arose when the Justice Department challenged three acquisitions by a movie theater owner named Syufy.³³ The acquisitions collectively gave Syufy control of virtually all the theaters in Las Vegas. Syufy's only remaining competitor was Roberts, a small exhibitor of mostly second-run films. Justice did not allege that the merger had led to higher ticket or popcorn prices for moviegoers; instead it charged that Syufy had exercised *monopsony* power over distributors of first-run films, exploiting its position as the only major exhibitor in Las Vegas to pay distributors less than they would have received in a competitive market. The main defense, accepted by the trial court and the court of appeals, was that competition was not and could not have been harmed because entry into movie exhibition in Las Vegas was easy.³⁴

The Ninth Circuit accepted the lower court's view that entry was easy and that competition was not harmed, primarily because Roberts had expanded a year after Syufy had acquired its last major rival.³⁵ With a single contested example of fringe firm expansion in hand,³⁶ the court did not investigate the ability and incentive of other firms to enter by following Roberts's model. Instead, the court disclaimed any need to conduct such an analysis. It dismissed without serious consideration an argument that any serious economist would treat as a legitimate possibility³⁷: the government's assertion that entry at a scale large enough to achieve low costs would turn out to be unprofitable because it would depress market prices.³⁸ The *Syufy* panel rested its entry analysis on consideration of whether new firms *could* enter the market, without recognizing that it is necessary also to evaluate whether those firms likely *would* do so.³⁹

In explaining this decision, Judge Kozinski openly displayed a deep skepticism about the value of enforcing the antitrust statutes.⁴⁰ The opinion emphasizes the way government enforcement can create "a real danger of stifling competition and creativity in the marketplace," and argues that in a free enterprise system, merger decisions "should be made by market actors responding to market forces, not by government bureaucrats pursuing their notions of how the market should operate."⁴¹ Judge Kozinski does not appear to consider the possibility that antitrust law in general, and merger enforcement in particular, could benefit society by deterring or remedying business conduct that lessens competition and creates market power.⁴²

Another example of judicial overreaction to criticism of 1960s merger policy can be found in the recent district court decision declining to enjoin Oracle's acquisition of PeopleSoft.⁴³ The case involved a merger between two leading producers of enterprise resource planning software, which is used by large and complex enterprises to integrate firm-wide data.

The Justice Department viewed the merger as threatening adverse unilateral competitive effects, resulting from the loss of competition between two differentiated product producers.⁴⁴ As an economic matter, unilateral effects do not turn on market definition. The economic analysis is the same regardless of whether the case is framed as a merger generating high

concentration within a narrow market or as the loss of direct competition between the merging firms within a broader market where concentration is lower.⁴⁵ The Justice Department chose the former route, alleging that the merger harmed competition within a product market of high function financial management systems and human relations management software. Justice contended that three firms dominated this category of business software—the merging firms and SAP—and that Oracle and PeopleSoft were the leading choices for many customers. The merging firms claimed that the market was broader, and that in consequence several more firms should be recognized as rivals, including Lawson, AMS, and Microsoft. The court concluded that Justice had failed to prove the product market it alleged and hence declined to enjoin the merger.

The *Oracle* case raised three issues related to proof of unilateral effects: the evidentiary value of customer views, the legal standard, and the role of merger simulation. Judge Vaughn Walker, the author of the *Oracle* opinion, claimed in his opinion to accept unilateral effects, but in discussing these issues, the court's opinion betrays a deep hostility to unilateral effects that interferes with careful antitrust analysis.

In support of its position, the Justice Department introduced evidence about customer views. Customer views surely are an important source of information about buyer substitution, the economic force at issue in the analysis of unilateral effects (regardless of whether that analysis is framed legally as a market definition issue or a competitive effects question).⁴⁶ Indeed, and not surprisingly, customer complaints in general raise the likelihood of agency merger enforcement substantially.⁴⁷

But Judge Walker was skeptical of the customer testimony in the case. He properly noted that customer evidence must be tested for its probative value.⁴⁸ In doing so, Judge Walker recognized that the customer witnesses proffered by the Justice Department were “extremely sophisticated buyers” with “decades of experience.”⁴⁹ He nevertheless refused to credit the customer testimony because the witnesses did not perform extensive new analyses for the case.⁵⁰ Judge Walker accepted that customer views are relevant to the analysis of buyer substitution, but he made clear that he would not trust those views unless they came in a form rarely found in practice in the business world.⁵¹ If the standard employed in *Oracle* were adopted, customer views would rarely be usable in practice to prove unilateral competitive effects.

Judge Walker's position as to the appropriate legal standard for evaluating unilateral effects claims similarly reflects hostility to unilateral effects. The *Oracle* decision inappropriately requires the government to prove that the merger would lead to a monopoly or near-monopoly in a narrow market,⁵² while simultaneously expressing skepticism about narrow markets as arbitrary or unprincipled submarkets.⁵³ Unfortunately, Judge Walker failed to understand the basic economics underlying unilateral effects. “In a unilateral effects case,” Judge Walker writes, “a plaintiff is attempting to prove

that the merging parties could unilaterally increase prices. Accordingly, a plaintiff must demonstrate that the merging parties would enjoy a post-merger monopoly or dominant position, at least in a ‘localized competition’ space.”⁵⁴ This statement is incorrect and constitutes a clear error in economic reasoning. It is not true even in the commonly used horizontal differentiation model that Judge Walker appears to have in mind: unilateral effects will arise so long as some customers of one of the merging firms consider its merger partner's product as their second choice, even if more of the firm's customers consider a third firm's products to be their second choice. Moreover, large anticompetitive effects can easily arise in the logit model of demand, which lacks any notion of location or proximity between the competing firms.⁵⁵ Accordingly, when Judge Walker holds that “[t]o prevail on a differentiated products unilateral effects claim, a plaintiff must prove a relevant market in which the merging parties would have essentially a monopoly or dominant position,”⁵⁶ he incorrectly applies the modern economic understanding of unilateral competitive effects. Again Judge Walker creates a method of analysis that throws up unreasonable barriers to proving unilateral competitive effects.

Judge Walker also considers a third method of proving unilateral effects: merger simulation.⁵⁷ While the court endorses the method in theory,⁵⁸ on reviewing the simulation study of the Justice Department's economic expert, the court dismissed the application of this method in practice as based on unreliable data.⁵⁹ In our experience, the real-world data on prices, costs, and output available for use in simulation studies are invariably imperfect, especially when products are sold in markets with differentiated products where each supplier offers a complex array of products, where products are sold in bundles at negotiated prices, and where the products are changing over time due to technological progress—all conditions present in the *Oracle* case. One wonders whether real-world data could ever be good enough for this court.

The *Oracle* decision is deeply troubling because it suggests that three important enforcement agency tools for proving unilateral competitive effects of merger among sellers of differentiated products—customer complaints, demonstration of significant direct competition between the merging firms within the context of a market that includes other rivals, and merger simulation—may not be accepted in practice. Furthermore, the *Oracle* decision could effectively nullify the structural presumption in many cases, by making it difficult for plaintiffs to define any relevant market other than an extremely broad one in which market shares are low.

To the extent that other courts adopt Judge Walker's hostile approach toward proving unilateral effects, the ability of the agencies to rely on the theory of unilateral effects, which is well established in economics, and which has been used effectively in the past by the agencies to attack a large class of anticompetitive mergers, will be severely undermined.⁶⁰ By attempting to create a safe harbor for mergers in which unilateral effects

are alleged unless market concentration rises to near monopoly levels, the *Oracle* court overshot the mark. As we shall see immediately below, there is, unfortunately, some evidence that the *Oracle* decision has indeed caused the Justice Department to scale back its merger enforcement efforts.

B. The Decline of Agency Merger Enforcement

In January 2007, the *Wall Street Journal* reported that "[t]he federal government has nearly stepped out of the antitrust enforcement business, leaving companies to mate as they wish."⁶¹ Accordingly, "the message is clear for deals with antitrust issues: It's now or never."⁶² Similarly, in March 2007, the *New York Times* declared that two merging firms proposing a controversial deal "have reason to be optimistic" about Justice Department approval "because the Bush administration has been more permissive on antitrust issues than any administration in modern times."⁶³

Prior to the current administration, the low point for modern merger enforcement was set by the Antitrust Division during the second term of the Reagan Administration.⁶⁴ The rate of merger challenges then was unusually low; as will be demonstrated below, senior officials frequently overruled staff recommendations to challenge acquisitions,⁶⁵ and those few mergers that were challenged were typically mergers to very high levels of concentration.⁶⁶ A task force established by the American Bar Association Section of Antitrust Law, writing in 1990, highlighted the "public perception that the [Antitrust] Division may be pursuing an enforcement policy more lenient than the 1984 [Merger] Guidelines dictate" during Reagan's second term,⁶⁷ and cautioned that "[a]ny significant departure from the standards of the 1984 Merger Guidelines would be unwise."⁶⁸

The nonenforcement approach to mergers of the Reagan II Antitrust Division is evident in the statistical record on merger enforcement. The key statistic is agency enforcement actions as a fraction of Hart-Scott-Rodino filings.⁶⁹ Commissioner Thomas Leary used this measure to argue that merger policy has been characterized more by continuity over time than wild swings.⁷⁰ Based on agency data on enforcement actions and HSR filings, Leary constructed the following table.⁷¹

Table 6.1. Merger Enforcement

	Challenges as a Percentage of Adjusted HSR Filings				
	1982-85 Reagan I	1986-89 Reagan II	1990-93 Bush	1994-97 Clinton I	1998-2000 Clinton II
FTC	1.0	0.7	1.5	1.1	0.7
DOJ	0.8	0.4	0.8	0.9	1.1
Total	1.8	1.1	2.3	2.0	1.8

Leary assigned years to presidential terms with a one year lag (for example, President Reagan's second term began in 1986, but the figures for that year are assigned to his first term), because the data refer to fiscal years (which begin three months before the calendar year) and because it often takes time for a new administration to staff senior agency positions.⁷² Enforcement actions in the data include court cases, consent settlements, and transactions abandoned or restructured prior to filing a complaint as a result of an announced challenge. Multiyear averages smooth year-to-year variation in the data. (Please see the appendix for the survey instrument.)

These figures can be interpreted as reflecting merger enforcement activity at the agencies, with two very important caveats.⁷³ First, merger enforcement rates may be affected by unobservable changes in the composition of HSR filings. For example, suppose in a given year that a greater-than-normal fraction of filed deals are not horizontal, perhaps because they involve management buyouts or acquisitions made by passive investors.⁷⁴ Since such deals are far less likely to raise antitrust issues than deals in which one company is acquiring another, the reported merger enforcement percentage could well decline in that year, even if there had been no change in the underlying enforcement policy.⁷⁵

Second, and even more important, the mix of deals presented to the agencies, in terms of the severity of antitrust issues they raise, is endogenous. Firms learn about changing agency enforcement patterns from their antitrust advisors, who are members of an industry with a strong financial incentive to track enforcement trends. To the extent that advice is informed and heeded, we would expect to see a similar fraction of challenged deals every year, mainly comprised of "judgment calls" close to the line, regardless of where the line is drawn.⁷⁶ It is unlikely that this type of adjustment is instantaneous—it may take time for lawyers to infer changes in agency views from enforcement decisions and official rhetoric, and perhaps longer for clients to be convinced. To the extent this dynamic is important, and we suspect it is, it means that the interpretation of the statistics should focus on the deviation of the merger enforcement rate from the average (which was 0.9 percent for the agency enforcement figures in the table). That is, an unusually low figure should be interpreted as indicating an unanticipated recent decrease in merger enforcement, and an unusually high figure should be interpreted as indicating an unanticipated recent increase in merger enforcement.⁷⁷ More generally, changes over time in the enforcement rate are more informative regarding agency policies than are the absolute levels of the enforcement rate.

With this interpretation, the figures in Commissioner Leary's merger enforcement table can be explained in a plausible way. Most notably, the strikingly low merger enforcement rate of 0.4 percent during the second term of the Reagan Administration suggests that the Antitrust Division under Assistant Attorneys General Ginsburg and Rule surprised the antitrust bar with their lack of interest in challenging mergers.⁷⁸ These data are

consistent with the view that the Antitrust Division during that period was unusually permissive toward horizontal mergers.

To analyze merger enforcement trends in the twenty-first century, we updated Commissioner Leary's statistics.⁷⁹ The main data challenge was to account for the changes in Hart-Scott-Rodino reporting rules that took effect in February 2001, which dramatically reduced the number of mergers filed in the HSR statistics.⁸⁰ We determined that filings after the change were 40 percent of what they would have been had the reporting rules stayed the same,⁸¹ and adjusted the recent merger enforcement statistics accordingly,⁸² in order to derive comparable merger enforcement statistics for the four year period 2002–2005, which corresponds to the first term of the George W. Bush Administration.⁸³ We also derived preliminary estimates of merger enforcement statistics for the second term of the George W. Bush Administration. These estimates are preliminary because they include data for only two years of the four year period (2006 and 2007), and because the data for 2007 is for 11 months of the fiscal year, not the full year.⁸⁴

During the first term of the George W. Bush Administration, the rate of merger challenges for DOJ and the total for both agencies were below the average of those reported by Commissioner Leary, while the FTC figure was close to the average. The DOJ number was identical to the merger enforcement rate observed during the second term of the Reagan Administration, which was the lowest in modern history. According to the preliminary estimates for the second term, the merger enforcement rate at DOJ remained at the same low level observed during the previous four years. Because the FTC rate simultaneously declined to a below-average figure, the total federal merger enforcement rate for the second term dropped below the lowest level previously recorded.⁸⁵

We interpret these figures as indicating that merger enforcement during the current administration has been surprisingly low, particularly at the Antitrust Division, even after accounting for any expectations that a new Republican administration might resolve close cases more in favor of permitting mergers than would the Democratic administration that preceded it.⁸⁶ Had the two federal enforcement agencies challenged mergers during

2006 and 2007 at the rate the FTC did during the first term of the current administration (which was slightly below the historical average), the agencies would have challenged 24 more mergers each year (15 more at the Antitrust Division and nine more at the FTC).⁸⁷ While we do not know which particular mergers would have been challenged had merger enforcement been closer to the average rate, and thus had merger enforcement been consistent with the antitrust community's expectations, this computation offers a conservative estimate of the number.

We confirmed our interpretation that merger enforcement became much more lenient during the current administration by surveying 20 experienced antitrust practitioners. We administered our survey during March 2007, when the agencies were headed by Assistant Attorney General Thomas Barnett and FTC Chairman Deborah Majoras. We attempted to contact the 24 attorneys listed as the leading antitrust lawyers in the District of Columbia in an annual survey.⁸⁸ We were able to interview 20 of these 24 individuals, for an 83 percent response rate. Eight of our twenty respondents had worked at one time at the Antitrust Division, and nine had worked at the Federal Trade Commission, so 85 percent of our respondents had prior agency experience. Our survey instrument is included as an appendix.

