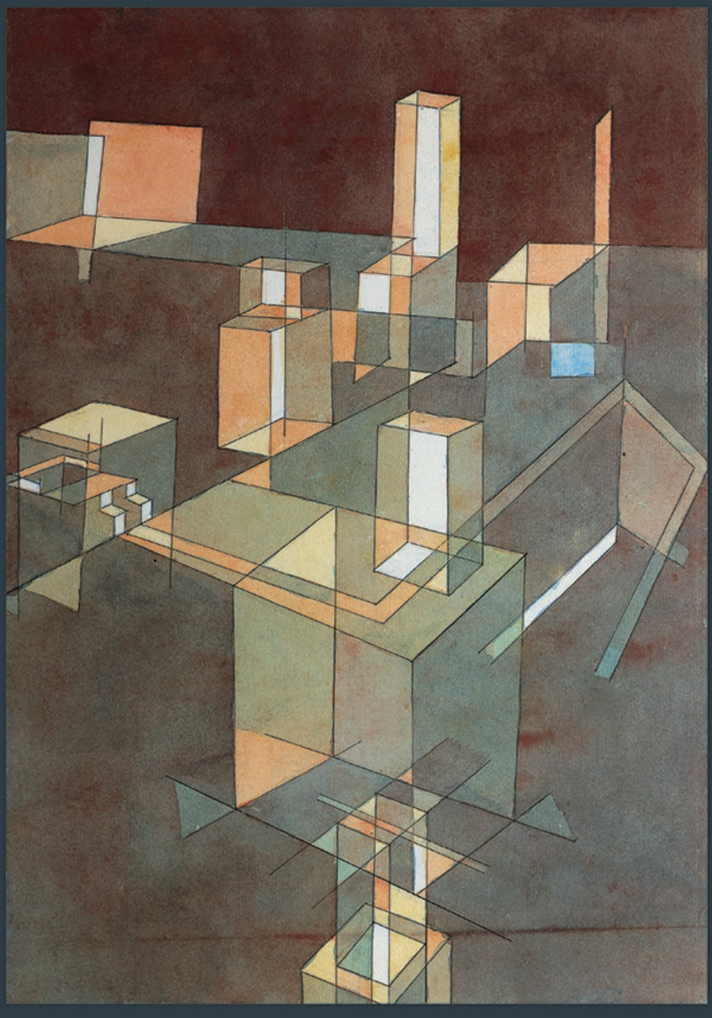
THE ANTITRUST REVOLUTION

ECONOMICS, COMPETITION, AND POLICY

SEVENTH EDITION



EDITED BY

JOHN E. KWOKA, JR. | LAWRENCE J. WHITE

OXFORD
UNIVERSITY PRESS

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New York Oxford
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Published in the United States of America by Oxford University Press
198 Madison Avenue, New York, NY 10016, United States of America.

Library of Congress Cataloging-in-Publication Data

Names: Kwoka, John E., Jr., editor. | White, Lawrence J., editor.
Title: The antitrust revolution : economics, competition, and policy / edited by John E. Kwoka, Jr., Lawrence J. White.
Description: Seventh Edition. | New York : Oxford University Press, [2018] | Revised edition of The antitrust revolution, [2014]
Identifiers: LCCN 2018015558 (print) | LCCN 2018017285 (ebook) | ISBN 9780190668853 (ebook) | ISBN 9780190668839 (pbk.)
Subjects: LCSH: Trusts, Industrial—Government policy—United States—Case studies. | Antitrust law—Economic aspects—United States—Case studies.
Classification: LCC HD2795 (ebook) | LCC HD2795 .K96 2018 (print) | DDC 338.8/5—dc23
LC record available at https://lccn.loc.gov/2018015558

9 8 7 6 5 4 3 2 1
Printed by Sheridan Books, Inc., United States of America

To M, C, Z, and X
J. K.

To David, the best of all sons.
L. J. W.

Contents

Preface

When this book was first conceived, antitrust was undergoing a profound transformation. Its long populist history was being challenged by policy that was based on modern economics, and it seemed useful—perhaps important—to chronicle that transformation in a collection of case studies. The first edition of *The Antitrust Revolution*—30 years ago—was gratifyingly well received. Many students, instructors, and practitioners of antitrust expressed their enthusiasm for the type of economics-oriented case studies that comprised this volume.