Our survey respondents consistently told us that in reviewing horizontal mergers, both the Antitrust Division and the FTC are "more receptive to arguments made by the merging firms" today than ten years ago.⁸⁹ On a 5-point scale, with 5 corresponding to "significantly more receptive,"⁹⁰ the average score for the DOJ was 4.8 and the average score for the FTC was 4.6.⁹¹ Similarly, our respondents consistently reported that the "likelihood of successful agency review for the merging firms" for a given horizontal merger is sharply higher now than it would have been ten years ago. On a 5-point scale, with 5 corresponding to "significantly more favorable," the average score was 4.9.⁹² By asking about a given horizontal merger, this question was designed to correct for any possible shift in the mix of deals presented to the agencies. Our survey respondents report changes in merger enforcement occurring at all stages of the merger review process: fewer second requests, a greater likelihood that an investigation will be closed rather than lead to an enforcement action, and a willingness to accept weaker remedies in those cases where enforcement actions are taken. We believe that our survey provides compelling evidence that there has been a sharp shift over the past ten years toward a more lax horizontal merger enforcement policy.

This shift appears to have been much more pronounced at the Justice Department than at the Federal Trade Commission. We asked our survey respondents whether they saw a significant substantive difference today between merger enforcement at the DOJ and the FTC. On a 5-point scale, where 5 corresponds to the DOJ being significantly tougher, the mean score was 1.9, indicating that the DOJ is generally seen as more lax. Our

Table 6.2. Merger Enforcement

	Challenges as a Percentage of Adjusted HSR Filings	
	2002–05 George W. Bush I	2006–07 George W. Bush II ^p
FTC	0.8	0.6
DOJ	0.4	0.4
Total	1.2	1.0

^p = preliminary estimates

respondents unanimously believed that their clients' interests would be better served by DOJ than FTC review; this preference resulted from a combination of procedural and substantive considerations. The preference of merging parties for DOJ review based on a more lax approach is especially pronounced at the current time. The DOJ is seen as increasingly pulling back from merger enforcement. One of our survey respondents said, "Oracle has been a major factor in DOJ decisions not to bring a case." Another respondent stated, "DOJ is just going through the motions." In contrast, as noted above, our respondents see a slight increase in FTC merger enforcement over the past five years.⁹³

The perception that the Justice Department has adopted a very lax merger enforcement policy was unquestionably fueled by the March 2006 decision of Assistant Attorney General Barnett not to take any enforcement action when Whirlpool sought to acquire Maytag.⁹⁴ For a number of reasons, this merger was especially revealing regarding the current Justice Department's merger enforcement policy and especially influential in shaping the advice given by antitrust lawyers to their clients:

- The merger was highly visible, in large part because it involved two U.S. companies with storied brand names that are well known by many consumers.
- The merger involved a traditional manufacturing industry, namely residential clothes washers and dryers. As a result, the contrast between the lack of enforcement in this case and historical merger enforcement in manufacturing industries was especially pronounced. A similar outcome in, say, a software merger would not have been as influential.
- The merger involved a dramatic increase in concentration in the markets for both residential washing machines and dryers. According to publicly available data for 2004, Whirlpool's share of unit shipments of residential washing machines in the U.S. was 51 percent and Maytag's share was 20 percent. (GE was third with 17 percent and Electrolux was fourth with 9 percent of shipments; other firms supplied 3 percent of the market.) The corresponding figures for dryers were 56 percent for Whirlpool and 20 percent for Maytag.⁹⁵ (GE was third with 13 percent and Electrolux was fourth with 9 percent of shipments; other firms supplied 1 percent of this market.) Using these figures, the merger would raise the HHI in each of these markets by about 2000, from around 3400 to around 5400, and leave Whirlpool with a market share of more than 70 percent.
- In explaining its decision not to take any enforcement action, the Justice Department embraced three arguments often made by merging firms: (1) the ability of two recent entrants into the U.S. market (LG and Samsung) to expand significantly their imports into the U.S.; (2) the presence of large buyers in the wholesale markets for washing machines and dryers (Sears, Lowe's, The Home Depot, and Best Buy); and (3) cost savings from the merger would "reduce the likelihood" of harm to competition.⁹⁶

The lack of enforcement action in this case puts into sharp relief the decline in the practical significance of the structural presumption. Given the very large combined market shares of Whirlpool and Maytag, 50 percent plus 20 percent, if the structural presumption had been given much weight at all, it would presumably have been very hard to overcome with these numbers. Yet the Justice Department's closing statement gives short shrift to at least three important points which could have supported an enforcement action.

First, the statement does not explain why the recent entry by LG and Samsung was sufficient to solve any competitive problems caused by the merger. In a mature market in which brand names are important and market shares have generally been stable, why does the presence of a new entrant into the market that has grown to, say, 5 percent of the market over two or three years imply that there is no competitive harm when the leading firm, with 50 percent of the market, acquires the number two firm, with 20 percent of the market? In the case at hand, would LG, Samsung, or other foreign firms or fringe domestic products have the production capacity and brand reputation needed to convince large distributors like Best Buy to carry them? If so, would their products be attractive to those consumers who now see Whirlpool and Maytag as their first and second choices?

Second, the statement does not address the extent of direct competition between Whirlpool and Maytag or the extent to which the merger raised a unilateral effects problem (absent entry, repositioning, or efficiencies). Following the standard approach to unilateral effects, as discussed in the 1992 Merger Guidelines, one would naturally hypothesize that a post-merger unilateral price increase would be profitable for Whirlpool, with the magnitude of the price increase depending on the price-cost margins on washers and dryers and on the diversion ratio between Whirlpool and Maytag models. Unless Whirlpool and Maytag are positioned in very different places in the market, standard models of the pricing of differentiated products would tend to predict large unilateral effects given their large shares, especially for Maytag models, with the precise amounts depending upon the gross margins on washers and dryers. In fact, since the inroads made by LG and Samsung largely involved higher-end, front-loading washing machines, Whirlpool and Maytag may be closer competitors in the lower-end, top-loading segment than would be reflected in their overall market shares. Moreover, the statement does not acknowledge that unilateral competitive effects can be significant even if rivals have excess production capacity, since these effects are based on brand names and product differentiation, not on capacity constraints.

Third, the statement does not explain the basis for concluding that the efficiencies asserted by the merging parties were merger-specific and sufficient in magnitude to offset the elimination of Maytag as an independent competitor in the markets for washers and dryers. The press has reported widely that Maytag was a high-cost producer and that Whirlpool was a

more efficient manufacturer than Maytag. Normally, absent merger, the lower-cost firm would compete to gain share from the higher-cost firm, to the benefit of consumers. Such competitive pressure often also causes the higher-cost firm to become more efficient, again to the benefit of consumers. Plus, rivalry from the higher-cost firm with a substantial (if slowly declining) market share typically puts important competitive pressure on the lower-cost firm, inducing it to trim its costs and improve its products. The Justice Department does not explain why consumers will be better off if the lower-cost firm, here Whirlpool, is allowed to acquire the higher-cost firm, here Maytag, thereby short-circuiting this normal competitive process. We note in this respect that in July 2006 Whirlpool announced price increases of 6 percent to 12 percent for the second half of 2006. Among other factors behind the price increase, Whirlpool cited the drag on its earnings caused by the Maytag acquisition.⁹⁷

We are deeply concerned that the Whirlpool case is indicative of an overly lax approach to merger enforcement at the current Justice Department. While we can understand that the Justice Department might want to wait for strong facts before bringing its next unilateral effects case after *Oracle*, in order to take on the problematic legal conclusions of that district court, the Justice Department never raised this litigation issue as a reason not to challenge Whirlpool's acquisition of Maytag. One experienced practitioner in our survey cited Whirlpool/Maytag as a "close deal" in today's merger environment that "would have had a hard time" getting through the Justice Department ten years ago. We are confident that the Whirlpool/Maytag deal would have been challenged by Assistant Attorney General Klein ten years ago.⁹⁸

We find it instructive to compare the Whirlpool case with the drug wholesaling mergers successfully challenged by the Federal Trade Commission nearly a decade ago.⁹⁹ Those mergers led to high concentration, but they were close cases in part because of a few examples of expansion by small drug wholesalers. The FTC refused to credit easy entry based on a limited number of examples of fringe expansion without further analysis, and after that analysis concluded that entry would not solve the competitive problem in the case. In court, the FTC argued that fringe expansion would be insufficient to counteract or deter harm to competition from the transaction. Judge Stanley Sporkin agreed, holding that "[t]he record developed at trial is not strong enough for this Court to conclude that the Defendants' claim of entry and expansion is sufficient to rebut the Government's *prima facie* case."¹⁰⁰ The core issue dividing the drug wholesaling cases from Whirlpool/Maytag is how much weight to place on one or a few instances of entry leading to a small market share, in the context of a proposed merger that will cause a large increase in market concentration. In contrast to the approach taken by the FTC and the court in the drug wholesaling case, the Justice Department, in its review of the Whirlpool/Maytag merger, like Judge Kozinski in *Syufy*, appears to have been willing to accept entry and

expansion arguments in highly concentrating mergers, despite the fact that the entrants had only been able to achieve a relatively small market share.

The merger enforcement data, our survey of experienced practitioners, the fallout from the *Oracle* case, and the treatment of the Whirlpool/Maytag deal combine to paint a picture of overly lenient horizontal merger enforcement, especially at the current Antitrust Division.¹⁰¹ The FTC and the DOJ must pay close attention to the ongoing decline in the structural presumption in the courts. Nonetheless, one of our survey respondents expressed a worry that the agencies have grown "a little gun-shy after *Oracle*." Another stated that he/she was giving the following advice to clients: "If you want to do a dicey deal, get it done before the [2008] election." This view was echoed by a number of other respondents.

III. Economic Arguments Merging Firms Love to Make

In a world where the structural presumption carries little weight, evaluating the merger enforcement record is inherently difficult and controversial, precisely because each case is fact intensive. The difficulty of assessing the enforcement record is much greater because so much of the relevant evidence typically remains confidential (except in those rare cases that are litigated). We therefore would not presume to offer opinions on the many transactions that are reviewed by the agencies about which there is precious little by way of facts or agency reasoning in the public record.¹⁰² Instead, we bolster the evidence provided above by discussing several arguments that are commonly made by merging parties and which appear to be accepted more readily by the agencies, especially the Justice Department, than in years past. Our discussion here starts from the proposition that the agencies typically no longer consider it sufficient to show that a proposed merger will lead to a significant increase in concentration in a properly defined relevant market. Rather, the agencies typically seek to establish a particular *mechanism* of anticompetitive effects. Likewise, the courts place far less weight on structural presumptions than they did in the past.

Merging parties routinely put forward several substantive claims that, if routinely and uncritically accepted by the agencies and the courts, would collectively remove virtually all mergers from antitrust review. We structure our analysis around three substantive claims where we detect over-reaching.¹⁰³

- Effective competition generally requires only three, or even two, rivals.
- The prospect of entry typically deters or counteracts anticompetitive effects of mergers.
- Mergers often spur competition and benefit consumers by enabling efficiencies.

We now address these arguments in turn.

A. What Has Become of the Structural Presumption?

The noninterventionist approach to merger control policy relies heavily on the proposition that little can be learned in general about the extent of rivalry, and industrial performance, from market concentration. A strong version of this proposition states that effective competition typically requires only three, or even two, strong suppliers. In contrast, a more balanced approach begins with the proposition that market structure matters, in the following specific sense: in the absence of entry and merger efficiencies, a merger that leads to a substantial increase in market concentration will tend to raise price, harm consumers, and reduce economic efficiency.¹⁰⁴ Put differently, a merger is not simply an event that calls attention to a market structure with a certain number of firms postmerger; it is also the method by which that postmerger market structure is created. In analyzing the competitive effects of a proposed transaction, we do not simply have fewer firms; we also have a merger, a specific form of business conduct with the potential to harm competition, and must think about both the merger and the resulting market structure in evaluating the transaction.

Our survey results confirm that the strength of the structural presumption in agency enforcement policy has significantly declined over the past decade. Our survey respondents reported that the agencies are much more receptive now than ten years ago to the argument that "market concentration is not a good basis for predicting competitive effects." On a 5-point scale, with 5 corresponding to "much more receptive," the average score from our 20 respondents was 4.6.

As a practical matter, the key question regarding market structure for merger control policy is whether much weight should be given to the structural presumption. The clear lesson from oligopoly theory is that market concentration matters, in the specific sense noted above.¹⁰⁵ By the nature of game theory, there are special cases where concentration does not matter, but these examples are not robust. Yet there is a danger that these special cases will have greater impact than is warranted.

To illustrate, consider how a merger affects the equilibrium price in an oligopoly in which the firms offer differentiated products and set prices independently. There is a general result in such models that mergers will raise prices unless they trigger new entry or product repositioning by existing competitors or generate merger-specific efficiencies.¹⁰⁶ In one special case, however, a merger will have no impact on price, so long as at least two firms remain after the merger: the case in which the firms sell homogeneous products, have identical costs, and set prices in a one-shot (Bertrand) game. In this special case, prices are equal to marginal cost so long as at least two firms remain after the merger. In virtually all mergers, this special case can easily be shown not to apply; usually, one can directly observe that prices are not close to marginal cost, typically because the firms sell differentiated products or brand names are important, and real-world

price-cost margins must be large enough to allow recovery of various fixed costs such as R&D costs. Likewise, in a bidding market, mergers typically cause price to rise, unless one of the merging firms is generally known to be an ineffective competitor, in the sense that it has no real chance of being the first or second choice of any buyer. Yet this does not stop merging firms, and noninterventionists, from arguing that "two is enough."¹⁰⁷ Plus, additional dangers arise under a theory of coordinated effects when a maverick is acquired by one of its rivals.¹⁰⁸ We are not suggesting a return to a mechanical, concentration-based approach to merger policy. We are simply suggesting that large increases in market concentration should be given real weight in merger analysis and that any contrary presumption that "two is enough" (or even three) is unsupported by economic theory.

The assertion that only mergers to monopoly or near-monopoly should concern antitrust enforcers can be seen at least as early as 1978 in Robert Bork's highly influential book *The Antitrust Paradox*.¹⁰⁹ This view corresponds roughly to a policy of allowing most or all mergers short of merger to monopoly; notice the similarity between this approach and that of Judge Walker in *Oracle*. While there are no doubt some markets with only two major firms in which those firms compete vigorously against each other (possible examples that come to mind are Boeing vs. Airbus in commercial aircraft and Intel vs. AMD in microprocessors), there is simply no theoretical or empirical basis for a presumption that horizontal mergers are innocuous (or beneficial) so long as they are not to monopoly.

An even more striking example of overreaching in denying an effect for market concentration can be found in a recent article by Tom Campbell. Campbell contends that "[p]roducers of a good should be allowed to merge whenever there is only one purchaser of the good, or when the large majority of purchases are in favor of the merger of producers."¹¹⁰ Campbell argues in favor of permitting even mergers to monopoly based on the assertion that bilateral bargaining leads to efficient outcomes because the quantity sold under bilateral bargaining is always equal to the amount that would be sold under perfect competition.¹¹¹ Campbell's theory is inconsistent with the modern economic understanding that bargaining with asymmetric information typically leads to inefficient outcomes.¹¹² His paper illustrates the danger of basing sweeping policy recommendations on a simple and special theoretical model that is not robust and lacks empirical support.

B. Evaluating Entry and Expansion Arguments

We noted earlier that entry and expansion arguments were accepted in *Syufy* and in the Whirlpool/Maytag merger investigation based on limited examples, while such arguments were not accepted in the drug wholesaling merger litigation.