What was perhaps less expected at the time was the fact that the antitrust revolution—the phenomenon—would be on-going and require many more editions of *The Antitrust Revolution*—the book—in order to keep pace. Merger policy of the 2010s is quite different from that of the 1980s. Antitrust treatments of tying, predation, and resale price maintenance have undergone fundamental change. Even areas where antitrust has had a constant view—such as conspiracy—have seen novel applications. Further, in the mid-2010s, increased political and social concerns about income distribution and the role of large companies in the U.S. economy have renewed interest in antitrust as a possible policy tool for addressing these issues.

All of this has made it useful and important to continue to chronicle the revolution with new case studies in revised editions of this book.

Also unexpected has been the interest that this book has attracted outside the United States. Virtually wherever we travel, we learn that *The Antitrust Revolution* has preceded us. Moreover, the fourth and fifth editions of this volume have been translated into Chinese,[1] and the model—collecting economists' essays into a comprehensive volume—has been replicated in the EU and in Brazil.[2] All of this

[1] John E. Kwoka, Jr., and Lawrence J. White, eds., *The Antitrust Revolution: Economics, Competition, and Policy*, 4th ed. (New York: Oxford University Press, 2004)[Chinese translation by Ping Lin and Xu Hen Zang (2008)]; John E. Kwoka, Jr., and Lawrence J. White, eds., *The Antitrust Revolution: Economics, Competition, and Policy*, 5th ed. (New York: Oxford University Press, 2009) [Chinese translation by Ping Lin and Xu Hen Zang (2014)].

[2] Bruce Lyons, ed., *Cases in European Competition Policy* (New York: Cambridge University Press, 2009); Cesar Mattos, ed., *A Revolucao Do Antitruste No Brasil*, 2nd ed. (Sao Paulo, Brazil: Singular, 2008).

is testament to the spread of antitrust—or, as it is called elsewhere, competition policy—to more than 100 countries around the world and also to the interest of students and policymakers everywhere in understanding how the apparatus of economics is employed for antitrust analysis in the United States.

Now with this seventh edition, the book spans 30 years and captures the many changes in antitrust that have occurred during this time. But the basic approach of the book has not changed. It continues to consist of discussions of recent antitrust cases that have been written by economists who were involved in those cases. These case studies provide insight into how economists think about antitrust issues as well as how economics now influences the entire process: which cases are brought; how they are evaluated; how they are argued to and within the enforcement agencies; and how they are presented in courts of law. Each case provides a detailed description of key issues, arguments, and evidence. Each provides an evaluation of the economic and legal significance of the proceeding. And each explains the effect of the case on the companies and industry that it covers. In all of these respects the cases reflect the increasingly central role for economics.

This edition is, however, much changed from its predecessors. Of the 22 cases, 17 are entirely new and illustrate the continually evolving role of economics in antitrust. The new cases include several important new examples that involve merger policy—including a merger proposal between two health insurance companies that was abandoned in the face of agency opposition, and a "fix" to a challenged car-rental merger that was less successful than had been hoped. This edition also includes a number of conduct-related cases: ranging from conspiracies, to dominant pharmaceutical firms' alleged efforts to "pay-for-delay" by generic entrants, to a firm's efforts to overcome the states' objections to its preferred method of distributing its products, to cases that involve network issues. The novelty of these issues and their importance are key features of this latest edition of *The Antitrust Revolution.*

As before, while most of the cases in this volume involve antitrust issues that were raised before the Federal Trade Commission or the U.S. Department of Justice's Antitrust Division, they also include cases that were brought by private parties and states' attorneys general or raised before regulatory bodies in their competition-protection role. The authors represent in some cases the sides that prevailed, and in others the sides whose arguments fell short. And while almost all of these cases are resolved, the issues that were at stake are likely to reappear in future cases.

We have kept a number of cases from the last edition where those cases continue to illustrate important issues and applications of industrial organization economics. As always, we regret not being able to retain more previous cases in this volume, but Oxford University Press continues to make all previous cases available. Collectively, these cases make clear the central role of economics in antitrust in our time. It is this large collection of cases that most fully captures the on-going revolution in antitrust.

For this seventh edition we would like to express our gratitude to the many people who have provided support and assistance. These include Ann West and Jen Carpenter, our project editors at Oxford University Press, for their strong support for this project. In addition, we want to thank the many people with whom we have had conversations about the updating of this edition, and we certainly want to thank our numerous authors—now 42 in number—for their interest in participating in this project, for their willingness to write balanced accounts of cases about which they invariably feel strongly, and for responding to all of our suggestions and deadlines.

Most of all, however, we want to thank our own students, students everywhere, instructors, and practitioners who continue to read *The Antitrust Revolution.* Your interest and your helpful comments have contributed much to making this seventh edition a reality. We hope that this volume offers insight into the ever-changing economics of antitrust and also further piques your interest in exploring these interesting and important issues.

J. E. K.
L. J. W.

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The Antitrust Revolution

Introduction

Antitrust policy in the United States now spans three centuries and many epochs in this nation's economic history. The first antitrust law to be enacted—the Sherman Act of 1890—was a reaction to widespread discontent with large businesses during the Industrial Revolution. The Clayton Act and the Federal Trade Commission Act of 1914 were directed at anticompetitive mergers and conduct that persisted as the nation moved to industrial maturity. In recent decades, this country has found itself in the midst of an equally profound Information Revolution.

Each of these periods has raised questions that concern the effects of dominant firms, mergers, collusive behavior, vertical integration, predatory pricing, tying, and other matters. And each of these periods has answered these questions with an antitrust policy that has reflected both the objectives and the economic understandings of its time.

As this last observation suggests, when objectives and understanding have changed over time, so too has antitrust. The skepticism and even some hostility toward big business that characterized the initial period of antitrust have been replaced by current policy that evaluates market structure and business practices differently. Rather than viewing high concentration as almost automatically implying market power, modern policy treats market structure as only one consideration in that determination. Rather than interpreting low prices that harm competitors as an indication of predation, current policy more often finds such pricing as simply competition on its merits. Rather than inferring harm from vertical mergers, policy now looks for their cost efficiencies. And overall economic efficiency has moved to center stage as the objective—or at least the key measure—of antitrust policy.

Not all advocates of antitrust agree with all of these changes, and undoubtedly some of the changes may have proceeded too far. But there is widespread agreement as to what has been the driving force behind these changes: it has been the ascendance of industrial organization economics in antitrust policymaking. Industrial organization—or, as it is sometimes called, industrial economics—is the study of imperfect markets and the business practices that arise in such markets and cause them to diverge from the competitive benchmark. As this field has developed in sophistication, its methods and predictions have produced enormous changes in the interpretation and enforcement of antitrust—a revolution in a very real sense. This book chronicles this on-going revolution.

A bit more history may be helpful in understanding the profound nature of this revolution. As noted, the initial impetus for antitrust was antipathy toward many of the practices of big business, and indeed the late 1800s and early 1900s

in the United States were characterized by numerous examples of competitively harmful business behavior. Laws were passed that prohibited practices in broad language such as *monopolization*, *substantial lessening of competition*, and *conspiracy.* This left to antitrust enforcers and the judiciary the key issues of what those prohibitions meant and how policy should be pursued.

Initially, that process of interpretation and implementation produced an aggressive antitrust policy that reflected the strong strain of populism that lay at the roots of antitrust in this country. That policy found expression in the promulgation of the initial *Merger Guidelines* by the Antitrust Division of the U.S. Department of Justice (DOJ) in 1968. These guidelines were developed by a group of economic and policy experts alongside the staff lawyers of the Division and embodied a framework for analyzing mergers for which the basis in industrial organization economics was obvious. Those guidelines clarified policy for the business community, for the judiciary, and perhaps for the antitrust agencies themselves.

The economic understanding on which the first *Merger Guidelines* were based was the structure-conduct-performance school of economics—often associated with the work of Edward Mason, Joe Bain, and others trained at Harvard University. This perspective emphasized the structural foundations of market competition, which was a view that found support in path-breaking empirical work that related industry concentration to profits and price-cost margins. By implication, it looked askance at many mergers, much conduct of dominant firms, vertical integration, and even conglomerate mergers.