Our survey results confirm that the agencies are more willing to accept entry arguments now than they were ten years ago. Our survey respondents

reported that the agencies are more receptive now than ten years ago to the argument that "entry will counteract or deter any competitive problem." On a 5-point scale, with 5 corresponding to "much more receptive," the average score from our 20 respondents was 3.9.

Again, there is a simple economic model in which the prospect of entry does indeed counteract or deter any competitive problem. That is the model in which there is a perfectly elastic supply from entrants at the current market price. This is a variant of the standard model of perfect competition, in which many small firms are just as efficient as the merging firms, even if the latter are far larger. That model might apply to some markets for homogeneous products, but it is extremely special and certainly not an appropriate basis for a general presumption in merger policy.

A variant of this special case arises when considering how to treat foreign production capacity in analyzing mergers in U.S. markets when there are some imports. In such cases, it is a clear economic error to assume that the entire foreign capacity would be devoted to the U.S. market if prices were to rise a small amount.¹¹³ Rather, the effects of the merger depend upon the elasticity of supply of imports at prices at and above the pre-merger price. To the extent that foreign capacity is being used profitably to supply customers elsewhere in the world, it will typically become increasingly costly for the importing firm to divert that capacity to the U.S. market. Furthermore, any coherent analysis must be consistent with the premerger level of imports being optimal for the foreign firms. Simply stating that foreign firms have sufficient capacity to discipline a price increase by the merging firms (or by a broader group of domestic suppliers) is an incomplete and misleading story.

There is one other model in which potential entry is a very potent force and mergers between incumbents have no anticompetitive effects: the model of contestable markets, in which entry does not involve any sunk costs. This model has the advantage of applying to industries in which there are significant scale economies. However, the model generally is not suitable or reliable for merger analysis.¹¹⁴ To begin with, in the model of contestable markets there is no strategic difference between an incumbent (however large) and a potential entrant, so it is not clear why a merger would ever be profitable. More importantly, this model does not allow for any unique firm-specific assets such as brand names or reputation, or other unique capabilities, such as those associated with patents and trade secrets. Nor does the model place any limit on the rate of internal growth by an entrant; entry can occur instantly at efficient scale, however large. Once one understands the many strong and unrealistic assumptions behind the model of contestable markets, it becomes clear that the model is rarely applicable to real-world mergers.

In practice, merging parties like to point to specific instances of entry in order to suggest that entry is easy. Frequently, there will indeed be

at least one or two examples of past entry. But evidence of past entry is inherently double-edged, consistent both with low entry barriers in the past (which permitted it) or past exercise of market power (which induced it). Truly successful entry, in which the entrant has achieved (or predictably will soon achieve) a sizeable market share and places substantial competitive pressure on incumbents, should certainly be the basis for careful entry analysis, focusing on whether other firms would likely also have success following a similar plan, and whether such entry would likely counteract or deter any postmerger exercise of market power. But the mere presence of *some* examples of entry, in which the entrants have not (yet) exited the market, should not form a basis for embracing the view that entry will solve any competitive problems caused by the merger, especially when the shares of the merging firms are large and those of the entrants are small.¹¹⁵

Several important issues regularly arise when evaluating entry arguments. Many of these considerations were relevant in the Whirlpool/Maytag case. As a general proposition, we doubt that these arguments are receiving sufficient weight today in merger policy:

- Taking as given the presence of a "poster-child" recent entrant, the elimination of competition caused by the merger may still be significant. The particular entrant's competitive role may reasonably be assessed based on its current market share, adjusted as necessary to reflect likely changes in that share in the near future.
- The fact that one firm has been able to enter does not necessarily imply that others will find it profitable to do so. Regardless of past entry, future entry may not be profitable, especially if the demand is stagnant or declining. Furthermore, if the entrant enjoyed an advantage based on certain firm-specific assets that made entry attractive, one should study whether other potential entrants also possess comparable assets, or other assets that are valuable for entry.¹¹⁶
- Entry may be easier in some segments of the market than others. In markets with differentiated products, the fact that entry has proven possible in one segment, such as the low-price segment, does not imply that entry would be profitable in another segment. For example, brand name and reputation may be more important, and take longer to build, or technical requirements may be greater, in the high-price, high-performance segment of the market. Or transportation costs may be more important at the low end of the market. If both of the merging firms operate in a segment of the market where entry has not been demonstrated, entry is less likely to solve competitive problems.¹¹⁷
- Entry generally takes time, and competition can be harmed while entrants gain enough scale, scope, and credibility to replace the lost competition from merger, for example by competing as effectively as did the weaker of the two merging parties.¹¹⁸

C. Evaluating Efficiency Claims

In 1997, a new section on merger efficiencies was added to the Horizontal Merger Guidelines.¹¹⁹ This was a positive development, since a proper analysis of competitive effects should surely account for merger efficiencies above and beyond the presumed efficiencies implicit in the "safe harbors" that have long been a feature of the Guidelines. In fact, one of the advantages of the unilateral effects theory is that it allows for the integration of efficiencies into the competitive effects analysis, comparing quantitatively the incentive to raise price due to lessened competition and the incentive to lower price based on reductions in variable costs.¹²⁰ We believe that the revised merger guidelines provide a sound framework within which claims of merger efficiencies can be evaluated. We highlight two aspects of that framework that we consider especially important: the requirements that efficiencies be (1) merger-specific and (2) verified before they can be counted to offset any to anticompetitive effects of the merger. If the standards used to meet these requirements are lowered, some phantom efficiencies will be credited, leading to overly lax enforcement.

Our survey results confirm that the agencies are more willing to accept efficiency arguments now than they were ten years ago. Our survey respondents reported that the agencies are more receptive now than ten years ago to the argument that "the procompetitive benefits of efficiencies from merger outweigh the threat of harm to competition." On a 5-point scale, with 5 corresponding to "much more receptive," the average score from our 20 respondents was 4.3. While our respondents identified a clear trend, a number also believe that there remains a great deal of skepticism at both agencies about efficiency arguments mounted by the merging parties.

There is considerable evidence, moreover, that acquiring firms are systematically overoptimistic about the efficiencies they can achieve through acquisition.¹²¹ Evidence from the finance, managerial, and economics literatures shows that many mergers do not work out well, either in terms of shareholder value or organizationally. This evidence supports the view that many mergers are motivated by managerial hubris, perhaps exacerbated by distorted managerial compensation schemes, and that managers often underestimate integration problems. This evidence certainly does not support the view that merger-specific efficiencies are common or that claims of efficiencies made by merging parties should generally be credited. Some mergers are undoubtedly motivated by the pursuit of genuine efficiencies and go on to generate them. But we caution that arguments by merging firms that efficiencies will enhance their ability and incentive to compete, resulting in lower prices, higher quality or new products, should not be accepted based solely on their plausibility, but only after careful analysis.¹²²

IV. Structuring Merger Analysis in a Post-Chicago World

The challenge facing those who seek effective and principled merger enforcement policy is to develop a set of analytical steps that charts a moderate course: relying on measures of market share but not excessively, and not accepting the three "E" arguments of entry, expansion, and efficiency without first testing them rigorously using real-world evidence. We believe that such a moderate course must include the use of suitably crafted presumptions that have real bite in the sense that strong evidence is required to overcome them.

Presumptions and burdens of proof are critical when analyzing horizontal mergers. Most merger review is prospective, requiring predictions about how a proposed merger will affect competition.¹²³ These predictions are inherently difficult to make and subject to a considerable uncertainty—such is the nature of complex social and economic systems. Therefore, in many if not most cases, neither the government nor the merging parties will be able to offer ironclad proof of a theory of how the proposed merger will affect competition. Unless the government has some simple and sensible way of establishing a presumption of harm to competition, consistent with sound economic analysis, which the merging parties must then overcome to persuade a court to permit the transaction, few proposed mergers will be subject to effective challenge. While some may welcome that result, we do not believe such a lax approach to merger enforcement is consistent with sound antitrust policy. Our survey respondents generally agree with us that the decline in merger enforcement over the past decade has been detrimental to effective competition policy. We asked respondents whether the changes in agency enforcement policy over the past ten years have "improved competition policy" or "been detrimental to effective competition policy." On a 5-point scale, with 5 corresponding to "significantly improved competition policy," the average response in our survey to this question was 2.2, distinctly less than the neutral figure of 3.0.¹²⁴

Moreover, presumptions, like other bright-line rules, have many advantages in merger analysis from a decision-theoretic perspective. They give guidance to firms seeking to stay within the law, and they give guidance to lower courts on how to apply the law when reviewing proposed deals. They also help make merger law more easily administrable. That is, they reduce the transaction costs of antitrust enforcement and adjudication, by structuring and simplifying the analysis used by the courts to determine whether firms have acted within the law. Their primary disadvantage is that they can generate more errors in determining whether business conduct is harmful than would occur with a less structured and potentially more wide-ranging inquiry. To minimize this disadvantage, it is essential that presumptions employed in merger review have a sound economic grounding. They must be based on observable features of market structure that economic understanding suggests correlate well with harm to competition.¹²⁵

Historically, in analyzing horizontal mergers, the courts have relied on a presumption based on market concentration. We have traced above the dramatic erosion in the structural presumption over time, and the profound effects of that erosion on merger control policy. The time has come to update the structural presumption to reflect advances in economic learning as well as the lessons learned from the record of merger enforcement over the past forty years. We do not seek to discard structural presumptions, or to return to the more mechanical approach from the 1960s. Rather, we seek to reinvigorate horizontal merger enforcement with presumptions that are both practical and based on sound economic analysis.

V. Presumptions and Burden-Shifting in a Post-Chicago World

How should a court, confronted with the obligation to decide whether to enjoin a proposed horizontal merger, make that decision? How should it incorporate modern economic thinking and avoid the erroneous economic reasoning we have criticized, while remaining faithful to the established legal approach to merger review? Our answer is to rely on the familiar legal framework based on presumptions and burden-shifting, but to specify those presumptions in a way that is simultaneously consistent with precedent and more closely attuned to the modern economics of horizontal merger analysis. This section sketches our suggested approach.¹²⁶ When we offer specific benchmarks (for HHI levels, number of firms, price increases, and the like), we do so tentatively to make clear the type of showing we think appropriate and as an impetus to further discussion of the specific details.

A. Steps in Merger Analysis in the Courts

Under the well-established legal framework for merger analysis,¹²⁷ the government bears the burden of persuasion but, as with all other cases, the burden of production shifts during litigation.¹²⁸ The government satisfies its initial burden of production by introducing evidence that concentration in a well-defined market is high and will significantly increase as a consequence of the merger (thus establishing a *prima facie* case through application of the structural presumption), and by articulating the economic logic by which it believes competition will be harmed, such as coordinated or unilateral effects.¹²⁹ This demonstration shifts a burden of production to the merging firms to explain why the inference of likely competitive harm from the change in market concentration is unlikely in fact to be realized. If the merging firms satisfy their burden of production, the burden of production shifts back to the government, which may discredit the defendants' showing or provide additional evidence of anticompetitive effect. The burden of persuasion remains on the government at all times.

Within this framework, the structural presumption identifies the minimum quantum of evidence the government must present in order to satisfy its burden of production, and hence shift a burden of production to the merging firms. Understood this way, the structural presumption specifies elements sufficient to prove an offense (a merger that violates the Clayton Act). But this observation does not fully capture the significance of the structural presumption in merger analysis because it does not explain how the identical presumption could be virtually irrebuttable during the 1960s while readily rebutted today. Indeed, in practical effect, the presumption has varied in strength along with the confidence of economists in the strength of the relationship between concentration and competition—from a showing that once created a virtual *per se* prohibition against horizontal mergers to simply a factual predicate that triggers a wide-ranging analysis of the proposed transaction.

In this subsection, we outline the factual showing we think should be sufficient to create a presumption that a proposed horizontal merger creates adverse coordinated or unilateral competitive effects, given the modern economic understanding of the effects of mergers on competition. We intend this stage of the analysis to fill the dual role the structural presumption played in the past: to identify factual showings that would satisfy the government's initial burden and to give a court confidence that if the specified elements are ultimately established, harm to competition would indeed likely result. Under our recommended approach, rebuttal is certainly possible, but requires that the merging parties present strong evidence, consistent with premerger market conditions and economic theory, showing that the anticompetitive effects alleged by the government are not in fact likely to result from the merger.¹³⁰

We also intend the presumptions we set forth to be consistent with the established legal framework for merger analysis. This raises a fundamental issue with respect to unilateral competitive effects. The structural presumption, based on market concentration, was developed by the Supreme Court in a context in which coordinated effects were at issue. However, market concentration can be a poor predictor of harm to competition when the theory of competitive harm involves unilateral competitive effects among sellers of differentiated products. One reason is the difficulty of drawing lines to define markets when products are differentiated and clear gaps in the chain of substitutes do not exist. In addition, oligopoly theory tells us that the merging firms' market shares will tend to overstate the unilateral effects of the merger if the firms' products are relatively distant within the relevant market. Likewise, the merging firms' market shares will tend to understate the unilateral effects of the merger if the firms' products are especially close within the relevant market. Predicted unilateral effects depend upon the degree of demand substitution between products sold by the merging firms, not market shares.¹³¹

For all of these reasons, in cases involving unilateral effects among sellers of differentiated products, it is important to allow the government also to establish its *prima facie* case with evidence that the degree of buyer substitution between the products offered by the merging parties, as measured by diversion ratios or cross-price elasticities of demand, is substantial. This approach appropriately emphasizes an aspect of market structure that is more closely related in modern economic theory to unilateral effects than is overall market concentration. This approach also will protect against faulty outcomes, as in *Oracle*, where there was strong evidence of direct competition between the merging parties but the government lost due to the difficulty of defining the relevant market absent clear gaps in the chain of substitutes.

We believe that our recommended approach is consistent with modern antitrust analysis. Since the 1960s, the Supreme Court has come to recognize in other areas of antitrust that direct evidence of harm to competition can obviate the need for inferring that harm from market concentration.¹³² Indeed, direct evidence regarding competition, such as evidence of buyer responses to past price movements or the costs of consumer switching, can be more probative than indirect evidence in the form of market shares. To the extent we employ markers other than market concentration for identifying adverse competitive effects, therefore, we think that doing so is consistent with the contemporary judicial understanding of the role played by market structure and other economic evidence in demonstrating market power and anticompetitive effects.

We also discuss the type of showing we think the merging parties should be required to make to satisfy their burden of production if they seek to rebut the government's case by proving that entry or expansion will counteract or deter the competitive harm alleged by the government or by showing that efficiencies from merger will undermine the government's prediction of adverse competitive effects.¹³³ We recognize that in the litigation context, the government will typically offer as part of its affirmative case evidence that entry would not solve the competitive problem, and that it has the option to do so as well with respect to efficiencies.¹³⁴ If the government has done so, defendants would typically need to offer more to satisfy their burden of production. Our purpose in specifying what would count as a minimal showing for defendants with respect to entry, expansion, and efficiencies under the assumption that the government has offered no affirmative evidence on these issues is simply to discourage courts from relying on entry, expansion, and efficiency evidence that we believe to be insufficient even in the best of circumstances for the merging firms.

B. Coordinated Competitive Effects

The modern economic understanding of coordinated competitive effects focuses on whether coordination makes sense for each market participant.¹³⁵

In order for firms in a market to coordinate successfully, they must find a way to make the coordinated price more attractive than price-cutting for each. To do so they must reach consensus over the coordinated equilibrium they will seek to achieve—selecting prices and allocating output or market shares among the sellers—and they must deter deviation from that consensus by making it unprofitable for each participant to expand output and reduce price below what would be required by the coordinated consensus.¹³⁶ Although some influential Chicago-oriented commentators have been persuaded that these cartel problems are virtually insurmountable,¹³⁷ modern economists generally accept that coordination can and does occur.¹³⁸ Moreover, coordination may well be imperfect and incomplete.¹³⁹ Under such circumstances, we would expect that some firms would be nearly indifferent between coordination and cheating, while others strongly prefer the coordinated outcome. In antitrust parlance, a firm that is nearly indifferent between coordination and cheating, and in consequence constrains coordination from becoming more effective, is termed a “maverick.”¹⁴⁰

Within this framework, horizontal mergers affect the likelihood and effectiveness of coordination by altering the constraints imposed by maverick producers. If an acquisition involves a maverick, the merged firm would likely pose less of a constraint on coordination than before, leading to higher prices.¹⁴¹ An acquisition involving a non-maverick may have a variety of effects on competition. For example, it could have no effect if it leaves the maverick's incentives unchanged; it may benefit competition by creating a new industry maverick through efficiencies; or it may harm competition, if it leads to exclusion of the maverick.¹⁴²

This perspective on coordinated effects suggests two different approaches to establishing a presumption of harm to competition through coordinated effects.¹⁴³ Both approaches begin by defining the relevant market, along the lines described in the Merger Guidelines and by showing that the firms participating in that market could reasonably expect to solve the “cartel problems” of reaching consensus on terms of coordination and deterring deviation from those terms. Beginning with market definition dovetails nicely with theories of coordinated effects, since it involves identifying a group of firms, including the merging parties, that would find it profitable to engage in coordination.¹⁴⁴

The first approach then identifies the maverick firm constraining coordination,¹⁴⁵ and evaluates the effects of the merger on the coordination incentives of the various sellers in the relevant market. Mavericks can be identified based on past conduct that constrained more effective coordination, based on the results of natural experiments that would be expected to lead a maverick to alter its price but would not affect the pricing of non-maverick firms, or by inference from features of market structure that tend to suggest that a firm would prefer a lower coordinated price than would its rivals.¹⁴⁶

The second approach proceeds by identifying changes in the structure of the relevant market that raise the odds that a merger would reduce the constraint that the maverick poses for coordination. This approach is feasible even if a specific maverick firm cannot reliably be identified. In implementing the second approach, the focus will usually be on the reduction in the number of significant sellers participating in the market and on changes in the extent to which the market participants differ, i.e., on asymmetries among sellers in the relevant market. The reduction in the number of sellers raises the odds that a merger involves a maverick—the type of merger most likely to enhance seller coordination—and those odds generally grow the most when the number of significant sellers is few.¹⁴⁷ If a merger narrows asymmetries among sellers—as by reducing the differences among sellers in product attributes or seller costs—it most likely reduces the odds that a maverick firm would prefer a substantially lower coordinated price than its rivals, and thus tends to lead to higher prices by making coordination more effective.¹⁴⁸

These two approaches suggest what the government should be expected to prove in order to create a presumption that a horizontal merger makes coordination more likely or more effective. Under either approach, the government must begin by defining the relevant antitrust market and by showing that the market is conducive to coordination, i.e., that the firms could reasonably expect, after a merger, to reach consensus on the terms of coordination and deter deviation from those terms. The latter is a familiar inquiry in antitrust analysis.¹⁴⁹ Then the government must explain why it is plausible that the merger will make a difference, relying on either of the above two approaches.

Under the first route for establishing a presumption that the merger matters, the government would identify the likely maverick and explain how the merger would change the maverick seller's incentives so as to make coordination more likely or more effective. Proof that the acquisition involves a likely maverick should be sufficient basis to presume harm to competition, for example.¹⁵⁰

Under the second route, the government would show that the odds are high that a maverick firm (not specifically identified) would prefer a higher coordinated price postmerger, thus making coordination more likely or successful. To do so, the government would look to the number of significant firms¹⁵¹ and to the effect of the merger on the differences among sellers. We could imagine several ways of making the necessary demonstration. One involves simply a reduction in the number of significant firms. For example, if the merger reduces the number of significant firms from, say, four to three, three to two, or two to one,¹⁵² that change in market structure alone may be enough to create a presumption that the merger would make coordination more likely or more effective.¹⁵³ Alternatively, if it is difficult to be confident which individual sellers are significant, a presumption based solely on market concentration could be applied, illustratively

if the postmerger Herfindahl-Hirschman Index (HHI) exceeds 2800.¹⁵⁴ In addition, if there are more than four significant sellers premerger, or if the postmerger HHI is less than 2800, a court could still presume that the merger makes coordination more likely or more effective if the government also shows that the merger has made sellers more similar, as by reducing asymmetries in costs or product attributes. Then a (weaker) presumption of harm to competition might reasonably be invoked for a merger that reduces the number of significant sellers to five, six, or seven, for example, or raises the postmerger HHI to roughly equivalent levels.¹⁵⁵

Consistent with the legal framework, these presumptions would be rebuttable. Some forms of rebuttal might go to whether the presumption was properly invoked.¹⁵⁶ Other forms of rebuttal might show that the merger will not in fact alter the prospects for industry coordination, for example because the firms have no incentive to raise prices above the level likely to obtain absent the merger,¹⁵⁷ or because the maverick would have no less incentive to constrain coordination after the merger than before.¹⁵⁸ Or the merging firms might seek to rebut the presumption of harm to competition on the ground that entry or expansion would likely undermine or counteract any competitive effect of coordination, or that efficiencies from merger would make the deal procompetitive on balance.

When entry is offered as a rebuttal argument, our primary concern in this paper is to discourage courts from presuming that entry is easy based on one example, as some courts have improperly done in the past. This error can be avoided through careful application of the standards of the Horizontal Merger Guidelines, which require that committed entry be timely, likely, and sufficient.¹⁵⁹ When efficiencies are offered as a rebuttal argument to a presumption about coordinated effects, it is important to note that efficiencies would not affect the coordinated price—would not be passed through to buyers—unless they lead the maverick to prefer a lower price or the merger creates a new maverick with the ability and incentive to compete more aggressively than before.¹⁶⁰ That is, the analysis of efficiencies must go beyond ensuring that they are merger-specific and can be verified—the primary criteria of the Horizontal Merger Guidelines for efficiencies to be cognizable—and explain how the efficiencies would lead to lower prices given the way the market participants are thought to behave.

We do not claim to have provided an exhaustive list of methods the merging firms might employ to rebut the presumption of coordinated effects. Nor have we attempted to sketch the kinds of evidence the government, on which the burden of persuasion rests, might offer in response to those rebuttal efforts. It should nevertheless be clear that there are many routes that defendants could employ to rebut the presumption. The fact that there are many types of rebuttal arguments, however, does not mean that the presumption of coordinated effects afforded to the government is weak. A court should not lightly discard the inference that competition will be harmed that follows from a demonstration by the government of the factual

predicates for invoking the presumption of coordinated effects set forth above. In particular, to prevail, rebuttal arguments based on entry, expansion, and efficiencies must be based on strong evidence that is consistent with economic theory and premerger industry conditions.

C. Unilateral Competitive Effects

Since the 1992 Horizontal Merger Guidelines were introduced, theories of unilateral effects have been pursued frequently by both agencies. Even though our survey respondents reported a marked decline in interest at the agencies in unilateral effects cases over the past decade, they still reported seeing unilateral effects cases somewhat more frequently today than coordinated effects cases (with the mix varying greatly by industry).

The economic theory of unilateral effects theories follows directly from non-cooperative theories of oligopoly, including the Cournot and Bertrand theories of oligopoly, which go back to the nineteenth century.¹⁶¹ Over the past 25 years, substantial progress has been made in refining these theories and applying them to merger analysis, and in developing tools for this purpose, including sophisticated econometric methods of estimating demand and methods for simulating the effects of mergers using calibrated structural models. The economic theory of unilateral effects is now very well understood, and we will not repeat that theory here.¹⁶²

In practice, unilateral effects cases typically arise in markets where the suppliers sell differentiated products, very often without binding capacity constraints, at least in the medium to long term. Our treatment here focuses on that central case.¹⁶³

In cases involving unilateral effects among sellers of differentiated products, the link between the market definition exercise and the theory of competitive effects tends to be much less direct than in cases involving coordinated effects. In coordinated effects cases, the market definition exercise identifies a set of firms that collectively have an incentive to coordinate their prices, this being the mechanism of harm to competition. In unilateral effects cases, the mechanism of harm does not directly involve any nonmerging firms. Instead, the theory is based on postmerger changes in the incentives of the merging parties. Predicted unilateral effects depend primarily upon the cross-elasticity of demand between products sold by the merging firms, and on the price-cost margins associated with their products, but not directly on the market shares of the merging firms. Furthermore, defining the relevant market may require that a bright line be drawn between products that are "in" or "out" of the market, when there is in fact no clear gap in the chain of substitutes.

Our proposal for establishing presumptions in unilateral effects cases takes account of these inherent economic features of markets with differentiated products. The government can establish its *prima facie* case in either of two ways. Both routes require the government to show that the

merger will give the merged firm an incentive to raise the price of one or more of its products significantly, taking as given the prices charged by nonmerging firms. The incentive of the merged firm (A+B) to raise the price of a Product A sold by Firm A will typically depend most strongly on two variables: (1) the diversion ratio between Product A and Product B sold by Firm B, which is defined as the fraction of the lost sales for Product A that will be captured by Product B, and (2) the gross margin for Product B.¹⁶⁴ Both routes focus on demand-side factors only; we specify the elements that create a presumption based on the empirical generalization that within product-differentiated industries, an enquiry which looks only at demand substitution to identify market power, ignoring supply-side factors like cost differences and production capacities, is in general likely to be largely right.¹⁶⁵

The first, and more traditional route, is for the government to define the relevant market, following the methods in the merger guidelines, to show that the merger will substantially increase concentration in that market, and to articulate the mechanism by which the merger will cause a price increase.¹⁶⁶ This mechanism will typically follow from the basic logic of unilateral competitive effects, with reference to the size of the premerger price-cost margins on the overlap products sold by the merging firms.¹⁶⁷ This route is consistent with a "default" assumption that the diversion ratios between the products sold by the merging firms are proportional to their market shares, as in the logit model of demand.

The second route is more direct and does not rely on defining the relevant market and measuring market shares. Following this route, the government must establish that the diversion ratio between the merging firms' products and the gross margins on those products are large enough to give the merged firm an incentive to raise the price of one or more of those products significantly (e.g., 5 percent, or some other appropriate figure).¹⁶⁸ Many types of evidence as to buyer substitution between the products sold by the merging firms, and thus as to the relevant diversion ratios, may potentially be used by the government at this stage.¹⁶⁹ Diversion ratios (or demand cross-elasticities) would summarize this information in a quantitative way, even if the most probative evidence about the magnitude of buyer substitution were qualitative rather than quantitative. We envision the government offering a straightforward calculation based on diversion ratios and price-cost margins, along with some sensitivity analysis, although the government also could obtain the benefit of the presumption by presenting a more detailed simulation model.

If the government establishes its *prima facie* case, the burden shifts to the merging parties. The first group of rebuttal arguments directly undermines the propositions put forward by the government. If the government has taken the first route, the merging parties could show that the market has not been defined properly, that the government measured market shares incorrectly, or that the market shares mislead as to the likelihood of unilateral

effects (as by presenting evidence of diversion ratios and price-cost margins). If the government has taken the second route, the merging firms could show that the merged entity will not in fact have an incentive to raise the prices of any of its products significantly. They could make this showing by proving that the diversion ratio between the merging firms' products is lower than claimed by the government or that the margin on the product to which sales are diverted is lower than claimed by the government.

If the government's case withstands any such attacks, then the merging parties can also rebut by showing that other firms with similar products can and will reposition their products in response to the postmerger price increase asserted by the government and that such repositioning will deter or counteract any anticompetitive effects of the merger. Lastly, the merging firms can turn to the conventional three E rebuttal points: entry, expansion, and efficiencies. These arguments would be treated in the same manner as we described above in our discussion of coordinated effects.¹⁷⁰

Conclusion

Prospective horizontal merger enforcement is essential for protecting competition in a dynamic economy. It is simply impractical to protect competition by adopting a policy of waiting for mergers to display adverse effects on competition and then seeking to undo the acquisitions that prove to be anticompetitive. Unfortunately, prospective horizontal merger enforcement has fallen into decline, as a result of an unhappy combination of a more flexible economic approach, which we endorse, with the too-ready acceptance by some courts and enforcers of unproven noninterventionist economic arguments about concentration, entry and efficiencies.

To reinvigorate horizontal merger enforcement, we propose that enforcement agencies and courts rely more seriously on presumptions that allow the government to establish a *prima facie* case, which the merging parties can only rebut with strong evidence. Relying more on presumptions would confer the advantages of clearer rules, thus reducing the transaction costs of enforcement and providing guidance to firms and courts. By basing the presumptions on the modern economic understanding of the competitive effects of mergers, moreover, merger review can become more accurate. We have proposed an analytical framework using presumptions that avoid systematically deterring beneficial mergers or permitting harmful ones.

We certainly do not propose a return to the horizontal merger control policies and precedents of the 1960s. The presumptions we have described here would not be irrebuttable, though they would be influential. They would be based on aspects of market structure, but not solely on market concentration, and in some cases, not on market concentration at all. We have sketched here in general terms the types of presumptions we envision,

recognizing that further refinement is required to put our ideas into operation. We hope that our proposals will stimulate discussion about how best to reinvigorate merger enforcement, while leaving the details of an improved merger control framework to that discussion and future work.

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Notes

1. For a broader perspective on the evolution of U.S. antitrust policy during these years, see William E. Kovacic & Carl Shapiro, *Antitrust Policy: A Century of Economic and Legal Thinking*, 14 J. ECON. PER. 43 (2000).
2. *United States v. Philadelphia National Bank*, 374 U.S. 321, 363 (1963).
3. *Id.*
4. *Id.*
5. *Id.*
6. *Id.*
7. *United States v. Von's Grocery Co.*, 384 U.S. 270 (1966). Robert Bork termed *Von's Grocery* "the best example of Clayton 7's disorientation." Robert H. Bork, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 217 (1978).
8. Bork, *supra* note 8 at 217. Here Bork was specifically criticizing a companion case to *Von's Grocery*, decided during the same Supreme Court term: *United States v. Pabst Brewing Co.*, 384 U.S. 546 (1966). In *Pabst*, the Court prevented a merger between two brewing firms that together accounted for 24 percent of beer sales in Wisconsin, 11 percent of sales in a three-state area of the upper Midwest, and less than 5 percent of sales nationally. "In accord with our prior cases," the Court held that the Clayton Act was violated "in each and all of these three areas." *Id.* at 552. Bork framed the problem with the Court decisions as where to draw the line. "As the law moves down the spectrum from the 100 percent merger," he wrote, "the problem of the trade-off between restriction of output and efficiency rapidly becomes severe." Bork, *supra* note 8 at 219 (1978). Accordingly, he argued that "mergers up to 60 or 70 percent of the market should be permitted," *id.* at 221, thus proposing a standard far more easily satisfied by merging firms than that promulgated by the 1960s merger cases he was criticizing.
9. *Pabst*, 384 U.S. at 552.
10. Richard Posner, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 106 (1976).
11. *United States v. Von's Grocery Co.*, 384 U.S. 270, 301 (1966) (Stewart, J., dissenting).
12. Bork, *supra* note 8 at 217.
13. Joe S. Bain, *BARRIERS TO NEW COMPETITION* (1956).
14. See Michael Salinger, *The Concentration-Margins Relationship Reconsidered*, 1990 Brookings Papers on Economic Activity: Microeconomics 287, for a relatively recent discussion of this literature.