While the substance of those *Guidelines* would later undergo major changes, their issuance was a signal event in the revolution. Analysis of the competitive effects of mergers was increasingly focused on economics. Courts increasingly embraced the *Guidelines* approach. Economics-based guidelines for other practices were developed. And there was an ever-deeper acceptance of economics in framing the competitive issues and coming to determinations about appropriate policy. Both the Federal Trade Commission (FTC) and the DOJ began hiring prominent academics as their chief economists or economic advisers. That practice, in turn, brought other economists to the agency staffs, which strengthened their economic expertise and ensured more sophisticated analysis within the agencies.

But the first *Merger Guidelines* were written at just about the time that economic understanding of some of these issues was changing. Questions such as what constituted true market power, how accurate were predictions based simply on market structure, when should cost savings weigh in favor of a merger or practice, and so forth were being re-examined by the "Chicago School" of economics, which is named for the institution where many of its prominent advocates taught. Beginning in the 1960s, Aaron Director, George Stigler, and others at the University of Chicago emphasized the use of basic microeconomic theory for evaluating the effects of industry structure and conduct on economic performance. They argued, for example, that mergers should be analyzed in terms of both their likely price effects and the plausible cost savings that would be achieved by the merged company. They further claimed that post-merger price increases

are not so easy to achieve—either because of the inherent difficulty of tacit cooperation or because of ease of entry by new competitors. For these reasons mergers were said to be generally pro-competitive and not properly evaluated with such indicia as market shares and industry concentration.

On other issues, the Chicago School was equally adamant: price cuts were said almost invariably to reflect lower costs and legitimate competitive behavior rather than predation. Efforts by manufacturers to establish retail prices or to constrain the behavior of independent retailers or other "downstream" parties, that School argued, almost always represent efforts to control certain aspects of the sale in which the manufacturers have a legitimate interest.

The different perspective of the Chicago School extended to its view of the very purposes of antitrust. It argued that antitrust should be guided solely by economic efficiency. Efficiency, this School maintained, is what the plain language of the law implies, and in any event is the only objective that can rationally be pursued. And advocates of the Chicago School documented many instances in which the pursuit of other objectives—for example, through various forms of regulation—has actually imposed costs on consumers rather than enhancing the competitiveness of markets.

The challenge represented by the Chicago School both sharpened the focus of antitrust and helped to discredit some of antitrust's more dubious past pursuits. For example, antitrust cases of the 1960s that prohibited mergers between companies with quite modest market shares came to be widely viewed as based on mistaken economics. In contrast, in the 1980s, 1990s, and 2000s, mergers of large companies in many industries—petroleum, steel, and airlines, among others—were approved with at most only minor modifications. Economics helped find reasons to doubt post-merger market power, to credit offsetting efficiencies, or to explore other justifications for why these mergers in concentrated industries should be permitted.

Similar changes in antitrust policy are apparent with respect to firm conduct. Whereas earlier Supreme Court cases held that virtually any tampering with market price was illegal per se, by the late 1970s the Court admitted the possibility of pro-competitive justifications even for price fixing by horizontal competitors. In the area of predatory pricing, the traditional view seemed to be that price cuts that injured competitors were evidence of predation; but more recent cases have adopted a far more permissive view of what is considered acceptable pricing behavior on the part of an incumbent firm. And in contrast to earlier hostility toward most vertical mergers and price agreements, the antitrust agencies now challenge few such arrangements. Also gone from the agenda of the agencies are cases that involve: price discrimination, with its generally ambivalent economic effects; potential competition, partly because the judicial standard of proof is so high and partly because of the view that potential entrants are numerous; and conglomerate mergers, which were previously challenged on potential competition grounds or simply on the basis of their sheer size.