15. George Stigler, *A Theory of Oligopoly*, 55 J. POL. ECON. 44 (1964).
16. Harold Demsetz, *Industry Structure, Market Rivalry and Public Policy*, 16 J. L. & ECON. 1 (1973). For further discussion of the problems economists faced when seeking to evaluate the structure-conduct-performance paradigm empirically, see Jonathan B. Baker & Timothy F. Bresnahan, *Economic Evidence in Antitrust: Defining Markets and Measuring Market Power*, in Paolo Buccirossi, ed., *HANDBOOK OF ANTITRUST ECONOMICS*, (2007) (forthcoming).
17. *United States v. General Dynamics Corp.*, 415 U.S. 486 (1974).
18. *Id.* at 504.
19. Bork, *supra* note 8 at 218.
20. U.S. Department of Justice, *Merger Guidelines* (1982) available at <http://www.usdoj.gov/atr/hmerger/11248.htm>. Baxter was a highly respected Chicago-oriented law professor before he headed the Antitrust Division.
21. The 1982 Merger Guidelines did not recognize an efficiencies defense, however, except in "extraordinary cases," mainly because of difficulties of proof. Here the Guidelines followed the lead of Richard Posner and Robert Bork, both of whom recommended accounting for efficiencies by limiting merger challenges to transactions in markets with high concentration rather than by allowing an efficiencies defense. Posner, *supra* note 11 at 112; Bork, *supra* note 8 at 124-29. Since that time, the Guidelines have become more receptive to allowing properly documented efficiencies from a transaction to count in its favor. Most of the shift was recent. The 1984 Guidelines revisions took a small step toward recognizing an efficiencies defense, and the 1997 revisions to what had become the Horizontal Merger Guidelines of both enforcement agencies went farther. U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines* (1992, revised 1997) available at <http://www.usdoj.gov/atr/public/guidelines/hmg.htm>.
22. *United States v. Waste Management, Inc.*, 743 F.2d 976 (2d Cir. 1984); *United States v. Calmar, Inc.*, 612 F.Supp. 1298 (D.N.J. 1985); *Echlin Mfg. Co.*, 105 F.T.C. 479 (1985).
23. *United States v. Baker Hughes, Inc.*, 908 F.2d 981, 984 (1990). David Sentelle also served on the three-judge panel.
24. *Id.* The structural presumption did not disappear, however. The court acknowledged that "[t]he more compelling the prima facie case [based on market concentration], the more evidence the defendant must present to rebut it successfully. Cf. *Federal Trade Commission v. H.J. Heinz Co.*, 246 F.3d 708 (2001) (merging firms did not successfully rebut the presumption of harm to competition in a merger to duopoly with evidence that the efficiencies from merger would allow the merged firm to compete more effectively against the dominant firm in the market).
25. *Baker Hughes*, 908 F.2d at 992 (1990).
26. U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines* (1992, revised 1997), available at <http://www.usdoj.gov/atr/public/guidelines/hmg.htm>. These Guidelines were revised again in 1997 to set forth an analysis of efficiencies.
27. See generally, Jonathan B. Baker & Steven C. Salop, *Should Concentration be Dropped from the Merger Guidelines?*, ABA Antitrust Section Task Force Report, 339-54 PERSPECTIVES ON FUNDAMENTAL ANTITRUST THEORY, July 2001.
28. Federal Trade Commission, *Horizontal Merger Investigation Data, 1996-2005* available at <http://www.ftc.gov/os/2007/01/P035603horizmergeinvestigationdata1996-2005.pdf>.
29. Antitrust Modernization Commission, *Report and Recommendations* (April 2007), available at http://www.amc.gov/report_recommendation/toc.htm. The AMC did make a number of recommendations for procedural reforms relating to merger enforcement.
30. Derek Bok, *Section 7 of the Clayton Act and the Merging of Law and Economics*, 74 HARV.L. REV. 226, 227-28 (1960) (footnotes omitted).
31. The "pendulum swings" metaphor for antitrust enforcement was criticized by senior FTC officials at the start of the George W. Bush Administration. They instead defended a narrative of continuity between enforcers in the administrations of both parties since around 1980, both in general and with respect to mergers in particular. William E. Kovacic, *The Modern Evolution of U.S. Competition Policy Enforcement Norms*, 71 ANTITRUST L.J. 377 (2004); Thomas B. Leary, *The Essential Stability of Merger Policy in the United States*, 70 ANTITRUST L.J. 105 (2002). We agree that there has been continuity in some enforcement norms, particularly the prohibitions on naked horizontal price-fixing and market division. But other antitrust areas, particularly those involving exclusionary conduct, have been and remain contested ground as to which perspectives have varied. We see horizontal merger enforcement as an in-between case, characterized by substantial agreement over time on fundamental economic principles, but also subject to variation in enforcement approaches, which has been particularly evident in the minimalist enforcement policy of the Antitrust Division during the second term of the Reagan administration and during the George W. Bush Administration. For this reason, we have not avoided use of the pendulum metaphor in discussing merger policy.
32. *United States v. Syfy Enters.*, 903 F.2d 659 (9th Cir. 1990). The government attacked Syfy's acquisitions under the Clayton Act, and alleged both monopolization and attempted monopolization under the Sherman Act. *Id.* at 662 n.3. For additional discussion of the case and its significance for entry analysis in merger review, see Jonathan B. Baker, *The Problem with Baker Hughes and Syfy: On the Role of Entry in Merger Analysis*, 65 ANTITRUST L.J. 353 (1997).
33. The case was tried four years after the last acquisition, so some of the evidence was retrospective.
34. The court also dismissed the government's evidence that after obtaining a virtual monopoly Syfy had lowered the fees it paid to movie distributors (exercising monopsony power), on the view that the government had not controlled for other factors affecting those payments, and based on the absence of distributor complaints. *Syfy*, 903 F.2d at 669, 671 n.19.
35. Roberts opened three multiplexes, none as luxurious as Syfy's. *Id.* at 665, 669 n. 15, 672. Syfy's share of the box office from first-run films

in Las Vegas declined from 93 percent after its last merger to 75 percent three years later, *id.* at 666, when Roberts sold its theaters to a large national chain. *Id.* at 665. The court also suggested that movie distributors were large players that could protect themselves, even from a monopoly exhibitor. *Id.* at 670, 672.

36. In the government's view, the evidence instead showed that Roberts's entry was not successful (its facilities were inferior, its share was small, and none of its theaters made money), and that other informed potential entrants had reasonably concluded that entry would not be profitable. Brief for the United States at 39–41, *United States v. Syufy Enters.*, 903 F.2d 659 (9th Cir. No. 89–1575) (Apr. 21, 1989), 1989 WL 1129298.

37. This possibility forms the basis for the entry "likelihood" analysis in the 1992 Horizontal Merger Guidelines issued by the two federal antitrust enforcement agencies two years after the *Syufy* opinion.

38. The court saw no need to evaluate this claim because it did not understand it. In the court's view, the government was advancing "a shopworn argument we had thought long abandoned: that efficient, aggressive competition is itself a structural barrier to entry." *Syufy*, 903 F.2d at 667. The court went on to say that absent a claim that entry would be prevented by some sort of structural barrier—as might be created, for example, by "government regulation," "onerous front-end investments," dependency "on a scarce commodity" controlled by the incumbent, or "distribution arrangements designed to lock out potential competitors"—it saw no reason to analyze the issue further. *Id.* See Baker, *supra* note 33 at 370: "The government's argument was about the scale necessary for an entrant to do business efficiently and whether committed entry at that scale would be profitable; the court instead heard, and rejected, an argument about whether the incumbent was performing efficiently."

39. *Syufy*, 903 F.2d at 667 n. 13: "We cannot and should not speculate as to the details of a potential competitor's performance; we need only determine whether there were barriers to the entry of new faces into the market."

40. That skepticism may have contributed to the court's failure to take seriously the economic arguments raised by the government.

41. *Id.* at 673.

42. See also, Stephen Calkins & Frederick Warren-Boulton, "The State of Antitrust in 1990," Paper Presented at Cato Institute Conference, *A Century of Antitrust: The Lessons, The Challenges*, Washington, D.C. (Apr. 1990) ("the opinion exudes antipathy for merger enforcement"); William E. Kovacic, *Reagan's Judicial Appointees and Antitrust in the 1990s*, 60 *FORDHAM L. REV.* 49, 112 (1991) (the opinion "dispatched the government's case in a torrent of ridicule" and "depicted[ed] the Justice Department's decision to prosecute as virtually irrational").

43. *United States v. Oracle Corp.*, 331 F.Supp.2d 1098 (N.D. Calif. 2004).

44. See generally, Carl Shapiro, *Mergers with Differentiated Products*, 10 *ANTITRUST* 23 (1996); Louis Kaplow & Carl Shapiro, *Antitrust*, in *HANDBOOK OF LAW AND ECONOMICS*, A. Mitchell Polinsky & Steven Shavell, eds., (Elsevier, forthcoming, 2007) (Working Paper at 65–70), available at <http://faculty.haas.berkeley.edu/shapiro/antitrust2007.pdf>. This theory

is well-established among antitrust economists, described in the 1992 Horizontal Merger Guidelines, and routinely employed at the federal antitrust enforcement agencies. See Jonathan B. Baker, *Why Did the Antitrust Agencies Embrace Unilateral Effects?*, 12 *GEO. MASON. U. L. REV.* 31 (2003).

45. See Kaplow & Shapiro, *supra* note 45 at 92. The market definition alternatives for framing litigation over unilateral effects of merger are evaluated in Jonathan B. Baker, *Stepping Out in an Old Brown Shoe: In Qualified Praise of Submarkets*, 68 *ANTITRUST L.J.* 203 (2000). For a recent proposal to dispense with market definition in mergers with unilateral effects, see Joseph Farrell & Carl Shapiro, "Mergers with Unilateral Effects: A Simpler and More Accurate Alternative to Market Definition," available at <http://faculty.haas.berkeley.edu/shapiro/simpler.pdf>.

46. See Jonathan B. Baker, *Market Definition: An Analytical Overview*, 74 *ANTITRUST L. J.* 129, 139–41 (2007) (describing sources of evidence on buyer substitution).

47. Federal Trade Commission, Horizontal Merger Investigation Data, 1996–2005, available at <http://www.ftc.gov/os/2007/01/P035603horizmergerinvestigationdata1996-2005.pdf> (Tables 4.6 & 8.1) (in raw data, about half of mergers reducing the number of firms from 4 to 3 in industries other than groceries, oil, chemicals, and pharmaceuticals are challenged absent customer complaints, and in all markets 100 percent of 4 to 3 mergers are challenged if the agency has received strong customer complaints); Malcolm B. Coate & Shawn W. Ulrick, "Transparency at the Federal Trade Commission: The Horizontal Merger Review Process 1996–2003," available at <http://www.ftc.gov/os/2005/02/0502economicissues.pdf> (Table 6) (for a 4 to 3 merger with an HHI of 2000 and a delta of 400, the probability of challenge is 8 percent with no customer complaints and rises to 62 percent with complaints).

48. "[U]nsubstantiated customer apprehensions do not substitute for hard evidence." *Oracle*, 331 F.Supp.2d at 1131. It is appropriate for a court to inquire, for example, whether surveyed customers are representative, whether the witnesses are well situated to judge the response of their firm to changing prices, just what are the customer's commercial interests in the proposed merger, and whether the witnesses articulate sensible rationales for their views.

49. *Id.*

50. Judge Walker explained that the witnesses did not present "cost/benefit analyses of the type that surely they employ and would employ" in making software purchasing decisions. *Id.*

51. That is, firms rarely in practice undertake cost/benefit analyses of purchasing decisions that assume a hypothetical merger among suppliers.

52. *Id.* at 1117–18, 1123. This statement of the law misunderstands the economics of unilateral competitive effects among sellers of differentiated products and, if followed by other courts, would create an unfortunate gap in merger law. As the discussion of unilateral effects in the 1992 Horizontal Merger Guidelines makes clear, competition can be harmed through this route within a broad market in which the merged firm has a market share well below monopoly levels.

53. *Id.* at 1119–21.

54. *Id.* at 1118.

55. In the logit model, though not in general in unilateral effects models, anticompetitive effects depend upon market shares. See, e.g., Gregory Werden & Luke Froeb, *Unilateral Competitive Effects of Horizontal Mergers*, in Paolo Buccirossi, ed., *HANDBOOK OF ANTITRUST ECONOMICS* (2007) (forthcoming). Judge Walker's rejection of the unilateral effects theory in *Oracle* can also be questioned on the facts. For any given diversion ratios (or demand cross-elasticities) between the products of the merging firms, unilateral anticompetitive effects are greatest when premerger price-cost margins are large, as they were for the products at issue in the *Oracle* case.

56. *United States v. Oracle Corp.*, 331 F.Supp.2d 1098, 1123 (N.D. Calif. 2004).

57. Merger simulations integrate information on buyer substitution, rival conduct, and firm costs in a mathematical model, in order to infer the price increase from merger. These methods are useful for clarifying issues, identifying where more evidence is needed, and putting measures of buyer substitution into a useful metric. They do not necessarily require market definition. For a brief discussion with references to the sizeable economic literature on this topic, see Kaplow & Shapiro, *supra* note 45 at 99-100.

58. *Oracle*, 331 F.Supp.2d at 1122.

59. *Id.* at 1170.

60. Accord Amanda J. Parkison Hassid, *An Oracle Without Foresight? Plaintiffs' Arduous Burdens Under U.S. v. Oracle*, 58 HASTINGS L.J. 891 (2007).

61. WALL ST. J., Jan. 16, 2007, at C1.

62. *Id.*

63. Stephen Labaton, *Sirius Chief Talks of Ways to Get XM Deal Approved*, N.Y. TIMES, March 1, 2007.

64. In 1986 the Reagan Administration seemed to signal a change of course toward merger enforcement minimalism by proposing that Congress replace the incipency language and lessening of competition test for merger under the Clayton Act with a requirement that the courts consider "all economic factors" and only enjoin a transaction when it found "a significant probability" that the merger "will substantially increase the ability to exercise market power." 50 ANTITRUST & TRADE REG. REP. (BNA) 347 (Special Supp. Feb. 20, 1986).

65. See Robert Pitofsky, *Antitrust in the Decade Ahead: Some Predictions About Merger Enforcement*, 57 ANTITRUST L.J. 65, 71 (1988): "The Senate Judiciary Committee recently identified ten mergers for which the relevant Antitrust Division Section Chief recommended that a challenge be filed, only to see that recommendation overruled by the front office. Post-merger HHIs were available in two of those cases; they were 3025 and 5128."

66. In 1987 John DeQ. Briggs surveyed Justice Department consent decrees in merger cases, and observed that "the level of concentration is very high in most of them; one wonders how they got off the ground at all." John DeQ. Briggs, *An Overview of Current Law and Policy Relating to Mergers and Acquisitions*, 56 ANTITRUST L.J. 657, 721 (1987) (citing twelve cases). Accord Robert Pitofsky, *Antitrust in the Decade Ahead: Some Predictions About Merger Enforcement*, 57 ANTITRUST L.J. 65 (1988): "As to

horizontal mergers, virtually all cases have involved extremely large mergers in highly concentrated markets."

67. *Report of the American Bar Association Section of Antitrust Law Task Force on the Antitrust Division of the U.S. Department of Justice*, 58 ANTITRUST L.J. 747, 761 (1990).

68. *Id.* at 760. The report also noted that "in the face of a large increase in merger activity, the total amount of resources devoted to merger enforcement has actually declined." *Id.* at 755. More generally, the report highlighted the perception that the Division "is more concerned with its non-enforcement agenda—the studied avoidance of 'bad' cases that might hurt consumers coupled with support for legislative modifications that would limit the antitrust laws" than with its enforcement program, outside of its vigorous attacks on price-fixing. *Id.* at 748-49.

69. We do not examine the ratio of merger challenges to second requests because that statistic is double-edged: an increase in the rate could result either from stronger enforcement or from greater efficiency in targeting problematic transactions in the initial merger review.

70. Leary, *supra* note 31.

71. *Id.* at 139 (Table 2).

72. Leary ended his data collection with fiscal year 2000, so the Clinton II record is assessed with only three years data.

73. Leary, *supra* note 31, discusses other interpretive issues at 121-26. We also followed Leary by using in the denominator the number of transactions in which the agencies were authorized to issue a second request rather than the number filed; the adjusted figure is slightly lower than those filed to account for mistaken filings, secondary filings and filings in which a party files to cross multiple notification thresholds in the same year.

74. The number of reported transactions spiked during the late 1990s, raising the possibility that different kinds of transactions arose during that merger wave relative to other years. (The late 1980s were considered a merger wave at the time, but the increase in filings then is small in comparison to what was observed a decade later.) Anecdotal evidence, moreover, suggests that management buyouts were common during the late 1980s, and financial investments by private equity buyers and hedge funds have become common in recent years.

75. Similarly, it is possible that in some years, merger filings are concentrated in industries where transactions are typically reviewed by the Antitrust Division while in other years they are concentrated in industries where transactions are typically reviewed by the FTC. If so, the observed enforcement rate at individual agencies could change without a difference in either agency's enforcement policy, although the total enforcement rate would not necessarily change. We have not attempted to account for this possibility.

76. This idea arises generally in any analysis based on data about disputes that reach certain procedural stages. For an important and early contribution, see George Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. L. STUD. 1 (1984).

77. It is possible in theory that changes in the observed enforcement rate instead reflect changes in the loss functions of firms contemplating merger.

If CEOs become more risk averse, for example, they would be expected to negotiate fewer mergers that generate antitrust enforcement actions. However, we think this theoretical possibility is unlikely to explain the observed variation in the merger enforcement rate.

78. Similarly, the strikingly high merger enforcement rate, 1.5 percent during the George H. W. Bush Administration (1990–1993), suggests that the FTC under Chairman Steiger surprised the antitrust community with its willingness to challenge deals. This interpretation is consistent with anecdotal information about the perception of antitrust practitioners at the time that the line had been moved toward merger challenges even more than they had expected. Under this interpretation, moreover, the decline in the enforcement rate that followed during the Clinton Administration does not mean that the FTC under Chairman Pitofsky was less enforcement-minded than it was under his predecessor; it simply means that the Pitofsky Commission did not surprise the antitrust bar with its approach to merger review. Similarly, the decline from Clinton I to Clinton II in the FTC's merger enforcement rate likely means that practitioners were surprised that the FTC stayed on an even keel after its high-profile successful challenge to the Staples/Office Depot merger, rather than ratcheting up its review standards. Baker worked at the FTC and Shapiro worked at the DOJ during the Clinton administration.

79. The raw data on adjusted HSR filings and number of enforcement actions for the two agencies came from Antitrust Division, Workload Statistics, FY 1997–2006, available at <http://www.usdoj.gov/atr/public/workstats.htm>, and Annual Report to Congress, Fiscal Year 2005, Appendix A, available at <http://www.ftc.gov/reports/hsr05/P98931twentyeighthannualhsrreport.pdf>.

80. Premerger Notification, 66 Fed. Reg. 8680 (Feb. 1, 2001).

81. To determine the magnitude of this adjustment, we collected quarterly time series on the number and value of mergers from *Mergers & Acquisitions* magazine (which in turn collects the data from the SDC database). We related HSR filings to both the number and value of transactions because HSR filings are fewer and on average likely larger than those in the comparison data as a consequence of the size of parties and size of transactions screens in the HSR reporting rules. Using quarterly data from 1990:1 through 2005:3, we regressed the log of HSR filings on the log of the number of transactions, the value of transactions, an indicator variable reflecting the change in reporting rules set to one beginning in 2001:2 (assigning it the value of 2/3 in 2001:1), dummy variables for three of the four quarters of the year, and a constant. The point estimate of the decline in filings was 60.3 percent using data on “completed” mergers and 59.6 percent using data on “proposed” mergers. These regression results are available from the authors upon request.

82. Two adjustments were required. The first reflected the fact that the denominator was too low (by a factor of 2.5), because the number of reported HSR filings would have been much greater had the previous premerger notification rules continued to apply. The second reflected the fact that the numerator was too low, because some of the mergers that would have been reported had the rules not changed would have led to

enforcement actions that did not actually occur. (These are transactions that the agencies would have noticed, investigated, and identified as anticompetitive had they been reported, but did not investigate or challenge after the change in rules.) To adjust the numerator, we observed that the bulk of the mergers screened out by the change in rules were less than \$50 million (in size of transaction), and that in 2000, the last fiscal year before the rule changed, the agencies issued 22 second requests in reviewing the 2247 transactions in that category, a rate of 0.98 percent. Federal Trade Commission and Department of Justice, Annual Report to Congress, Fiscal Year 2000 (Table 2). (The three year average for the fraction of second requests issued on transactions less than \$50 million—all the data available—was 0.97 percent, virtually identical to the figure we employed.) We also observed that during the eleven years from 1990 through 2000, enforcement actions at both agencies together averaged 61.6 percent of total second requests (614 out of 997). See Leary, *supra* note 32, at 137. Hence every 1000 transactions not filed that previously would have been filed would have yielded approximately 6 additional enforcement actions for the two agencies taken together. In adjusting the numerator, we allocated the total additional enforcement actions in proportion to the observed enforcement rate during the 2002–05 period, i.e., one-third to DOJ and two-thirds to the FTC.

83. In the raw data for 2002 to 2005, not corrected to account for the change in HSR reporting rules, the FTC enforcement rate was 1.5 percent of adjusted HSR filings, and the DOJ enforcement rate was 0.75 percent of adjusted HSR filings. Had each agency instead reported an enforcement rate of 1.8 percent of adjusted HSR filings under current reporting rules, the rate for each would have been equivalent to the 0.9 percent average rate for agency enforcement under the pre-2001 HSR reporting rules.

84. The raw data on enforcement actions and HSR filings for 2006 are found in the DOJ workload statistics and the FTC's annual report on the HSR program. The preliminary data for 2007 are taken from congressional testimony by the heads of the two agencies, available at <http://judiciary.house.gov/media/pdfs/Barnett070925.pdf> (DOJ) and http://www.ftc.gov/os/testimony/P040101antitrust_laws.pdf (FTC). Although the FTC testimony does not say so explicitly, our understanding is that the number of HSR filings it reports is the number of transactions in which the agencies were authorized to issue a second request. Due to small numbers problems, we place greater weight on averages taken over a number of years than on data from a single year.

85. During the current administration, both agencies have also, and commendably, sought to become more efficient in merger review, by reducing the compliance burden on merging firms and by targeting second requests to deals that turn out to raise competitive issues. Thomas O. Barnett, “Merger Review: A Quest for Efficiency” (Jan. 25, 2007), available at <http://www.usdoj.gov/atr/public/speeches/221173.htm>; Deborah Platt Majoras, “Reforms to the Merger Review Process,” (Feb. 16, 2006), available at <http://www.ftc.gov/os/2006/02/mergerreviewprocess.pdf>. But an emphasis on efficiency in targeting can be taken too far, leading the agencies not to investigate mergers that merit a hard look.

86. Cf. Deborah L. Feinstein, *Recent Trends in U.S. Merger Enforcement: Down But Not Out*, 21 ANTITRUST 74, 80 (2007): “The data suggest that [the current heads of the Antitrust Division and FTC] may have been less aggressive than their predecessors—and may have more difficulty persuading judges of the merits of the cases they do bring.” We considered the possibility that the current agency merger enforcement figures could be low without reflecting a change in enforcement policy because they now include a greater proportion of nonhorizontal mergers involving private equity and hedge fund buyers that do not tend to raise competition issues. Based on the following calculation, we are skeptical of this alternative interpretation. Between 2002 and 2005, DOJ brought enforcement actions in 38 cases. For those 38 enforcement actions to represent 1.8 percent of filings, the rate that now corresponds to the pre-2001 average, the number of filings would need to be 2111. During those years 5097 transactions were actually filed (after removing a small number as noted in footnote 72), implying, implausibly, that nearly 60 percent of all filings during those years (2986) would need to have been non-horizontal private equity or hedge fund deals that would not have occurred in previous time periods. Cf. Mark Hulbert, *Shareholders Benefit When Managers Have a Serious Stake*, N.Y. Times, May 13, 2007 at Business Section p.5 (chart indicates that private equity accounted for approximately 10 percent of merger and acquisition activity from 2002 through 2005). We also considered the possibility that the enforcement rate declined over time with no change in agency enforcement policy because the agencies have become more transparent, allowing the antitrust bar to improve its ability to predict enforcement agency decisions and do a better job of discouraging firms from proposing transactions that would generate enforcement actions. We are skeptical of this interpretation of the low enforcement rate at the Antitrust Division because the enforcement rate did not decline at the FTC, which has made similar efforts to become more transparent.

87. These estimates were based on the observed merger enforcement rates, without converting the observed enforcement statistics to pre-2001 units. Without that conversion, the merger enforcement rate was 1.5 percent at the FTC and 0.75 percent at the DOJ during the first term of the George W. Bush Administration, and 1.0 percent at the FTC and 0.7 percent at DOJ during the second term. The average merger challenge rate during the period studied by Commissioner Leary (0.9 percent in pre-2001 units) corresponds to a 1.8 percent rate in these units, and the low merger enforcement rate during the second term of the Reagan Administration (0.4 percent in pre-2001 units) corresponds roughly to a 0.75 percent rate in these units.

88. 2006 Chambers USA, *The Client's Guide* at 426 (“leading individuals” in antitrust in the District of Columbia, groups 1 through 3).

89. In 1997 the Antitrust Division was headed by Assistant Attorney General Joel Klein and the FTC was headed by Chairman Robert Pitofsky.

90. Our respondents gave narrative answers, which we coded on a 5-point scale to facilitate analysis.

91. See questions #1b and #2b in the survey instrument. Some survey respondents indicated that the FTC has grown tougher in its review of oil industry mergers over the past decade. With respect to the FTC, the views of our survey respondents differed from the conclusion of two FTC economists,

who found that Commission review standards did not vary between the Clinton and George W. Bush administrations based on a study of internal agency memoranda. Coate & Ulrick, *supra* note 48. When the comparison was over five years—from early in the George W. Bush Administration (AAG James and FTC Chairman Muris) to today, the survey answers differed by agency. See questions #1a and #2a. Our respondents viewed DOJ as more receptive now to merging party arguments than five years ago; the mean score for this question was 3.9. In contrast, the FTC was seen as about the same, with a mean score of 2.8. Although “more receptive” to merging firm arguments is not necessarily a synonym for more lenient enforcement, it is evident to us from the narrative comments our respondents gave and their responses to other survey questions that this is how our respondents understood the question.

92. See question #9b in the survey instrument. When the comparison was over five years, a much smaller shift in favor of the merging firms was reported. The mean score to this question (#9a) was 3.5.

93. During 2007, the FTC also exhibited a commendable willingness to litigate merger challenges—even taking on the high profile merger of Whole Foods and Wild Oats on a unilateral effects theory, notwithstanding *Oracle. Federal Trade Commission v. Whole Foods Market, Inc.*,—F. Supp. 2d—, 2007 WL 2377000 (D.D.C. 2007). The analytical steps followed in the district court’s decision declining to enjoin the transaction are questioned in Farrell and Shapiro, *supra* note 46.

94. One of us (Shapiro) was retained by the Justice Department as part of its investigation of the Whirlpool/Maytag merger. The views expressed here are ours alone and do not rely on any confidential information.

95. These data are from *Appliance*, September 1, 2005, “Share-of-Market Picture for 2004.” For additional data and analysis, see Diana Moss, “Antitrust Analysis of Whirlpool’s Proposed Acquisition of Maytag,” American Antitrust Institute, January 2006, available at <http://www.antitrustinstitute.org/archives/files/477.pdf>. For an analysis of the transaction by an attorney who represented Maytag, see Brian Byrne, *Whirlpool/Maytag: What Does it Mean for Your Deal?*, 7 THE THRESHOLD 3 (2006/2007).

96. DOJ Closing Statement March 29, 2006, at http://www.usdoj.gov/atr/public/press_releases/2006/215326.pdf. Further discussion of the DOJ’s analysis of this case is provided by Elizabeth Armington, Eric Emch, & Ken Heyer, *The Year in Review: Economics at the Antitrust Division, 2005–06*, 29 REV. IND. ORG. 305 (2006). This article is one of a useful annual series describing the economic analysis conducted at the DOJ and the FTC.

97. Ilan Brat, *Whirlpool Plans to Increase Prices, as Profits Fall* 5.2 %, WALL ST. J., July 26, 2006. Another reason given for the planned price increase was rising raw materials costs. Materials cost increases of \$150 million were noted for 2006, but these correspond to less than 1 percent of Whirlpool’s revenues, which were in the neighborhood of \$18 billion for 2006.

98. For this reason, the Whirlpool/Maytag merger would be a good candidate for a retrospective analysis in a few years.

99. *Federal Trade Commission v. Cardinal Health, Inc.*, 12 F.Supp.2d 34 (D.D.C. 1998). One of us (Shapiro) was the expert economic witness for the FTC; the other (Baker) was Director of the FTC’s Bureau of Economics.

100. *Id.* at 58.

101. We do not mean to suggest that during the current administration, the Antitrust Division has avoided all merger challenges or adopted cookie-cutter merger reviews designed to avoid serious analysis. We credit the Antitrust Division with, for example, litigating the unilateral effects case against *Oracle*; challenging the electricity generation merger between Exelon and PSEG during 2006 (Competitive Impact Statement available at <http://www.usdoj.gov/atr/cases/exelon.htm>), which the firms later abandoned; and employing an innovative coordinated effects analysis in *United States v. Premdor Inc.*, 66 Fed. Reg. 45,326 (Aug. 28, 2001) (Competitive Impact Statement), available at <http://www.usdoj.gov/atr/cases/f9000/9017.pdf>. We also do not fault DOJ for choosing not to appeal its loss in *Oracle*. Even if an appellate court corrected the error in economic reasoning in the legal rule applied by Judge Walker, the outcome of the case, permitting the merger, may well not have changed given the facts found by the district court (which appeals courts are usually quite reluctant to second guess).