However, it should be noted that many economists of all persuasions—not just those from Chicago—had long pressed for antitrust policy that better reflected

evolving economic understanding. Moreover, many also believed the Chicago School approach to be too simplistic and dangerously close to repealing much of antitrust. These economists argued that market shares and concentration were informative—if not dispositive—of competitive conditions, and that entry was rarely so quick, cheap, and easy as to obviate concerns about cooperative behavior or mergers among existing companies. They raised serious reservations about permissive policies with respect to price cutting and other dominant firm practices and further argued that predatory or disciplining behavior does indeed occur. A significant number of economists were unwilling to go so far as to absolve vertical relationships of anticompetitive potential and highlighted cases that illustrated foreclosure and other competitive problems. And many rejected the contention that strict economic efficiency was or should be the essential purpose of antitrust.

Over the past 25 years, this counter to the Chicago School approach has been advanced through the infusion of more advanced theory and empirical work into antitrust economics. More sophisticated theory, which has been better adapted to specific issues, has proven capable of identifying specific conditions under which various practices may well have anticompetitive effects, even if they are elsewhere benign. Careful consideration of information limitations, sunk costs, reputation effects, and strategic behavior has improved our understanding of many practices. In addition, techniques of empirical analysis have become much more sophisticated, with data that are better suited to the task, models that are well grounded in theory, and superior econometric tools. Empirical evidence, for example, has given new support to the proposition that concentration affects competition and pricing within industries—a contention that had been eroded by earlier critiques.

There has been, in short, a reconsideration of the entire range of antitrust issues. This more nuanced "post-Chicago economics" argues that many formulations of the preceding 20 years were reliant on overly simplistic theory, with the result that important distinctions were overlooked and excessively sweeping conclusions were drawn. It contends that many practices must be evaluated in light of facts that are specific to the case rather than being pigeonholed into theoretical boxes. And it is more skeptical of the ability of the market automatically to discipline firms and thereby negate the anticompetitive potential of mergers and various practices.

As post-Chicago economics has gained acceptance as an intellectually rigorous alternative methodology, another approach has made its appearance: "Behavioral economics" focuses on behavior by consumers that violates what economics typically views as rational behavior. This is not simply the result of information imperfections; instead, behavioral economics casts doubt on whether individuals process and act upon such information in the way that economics presumes. Consumers often discount the future more heavily than economics presumes. They rely on past practice and others' choices rather than careful calculation in making their own choices. They respond to incentives less completely and quickly than economic theory predicts. These propositions—many supported by empirical evidence—imply that standard calculations of consumer harm,

predictions of consumer responses to prices, and the efficacy of remedies to antitrust problems may not be accurate. Antitrust policy is only beginning to come to grips with these considerations.

Two other recent developments in antitrust deserve note: The first is the judiciary's growing emphasis on avoiding "Type II errors"—that is, avoiding the prohibition of competitively benign or beneficial practices or mergers—in coming to its decisions on antitrust matters. This issue is increasingly voiced as a reason not to ban or limit practices that could be anti-competitive but also might under some circumstances be beneficial. The risk such a view runs, of course, is that policy becomes too permissive of such practices and does not strive to distinguish beneficial from harmful outcomes. A number of observers now share this concern about several areas of antitrust.

The second recent development involves—especially in the decade of the 2010s—a renewed debate over the purposes of antitrust. The antitrust focus on economic efficiency—maximization of consumer surplus or perhaps total (that is, consumer plus producer) surplus—has largely displaced concerns about overall size (especially of banks and financial institutions), along with consumer choice and with fairness and equity considerations. At least some observers note that these other objectives were part of the laws that established antitrust in the first place and for good reason should continue to be on the agenda of the antitrust agencies.

These last concerns have been heightened by the widespread recognition of the growing inequality in income distribution in the United States; by the growing size and everyday importance of large "tech" firms, such as Google, Amazon, Facebook, and Apple; and by studies that show the growing national consolidation of industries such as banking and other financial services, airlines, retail trade, and healthcare.

These developments, of course, do not refute the proposition that modern antitrust is grounded in modern economics. These new views simply represent another step in that on-going revolution in antitrust. There no doubt will be many more such steps, as economics strives to clarify the effects of structural changes and various business practices, to strengthen the ability to distinguish harmful from benign practices, and to illuminate the debate over the very purposes of antitrust itself.