102. Agency merger enforcement could in principle be evaluated by undertaking a large-scale retrospective analysis, examining whether the agencies made good decisions either based on the information available to them at the time the decision was made or based on how the industry performed years later. In specifying such a study, it would be desirable to study both the mergers that the agencies investigated, whether the transactions were challenged or not, and the mergers that the agencies did not investigate. This kind of retrospective analysis is difficult for enforcement agency insiders to conduct, however, and even more difficult for outsiders like us. Outsiders do not have access to the information that the merging firms, rivals and customers provided to the agency at the time the enforcement decision was made. *Cf.* Coate & Ulrick, *supra* note 48 (concluding that FTC review standards did not vary between the Clinton and George W. Bush administrations, based on a review of internal memoranda). Nor is it easy to analyze the effects of a consummated merger retrospectively. To attribute a price increase to merger, for example, it is necessary to rule out other explanations, including quality improvements, shifts in demand to favor higher-priced products among those sold in the market, outward shifts in demand along an upward-sloping marginal cost curve, and increases in marginal cost. Marginal cost in particular can be difficult to measure, because it can depend on more than input prices and scale economies, but also on changes in the opportunity cost of diverting output from another market and the magnitude of economic depreciation. Furthermore, declining prices might be observed even after anti-competitive mergers, if technological change drives down costs. For all of these reasons, merger retrospectives are in practice typically conducted one case at a time, do not always succeed in providing a clear assessment of merger effects, and are best conducted by the FTC, which can employ compulsory process for this purpose. Given these problems, we are unable to point to specific mergers that the Antitrust Division should have challenged during the first term of the current administration beyond raising questions about the Whirlpool/Maytag transaction, even though it is

likely that there were some, and perhaps many such deals. For a survey of merger retrospectives, see Kaplow & Shapiro, *supra* note 45, at 76–78.

103. These are not the only arguments made by merging firms to which the agencies may have become overly receptive. The “big buyer” argument, which was accepted by the Justice Department in the Whirlpool case and Judge Kozinski in *Syufy*, is another.

104. This is a different proposition from the much broader cross-sectional question of whether more concentrated markets are performing poorly in some overall sense. An important and correct part of the Chicago critique was that market concentration may be the desirable by-product of economies of scale and the growth of more efficient firms. Here we are making a statement about the likely effects of highly concentrating mergers in the absence of convincing evidence about ease of entry or merger-specific efficiencies, not about concentration that arises due to internal growth.

105. See Kaplow & Shapiro, *supra* note 45, and Carl Shapiro, *Theories of Oligopoly Behavior*, in Richard Schmalensee & Robert Willig, eds., *HANDBOOK OF INDUSTRIAL ORGANIZATION* (1989) for surveys that address the relationship between market concentration and market performance in oligopoly theory.

106. See Raymond Deneckere & Carl Davidson, *Incentives to Form Coalitions with Bertrand Competition*, 16 *RAND J. ECON.* 473 (1985).

107. See Paul Klemperer, *Bidding Markets* (June 2005), available at <http://ssrn.com/abstract=776524> (criticizing the view, attributed to unnamed antitrust consultants, that market power is impossible in bidding markets).

108. We discuss below the role of mavericks in coordinated effects cases.

109. According to Bork, “[o]ligopolistic structures probably do not lead to significant restrictions of output.” Bork, *supra* note 8 at 196. On this basis, he concludes that “most mergers involving fewer than all significant rivals in the market would rarely increase the slope of the firm’s demand curve enough to pose a serious problem. The effect would usually be outweighed by cost savings.” *Id.* at 221.

110. Tom Campbell, *BILATERAL MONOPOLY IN MERGERS*, (University of California at Berkeley, 2006).

111. Campbell contends that “[o]utput is at the competitive level when a monopolist sells to a monopsonist,” *id.* at 2, and argues that “[t]his truth compels that mergers to monopoly be viewed as socially desirable when the purchaser is a monopsony.” *Id.* at 12. Campbell testified similarly on behalf of Oracle in the *Oracle* case.

112. A large theoretical literature examines the inefficiencies that arise in bilateral bargaining situations, beginning with Roger Myerson & Mark Satterthwaite, *Efficient Mechanisms for Bilateral Trading*, 29 *J. ECON. THEORY* 265 (1983). Myerson and Satterthwaite establish the general impossibility of achieving efficiency in voluntary bilateral bargaining with private information. While two-part tariffs and other contractual forms can reduce the inefficiency associated with supplier market power, it is easy to find empirical examples where suppliers with market power charge prices well above marginal cost (thus causing some inefficiency) in situations

where those suppliers engage in bilateral bargaining with their customers. Microsoft's dealings with its computer manufacturer customers such as Dell or Hewlett-Packard are but one obvious example. Campbell's approach also departs sharply from the traditional focus of merger control policy on consumer welfare.

113. William Landes and Richard Posner make this error in the context of geographic market definition in their influential article on market power. William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 963 (1981). For other criticism of Landes and Posner's argument, see Timothy J. Brennan, *Mistaken Elasticities and Misleading Rules*, 95 HARV. L. REV. 1849 (1982); Louis Kaplow, *The Accuracy of Traditional Market Power Analysis and a Direct Adjustment Alternative*, 95 HARV. L. REV. 1817, 1835–43 (1992).

114. The 1992 Horizontal Merger Guidelines call this “uncommitted entry,” i.e., entry that occurs quickly and does not require the entrant to incur significant costs that would be lost in the event of subsequent exit, and include the production capacities of such firms when measuring market shares. We believe that the Guidelines set forth an appropriate way of treating uncommitted entry, and we agree with the Guidelines and courts that if there were unlimited uncommitted entry, no merger would harm competition. Our claim here is simply that rapid uncommitted entry on a large scale rarely if ever arises in the oligopoly markets where mergers are given close scrutiny, and in consequence it is inappropriate to presume that such markets are contestable. For a survey of the empirical evidence demonstrating that the airline industry is not contestable, contrary to what the authors of the theory originally conjectured, see Jonathan B. Baker, *Mavericks, Mergers, and Exclusion: Proving Coordinated Effects Under the Antitrust Laws*, 77 N.Y.U. L. REV. 135, 170–71 (2002).

115. This inappropriate reasoning was arguably adopted by the appellate court in *Syufy*. See Baker, *supra* note 33.

116. Cf. U.S. Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines § 3.1 (1992, revised 1997) (evaluating entry by analyzing specific entry alternatives); *id.* at § 3.4 (analyzing sufficiency of entry).

117. The Merger Guidelines make a similar point: “[W]here the competitive effect of concern is not uniform across the relevant market, in order for entry to be sufficient, the character and scope of entrants’ products must be responsive to the localized sales opportunities that include the output reduction associated with the competitive effect of concern. For example, where the concern is unilateral price elevation, as a result of a merger between producers of differentiated products, entry, in order to be sufficient, must involve a product so close to the products of the merging firms that the merged firm will be unable to internalize enough of the sales loss due to the price rise, rendering the price increase unprofitable.” U.S. Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines § 3.4 (1992, revised 1997).

118. It is possible to imagine situations in which the entrant must compete more (or less) effectively than the weaker merging firm in order to

counteract or deter adverse competitive effects of merger, but comparing the entrant to the weaker of the merging firms can be useful in structuring the timeliness and sufficiency analysis.

119. U.S. Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines § 4 (1992, revised 1997).

120. A very useful and important result along these lines can be found in Gregory Werden, *A Robust Test for Consumer Welfare Enhancing Mergers Among Differentiated Products*, 44 J. INDUS. ECON. 409 (1996). Joseph Farrell & Carl Shapiro, *Horizontal Mergers: An Equilibrium Analysis*, 80 AMER. ECON. REVIEW, 107 (1990) provide a general analysis for the case of Cournot oligopoly.

121. This evidence is reviewed in Kaplow & Shapiro, *supra* note 45.

122. For an example of a case where one of us (Baker) testified that the exacting standards of the Merger Guidelines were met, see Jonathan B. Baker, *Efficiencies and High Concentration: Heinz Proposes to Acquire Beech-Nut* (2001), in John E. Kwoka, Jr. & Lawrence J. White, eds., *THE ANTITRUST REVOLUTION* 150 (4th ed. 2004).

123. Given the inherent uncertainty of predicting the effects of proposed mergers, decision theory might seem to suggest an alternative approach in which most merger challenges would be deferred until after the mergers have been consummated and their effects can be discerned. Unfortunately, this approach is not attractive because of the uncertainty it would create surrounding consummated mergers. For this reason alone, we very much doubt that the business community would welcome a shift in this direction. Relying largely on *ex post* merger review would present other serious problems as well: competition could well be harmed on an interim basis, the conduct of the merged entity would be influenced by the prospect of subsequent review, the competitive effects of merger can be difficult to isolate after years of intervening market developments, divestiture often is much more costly after the merging firms’ assets have been scrambled, and subsequent divestiture may be ineffective in restoring competition. Sound public policy unavoidably requires that the primary review of proposed mergers take place before they are consummated.

124. Whether respondents believed the changes have improved competition policy or been detrimental to competition policy, they reported the same shift over the past decade toward less merger enforcement. For this reason, we are confident that our survey results regarding the decline of merger enforcement over time are not biased by partisan considerations.

125. They must also be difficult to manipulate by firms seeking to disguise a harmful merger in order to avoid triggering the presumption.

126. For clarity, we talk exclusively about mergers between competing sellers. A similar analysis would apply when buyers merge and thus gain additional buying power over certain suppliers, i.e., when monopsony power is the issue rather than monopoly power. Throughout, we assume that the merger analysis is prospective. For simplicity, and following the literature, we talk about the comparison between “premerger” and “postmerger” competition. The term “premerger” as used here should be understood to mean “but-for” the merger. To the extent that the market is changing in ways that can reasonably be foreseen at the time the merger is

being reviewed, conditions “but-for” the merger will differ from the actual, pre-merger conditions. For simplicity, we also refer to the plaintiff as the “government,” which is typically but not always the case.

127. *United States v. Baker Hughes, Inc.*, 908 F.2d 981 (D.C. Cir. 1990); *Fed. Trade Comm’n v. H.J. Heinz Co.*, 246 F.3d 708 (D.C. Cir. 2001).

128. To satisfy a burden of production, a party must provide enough evidence to avoid summary judgment or judgment as a matter of law in favor of the other side.

129. Although the government’s initial burden is satisfied by proof of market shares in the structural era Supreme Court precedents, lower courts and the 1992 Horizontal Merger Guidelines today routinely and sensibly expect the government to articulate an economic theory by which the merger would harm competition (such as unilateral or coordinated effects). Doing so is not formally part of the government’s initial burden of production, but it arguably has become so as a practical matter.

130. It is difficult to articulate the deference that should be accorded to the presumption in a way that could be reduced to a jury instruction. One possibility would be for courts to insist on “clear and convincing” evidence for rebuttal, appealing to an evidentiary standard that is higher than a preponderance of the evidence. We have instead said that rebuttal evidence needs to be “strong” in order to convey our sense that the elements we specify for invoking a presumption give good reason to think that harm to competition will indeed result, while leaving for later discussion the question of how the resulting deference should best be incorporated into a legal standard.

131. As a default, one might be prepared to assume that diversion ratios are proportional to market shares (as they are in the logit model of demand). 1992 Horizontal Merger Guidelines § 2.211. However, additional information is commonly available, supporting an adjustment to this default assumption.

132. *Federal Trade Comm’n v. Indiana Federation of Dentists*, 476 U.S. 447 (1986); *Nat’l Collegiate Athletic Ass’n v. Board of Regents*, 468 U.S. 85 (1984).

133. These possibilities do not exhaust the ways that the defendants could mount a rebuttal. For example, the defendants could also offer evidence that undermines the probative value of the government’s showing of unilateral or coordinated effects. We assume throughout that efficiencies would be analyzed as a defense—that is, that efficiencies are offered to defeat the government’s proof of higher prices or other competitive harm rather than as an affirmative defense that would excuse higher prices.

134. In current practice, the government may instead addresses efficiencies in cross-examination and in rebuttal. But a litigating party always has the option of exceeding its burden of production if it chooses to do so.

135. George J. Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44 (1964).

136. On the economics of oligopolistic coordination, see generally Kaplow & Shapiro, *supra* note 45.

137. *E.g.*, Bork, *supra* note 8 at 175.

138. The active criminal antitrust docket shows that firms, even large and sophisticated ones, do find ways to fix prices; empirical research has

identified coordinated conduct in some concentrated industries; and economic models of repeated oligopoly interaction show that higher-than-competitive coordinated pricing is often plausible even absent an express agreement on price.

139. Coordinating firms may not achieve an outcome that maximizes their joint profits for a number of reasons, including the following four. First, they may not be able to punish cheating as strongly as would be necessary. In addition, they may not be able to allocate joint profits in a manner satisfactory to all because they may be unable to make side payments. Third, they may need to reduce the coordinated price below the joint profit maximizing level or engage in occasional price wars in order to deter cheating in an environment of uncertainty. Fourth, they may have difficulty identifying the joint profit maximizing outcome when coordinating over multiple products or markets without communicating.

140. See 1992 Horizontal Merger Guidelines § 2.12 (“In some circumstances, coordinated interaction can be effectively prevented or limited by maverick firms—firms that have a greater economic incentive to deviate from the terms of coordination than do most of their rivals (e.g., firms that are unusually disruptive and competitive influences in the market).” See generally, Baker, *supra* note 115.

141. Baker, *supra* note 118 at 177–79. It is also possible, though much less likely, that a merger involving a maverick would enhance the maverick’s incentives to keep prices low by generating large efficiencies in a setting where the merged firm has a strong incentive to pass cost savings through to buyers. *Id.* at 179.

142. *Id.* at 186–88. In addition, the merger of non-mavericks could lead the industry maverick to act less competitively than before, as by increasing the likely punishment were the maverick to cheat, or lead the industry maverick to act more competitively than before, for example if buyer responses to the merger reduce the maverick’s demand and make that demand more elastic. *Id.* at 186–87. These latter possibilities raise obvious difficulties of proof.

143. See generally, Baker, *supra* note 115; Andrew R. Dick, *Coordinated Interaction: Pre-Merger Constraints and Post-Merger Effects*, 12 GEO. MASON L. REV. 65 (2003).

144. See generally, Baker, *supra* note 47.

145. If the market premerger is not conducive to coordination, and firms are competing, there may be multiple mavericks that prevent coordination. In the settings we are most concerned with, where it is more plausible that firms could reach consensus on the terms of coordination and deter deviation and firms are coordinating imperfectly premerger, it is possible to imagine multiple mavericks but that is unlikely unless the maverick firms are nearly identical.

146. Baker, *supra* note 115 at 173–77.

147. *Id.* at 198–99; see Dick, *supra* note 144 at 70–72.

148. See Dick, *supra* note 144 at 72–76. A merger might also narrow asymmetries by increasing the extent of multimarket contact among the firms. See B. Douglas Bernheim & Michael D. Whinston, *Multimarket Contact and Collusive Behavior*, 21 RAND J. ECON. 1 (1990); William N.