While the precise outcome of this process cannot be foretold, some predictions might nonetheless be ventured: The first is that the paramount importance of economics in the antitrust process is firmly established. Economics helps determine what cases the DOJ and the FTC pursue. Economics frames the central issues for investigation and, based on data analysis and theory, evaluates the likely competitive effects of various practices by companies or structural changes in industries. Supporters and critics of policy all now debate them in terms of competition and efficiency, and they clearly acknowledge the central role that economics plays. And the courts themselves have embraced economic reasoning in their own analyses. It is safe to say that enforcement policy and court decisions will be firmly grounded in economic analysis.

A second prediction is that advances in economic understanding can be expected to improve the rationality and consistency of antitrust policy. As these advances gain acceptance, they hopefully will narrow the range within which policy decisions themselves are made. By demonstrating that some propositions are incorrect, or lack generality, or suffer from other defects, such advances limit the degree to which future policy can ever revert to defective propositions.

That statement does not imply agreement about the proper course of antitrust. A considerable range of acceptable policy remains and may even widen if the recent concerns about income distribution, etc., become part of antitrust policy, and there is—and will be—legitimate disagreement over goals and strategies within that range. But to an increasing extent that range is informed and bounded by industrial economics. In that respect the antitrust revolution seems certain to be on-going.

PART I

Horizontal Structure

The Economic and Legal Context

Antitrust concerns with respect to market structure are associated with mergers and other consolidations of an industry that increase concentration and often permit the exercise of market power. An extreme version of consolidation would be illustrated by a merger to monopoly, but more typical would be mergers between firms in an oligopoly setting—where there are a small number of firms. To better understand the economic harms from market power, we will begin with a discussion of the extreme case of monopoly and then move on to oligopoly.

MARKET POWER AND MONOPOLY

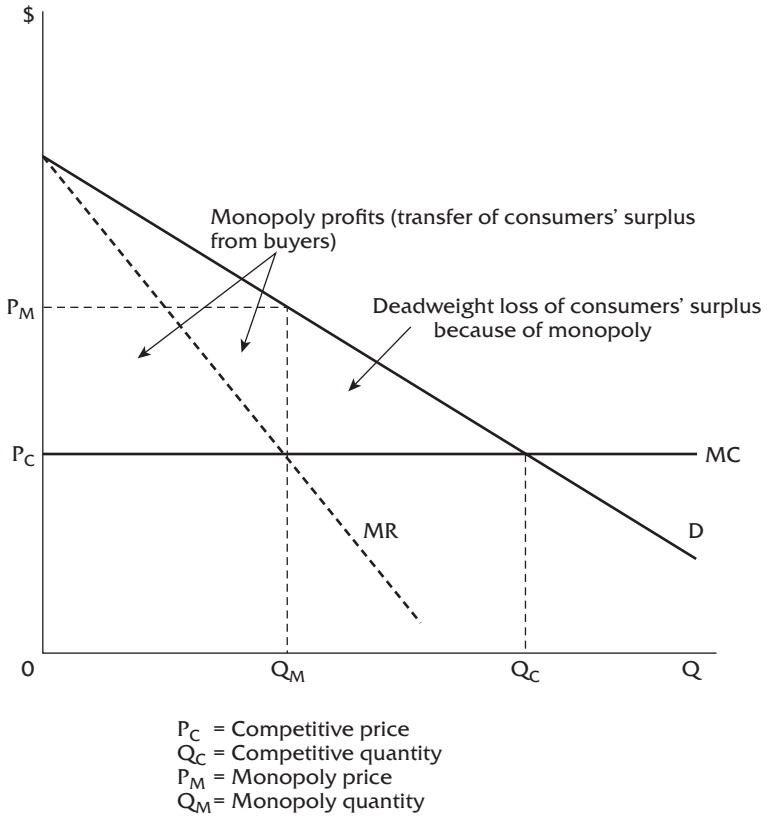
Economics

The microeconomic theory of monopoly is straightforward: a single seller of a good or service—for which there are no good substitutes and for which entry is difficult—will normally have market power. The profit-maximizing price will be where marginal revenue (derived from the monopolist's demand curve) equals its marginal costs. As Figure I-1 shows, this leads to a smaller quantity and higher price than would be the case under competition.[1] The magnitude of the price increase can be determined from the familiar formula for profit maximization: $P_M = MC/(1 + 1/E_D)$, where E_D is the (negative) elasticity of demand and MC is the firm's marginal cost. Once P_M has been determined, the monopolist's output (Q_M) can be derived from the demand.