Evans & Ioannis N. Kessides, *Living By the "Golden Rule": Multimarket Contact in the U.S. Airline Industry*, 109 Q. J. ECON. 341 (1994); but cf. David Genesove & Wallace P. Mullin, *Rules, Communication, and Collusion: Narrative Evidence from the Sugar Institute Case*, 91 AM. ECON. REV. 379, 391-93 (2001) (colluding sugar refiners chose not to exploit multimarket contact to enhance punishment of cheaters).

149. For example, transparency of pricing combined with small, frequent transactions is thought to facilitate coordination by making it easier for firms to reach consensus and detect and police cheating. See generally, e.g., 1992 Horizontal Merger Guidelines §§ 2.11, 2.12; Andrew I. Gavil, William E. Kovacic, & Jonathan B. Baker, *ANTITRUST LAW IN PERSPECTIVE: CASES, CONCEPTS AND PROBLEMS IN COMPETITION POLICY* 223-28 (2002). A history of collusion in the industry under study also provides evidence that coordination could occur, notwithstanding structural factors that might tend to suggest otherwise.

150. That is, the acquisition of a maverick can be expected to alter the maverick's incentives, and so make coordination more likely or more effective. Cf. Horizontal Merger Guidelines § 2.12 ("Consequently, acquisition of a maverick firm is one way in which a merger may make coordinated interaction more likely, more successful, or more complete.").

151. A significant firm with respect to a coordinated effects theory is one that could not be ignored by a cartel. (Coordinating firms might be able to ignore small firms unable to expand substantially, for example, because those sellers could not practically undermine coordinated pricing.) If a cartel could ignore, say, one of two firms but not both, only one would count as significant for purposes of determining the number of significant sellers. In analyzing their own past enforcement policy, the Federal Trade Commission notes that significant competitors usually have at least a 10 percent market share. Federal Trade Commission, Horizontal Merger Investigation Data, 1996-2005 at 5 n. 16, available at <http://www.ftc.gov/os/2007/01/PO35603horizmergerinvestigationdata1996-2005.pdf>. This figure could be adjusted in any particular case based on information about the ability and incentive of small firms to expand their sales in the relevant market.

152. If the merger reduces the number of significant sellers from two to one, it may be more apt to describe the harm to competition as arising from the creation of a monopoly rather than by making postmerger coordination more likely or more effective.

153. A four-to-three merger is a natural break point for creating a presumption of harm to competition from coordinated effects based solely on the number of firms. If it is likely that a maverick firm constrains more effective coordination but the maverick's identity is unknown, a merger combining at random two of the n significant firms participating in the market has a $2/n$ chance of involving a maverick. (Mergers involving a maverick in a market conducive to coordination are highly likely to harm competition.) Moreover, if the acquisition of a maverick can enhance the ability of firms to coordinate, the odds that a proposed merger would involve a maverick firm are likely greater than if merger partners were chosen at random. Accordingly, it is more likely than not that a merger

reducing the number of significant firms to three or less in a market conducive to coordination would harm competition by reducing the constraint posed by the maverick.

154. The logic underlying this illustrative HHI break point for a presumption is related to the idea that a presumption based solely on the number of firms might be invoked for a merger reducing the number of significant firms to three or fewer. An HHI of 3333 has a "numbers equivalent" of three firms, because a market with three identically-sized firms (market shares of 33.3 percent) would produce an HHI of 3333. This is a conservative estimate of the HHI in a three-firm market, though. If the market shares of the three sellers are not identical, as is almost invariably the case, the HHI would be higher. In offering 2800 as a possible break point, we assume that the market is served by three significant firms that are identical and one just not-significant (proxied as a market share just under 10 percent), generating market shares of 30 percent, 30 percent, 30 percent, and nearly 10 percent, for an HHI of nearly 2800. (Had we instead assumed two firms just insignificant based on market share, the HHI would have been about 2333.) The difference between the HHI calculated this way and the numbers equivalent shrinks as the number of firms grows toward ten, so we simply use the numbers equivalent in reporting approximate HHI levels when we discuss market structures with more than three significant firms. A presumption triggered by a post-merger HHI of 2800 is less restrictive than the presumption applied by the Supreme Court during the 1960s. In all but one of the government's Supreme Court merger victories between 1963 and 1970, including *Philadelphia National Bank*, *Pabst*, and *Von's Grocery*, the postmerger HHI was less than 2800. Donald I. Baker & William Blumenthal, *The 1982 Guidelines and Pre-Existing Law*, 71 CALIF. L. REV. 311, 334 (1983).

155. An HHI of 1667 has a numbers equivalent of six firms, for example. The more convincing the demonstration that the firms could reasonably expect, after a merger, to reach consensus on the terms of coordination and deter deviation from those terms, the more comfortable a court could be in presuming coordinated effects based on postmerger market structure when the HHI is below 2800. Accordingly, we could imagine a court invoking a presumption of coordinated effects when a merger makes sellers more similar in a market with, say, ten firms postmerger (HHI greater than 1000) if the market has a strong history of collusion and there was no good reason to think that the features of the market that had permitted successful collusion in the past had markedly changed.

156. For example, the merging firms might seek to show that the government did not properly define the market, that shares were not calculated in appropriate units, that some firms were improperly deemed insignificant, or that the market has features not noted by the government suggesting that it is not conducive to coordination, and argue that these differences should affect whether the presumption was appropriately invoked.

157. For example, the merging firms might show that industry participants have little incentive to raise price above the price that would likely obtain without merger given the effect of higher prices on their costs (loss of scale economies), the effect of higher prices on the profits they receive from

the sale of future products (if the firms are investing in market share), or the effect of higher prices in the market on profits to the same firms from selling complementary products (including sales of other products in “two-sided” markets).

158. For example, the merging firms might seek to show that the maverick is not the firm the government claims and that the true maverick would not constrain coordination less than before; to show that the maverick would have no less incentive or a greater incentive to constrain coordination than before; or, when the government bases its presumption on market concentration rather than on identifying a maverick, to demonstrate that there is a maverick and it would not constrain coordination less post-merger than before.

159. For a recent discussion of entry analysis under the merger guidelines, see Jonathan B. Baker, *Responding to Developments in Economics and the Courts: Entry in the Merger Guidelines*, 71 ANTITRUST L.J. 189 (2003).

160. Under an aggregate welfare standard, however, efficiencies would count in favor of the transaction even if they did not directly benefit buyers.

161. Under the Cournot theory, firms compete by choosing output levels. Under the Bertrand theory, firms compete by choosing prices. See Shapiro, *supra* note 106 for an extensive discussion of these and other theories of oligopoly.

162. For an extensive treatment, see Werden & Froeb, *supra* note 55. See also Marc Ivaldi, Bruno Jullien, Patrick Rey, Paul Seabright, & Jean Tirole, “The Economics of Unilateral Effects,” Interim Report for DG Competition, European Commission, IDEI, Toulouse, 2003. Kaplow & Shapiro, *supra* note 45, review and discuss this literature.

163. Unilateral effects also arise in other settings, including the following three. First, in bidding markets and auctions, the merging firms compete by bidding for the business of one or more customers, or participate in an auction to supply services to one or more customers. This includes the case of price discrimination markets, where the suppliers compete to serve one customer or a group of similarly situated customers. Competition in *Oracle* was of this nature. The analysis of unilateral effects in bidding and auction markets is similar in spirit to the main case of differentiated product pricing competition. Second, in markets with relatively homogeneous goods, firms may compete by choosing quantities, either production levels or capacities. Market shares are highly relevant in these settings, where the Cournot model of oligopoly is applicable. See Farrell & Shapiro, *supra* note 121. Third, in a market with a dominant firm and competitive fringe, a merger may reduce fringe competition (or, in the limit, create a monopolist).

164. For a very simple version of the unilateral effects arithmetic, see Shapiro, *supra* note 45. See also Jonathan B. Baker, *Unilateral Competitive Effects Theories in Merger Analysis*, 11 ANTITRUST 21, 23 (1997). For a recent articulation of the logic of unilateral effects combined with a policy proposal to dispense with market definition in cases involving unilateral effects, see Farrell and Shapiro, *supra* note 46. For much more elaborate and sophisticated calculations, see Werden & Froeb, *supra* note 56. In a bidding or auction setting, the comparable logic depends upon the likelihood that

the merging firms will be the first and second choices for the buyer or buyers involved.

165. Baker & Bresnahan, *supra* note 17 (working paper at 26–7). Baker and Bresnahan explain that a “key challenge for both antitrust analysis and empirical industrial organization economics going forward, not recognized in antitrust to the extent it is understood in economics, is to exploit similarities among related industries to focus an inquiry involving the industry and firms under study” and they identify and defend the empirical generalization we employ here.

166. We would not insist that the merged firm have a dominant or near-dominant market share (contrary to what the court required in *Oracle*). Because we would not require proof of any particular price increase when following this route (simply the showing of a mechanism by which prices would rise), we would permit the merging firms to take advantage of the general Guidelines safe harbor for an HHI less than 1000. We also note that the specific unilateral-effects safe harbor in § 2.211 of the Horizontal Merger Guidelines, requiring that a merged firm have a market share of at least 35 percent, applies only when the unilateral effects mechanism is demonstrated through market shares. We question whether the 35 percent figure is justified in light of the increased understanding of unilateral effects over the past fifteen years, though, and suggest that the enforcement agencies consider varying it on a sliding scale depending on price-cost margins or dispensing with it altogether.

167. The magnitude of likely unilateral effects is stronger, the larger are these margins. If the margins are very small for all of the overlap products, the government may fail to meet its initial burden.

168. We are not proposing any particular quantitative benchmark for calibrating a price increase based on diversion ratios and price-cost margins. For illustrative purposes a “significant” price increase here might be defined as 5 percent. This figure might be thought to be low, given that the government would prove this predicate for invoking a presumption without consideration of repositioning, entry or efficiencies, all of which would generally tend to reduce the actual magnitude of the price rise from merger. On the other hand, this figure might be thought to be high, given that in principle a merger could violate the Clayton Act if it would lead to any harm to competition, including a price increase smaller than 5 percent in an appropriate case, and that in a large industry, substantial consumer harm could flow from a merger leading to, say, a 3 percent price increase. We specify 5 percent here to illustrate our approach. Farrell and Shapiro, *supra* note 46, propose an approach for evaluating unilateral effects without market definition. They emphasize that there will be an initial tendency for price to rise if the diversion ratio times the gross margin exceeds the reduction in marginal cost resulting from the merger. They thus propose a threshold for the product of the diversion ratio time the gross margin based on the level of cost savings that will be credited to the merger by default. Werden, *supra*, note 121 calculates the cost savings necessary to offset the anti-unilateral competitive effects in terms of gross margins and diversion ratios.

169. Categories of evidence include buyer surveys, demand elasticity studies, information about buyer switching costs, and inference from

company documents and monitoring of competitors. See Baker, *supra* note 47 at 139–41 (discussing sources of evidence of buyer substitution in the context of market definition).

170. We emphasize that in the unilateral-effects context (as in the coordinated-effects context discussed previously), claims that there is an elastic supply of entrants at a price at or just above the pre-merger price are more easily made than proven. Michael Katz & Carl Shapiro, *Critical Loss: Let's Tell the Whole Story*, 17 ANTITRUST 49 (2003), explain how one can test for consistency between premerger evidence and claims of postmerger price responses in the context of defining relevant markets. This analysis is directly relevant for consistency checks in unilateral effects cases. In general, claims of conveniently placed kinks in the supply curve of nonmerging firms should be greeted with considerable skepticism.

Appendix

Merger Enforcement Survey

March 2007

1. Comparing Antitrust Division now (Barnett) vs. 5 (James) or 10 (Klein) years ago
 - 1a. Compared with five years ago, do you believe that the Antitrust Division, in reviewing horizontal mergers, is more receptive to arguments made by the merging firms, less receptive or about the same?
 - 1b. Would your answer change if the comparison were between DOJ merger enforcement today and merger enforcement ten years ago? If so, how?
2. Comparing FTC now (Majoras) vs. 5 (Muris) or 10 (Pitofsky) years ago
 - 2a. Compared with five years ago, do you believe that the FTC, in reviewing horizontal mergers, is more receptive to arguments made by the merging firms, less receptive or about the same?
 - 2b. Would your answer change if the comparison were between FTC merger enforcement today and merger enforcement ten years ago? If so, how?
3. Identifying where in the process enforcement has changed Note: Only for those who answered "more receptive" or "less receptive" to 1 or 2 or both.

At what stage or stages of the merger review process do you notice that change?

 - 3a. In the likelihood that the agency [or agencies] will terminate an investigation rather than issue a second request in a given case.

- 3b. In the likelihood that it [they] will close an investigation after a second request has been issued rather than seek remedies?
- 3c. In the breadth and strength of the fix that the agency [or agencies] requires to avoid or settle litigation?
- 4. Comparing DOJ with FTC
 - 4a. Do you see a significant *substantive* difference today between merger enforcement at the DOJ and at the FTC? If so, what is the nature of the difference?
 - 4b. When you are hired to work on a deal and it is not clear whether the deal will be reviewed by the DOJ or the FTC, do you more often believe your client's interests will be served by DOJ review, FTC review, or is there no difference? If so, why?
- 5. Receptivity of the agencies to various arguments. Note: respondent may need to distinguish between DOJ and FTC

I am now going to describe three arguments that merging firms sometimes make. With respect to each, please tell me whether you believe that the agencies are more receptive, equally receptive, or less receptive to the argument today as compared with ten years ago:

 - 5a. "Market concentration is not a good basis for predicting competitive effects."
 - 5b. "Entry will counteract or deter any competitive problem."
 - 5c. "The procompetitive benefits of efficiencies from merger outweigh the threat of harm to competition."
- 6. Competitive Effects Theories

Note: respondents may wish to distinguish between DOJ and FTC

 - 6a. In your horizontal merger practice today, do you find that the agencies more often raise concerns based on a unilateral effects theory of competitive effects, a coordinated effects theory, or are the two theories raised with equal frequency?
- 7. Unilateral Effects
 - 7a. Are the agencies more interested, equally interested, or less interested in unilateral competitive effects theories today than five years ago?
 - 7b. Would your answer change if you went back ten years?
- 8. Coordinated Effects
 - 8a. Are the agencies more interested, equally interested, or less interested in coordinated competitive effects theories today than five years ago?
 - 8b. Would your answer change if you went back ten years?
- 9. Assessment of prospects
 - 9a. For a given horizontal merger, would your assessment of the likelihood of successful agency review for the merging firms be different now than it would have been five years ago? If so, how?
 - 9b. Would your answer change if you went back ten years?

- 10. For better or for worse?
 - 10a. Have the changes in agency enforcement policy that you have described generally improved competition policy or have they been detrimental to effective competition policy?
- 11. Looking back longer
 - 11a. What have been the major changes in the agency review of horizontal mergers over the past twenty years?
- 12. Prior Agency Affiliations
 - 12a. Have you ever worked at the FTC or Antitrust Division? If so, what was your highest position and in what years did you serve in that capacity?
- 13. Open Ended Final Question
 - 13a. Is there anything else you would like to say about horizontal merger enforcement at the federal antitrust agencies?