This figure also shows the reason why the monopoly outcome is *socially* less efficient than the competitive outcome. In short, the monopolist produces too little: there are buyers who are willing to buy at prices that are above the seller's marginal costs—which would yield a social benefit—but who are not

[1] The case of price discrimination will be addressed below, as will the case of market power on the buyer side, that is, monopsony.

FIGURE I-1 A Comparison of Monopoly and Competition



willing to buy at the higher monopoly price. The shortfall of output implies an allocative inefficiency. The lost consumer surplus of the buyers, portrayed in Figure I-1, is frequently described as a "deadweight loss triangle."

The higher price also results in another harm to consumers: the higher profits or overcharge of the monopolist. Unlike the deadweight loss, this overcharge is essentially a *transfer* from buyers to the monopolist and is represented by a rectangle in Figure I-1.[2] It is not treated as a social loss since it represents a gain to producers rather than a loss to the entire system.

[2] There may be further economic costs of monopoly: for one, since the monopolist should be willing to spend an amount up to the size of the rectangle to defend its monopoly, some of this rectangle may be "burned up" in costly efforts to protect its position (e.g., through political lobbying or raising barriers to entry; see Posner [1975]). Also, the absence of competitive pressures may induce less than fully efficient production processes ("X-inefficiency") and thereby add to deadweight loss; see Leibenstein (1966).

This analysis needs a bit of reworking for a monopolist that can practice price discrimination. Price discrimination involves segmenting the firm's market on the basis of the buyers' willingness to pay and charging different prices to different consumers or on different units that they purchase, thereby increasing the seller's profit. In order for price discrimination successfully to occur: (1) there must be buyers with different willingnesses to pay; (2) the firm must be able to identify who they are (or have some mechanism that will cause them to reveal themselves); and (3) the firm must be able to prevent arbitrage—prevent buyers who receive low prices from reselling to the buyers who would otherwise be charged high prices. In the limit, if the seller could identify each buyer and make an all-or-nothing offer to that buyer at the latter's maximum willingness to pay, this would constitute what is called first-degree or "perfect" price discrimination.[3] Other forms of price discrimination can involve block pricing ("second-degree" price discrimination), segmenting buyers by geography or by customer type ("third-degree" price discrimination), bundling (Adams and Yellen 1976), and tying (Burstein 1960).

Instances of true monopoly can be found in the U.S. economy, although they collectively account for only a small fraction of U.S. GDP. Common examples include local distribution utilities, such as landline telephone service, residential electricity distribution, local natural gas distribution, and some postal services, among others. It also includes the single hardware store (or gasoline station, or pharmacy) in an isolated crossroads town, as well as firms that produce unique products that are protected by patents, such as patented pharmaceuticals for which there are no good substitutes. Over time, technological advances tend to erode monopolies—for example, as mobile phones have undermined landline service, and e-commerce has brought competition to local retailers—but it may also create new ones.

Closely related to monopoly is the case of a dominant firm: a firm of uniquely large size but facing a fringe of much smaller competitors. Though not a monopoly, the dominant firm can still exercise market power by taking advantage of any cost advantage over its smaller rivals, the elasticity of the demand for the product, the elasticity of supply by the fringe, and the ease or difficulty of entry.[4] Historical examples of such market structures include U.S. Steel in steel, Alcoa in aluminum, IBM in mainframe computers, Xerox in photocopying, and Kodak in cameras and film, at least for some time periods. More recent examples include Microsoft in personal computer operating systems,[5] Intel in microprocessors,[6] and United Parcel Service for small package delivery services.

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[3] One paradoxical consequence of such perfect price discrimination is that the allocative inefficiency of the monopolist disappears, even while the transfer to the monopolist increases.

[4] For exposition, see Church and Ware (2000)), which also contains the modification of the formula given above for the higher price-cost margin in the case of a dominant firm.

[5] See Gilbert (1999) and Case 22 by Daniel Rubinfeld in Part III of this book.

[6] See Shapiro (2004) and Gans (2013).

Monopoly can arise in several ways: it may be the result of strong economies of scale—unit costs that are lower when production volumes (per time period) are larger—or of a firm's ownership of a unique and advantageous input into production: for example, certain land or mineral ores, or ownership of patents. These two sources of market power are more or less naturally arising and therefore difficult to resolve or eliminate. Certainly, policy cannot somehow make scale economies disappear or create alternative unique inputs, although it can prevent abuses of those advantages, as will be discussed in Part II.

Other sources of market power are the result of deliberate actions by agents in the economy. One of these is government policy. Historically, exclusive government franchises and the regulation that ensued conferred market power on industries such as rail, air, and some trucking services; local and long-distance telephone service; and local banking. The regulation that sprang up to deal with them often served the interests of the incumbent firms rather than the public. A recent example of this has been government-created or -sanctioned obstacles to practice in the professions.[7]

A further source of market power is via a firm or small group of firms that may be able to raise barriers to entry or increase the costs of their rivals. In so doing, they convert an advantageous initial market position into true and long-lasting market power (Salop and Scheffman 1983, 1987). These efforts to enlarge and protect and exploit market power include a wide variety of practices, including tying and bundling, denying access to crucial inputs, and creating incompatibilities, among others (see Part II).

Finally, incumbent firms may merge and thereby increase concentration in the market. Mergers happen all the time, of course, and most are competitively harmless; but a merger wave over the past 20 years or so has resulted in consolidation of many sectors of the economy, including hospitals, airlines, brewing companies, eyeglass manufacturers, pharmaceutical companies, ticketing services, and cable TV/entertainment companies, among others. Mergers and related types of consolidation are a growing phenomenon and will be a major focus of this first section of the book.

Antitrust

The primary efforts of government to deal with market power from naturally arising monopoly have been through explicit regulation or, in a few instances, through government ownership. But from its beginnings in 1890, antitrust law has also tried to address certain monopoly issues. Its focus has been on dominant firms that face at least some competitors as well as conduct by such firms that seek to insulate their positions from competition. In either case it is not the existence of a monopoly or market power but its use—or specifically, its misuse—that may cause a company to run afoul of

[7] See, for example, the discussion of the North Carolina Dental case by John Kwoka in Case 11 in Part II.

the law. The operative law (Section 2 of the Sherman Act) creates a felony offense for "every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize. . . ." This language makes clear that it is the action of monopolizing, not the monopoly structure, that is the offense.

This approach led to oddities among early antitrust suits against dominant firms. Two important Supreme Court cases in 1911—*Standard Oil*[8] and *American Tobacco*[9]—yielded government victories and the structural dissolution of dominant firms in the petroleum and tobacco industries. In each case, however, it was the conduct of the firm that resulted in its conviction and, more specifically, whether its conduct adversely affected its rivals rather than consumers. Thus, the Court determined that Standard Oil's aggressive acts against its smaller rivals were the problem but was less concerned that its actions harmed consumers.

That precedent would create much mischief when the Supreme Court encountered a dominant firm that did not harm its rivals even though it did harm consumers. That case was *U.S. Steel,*[10] in 1920, in which the Court rejected the government's case against the firm because its higher price benefited U.S. Steel's smaller rivals.

For a time after that, the government became wary of bringing such cases, but renewed vigor in antitrust enforcement in the late 1930s led to a suit against Alcoa based largely on its high market share. That case yielded a final decision[11] that represented the high-water mark for the importance of market structure. Declaring that Alcoa's 90 percent market share of aluminum clearly represented monopoly, the court appeared to stand ready to infer monopoly from its high share. The ambiguity over whether structure or conduct was key was finally resolved in the *Grinnell*[12] case, in which the Supreme Court articulated the principle that a violation of Section 2 required two factors: possession of monopoly power, as well as willful acts to acquire or maintain that power.

This language made clear that monopolization cases would be long and detailed examinations of acts and practices for their effects, perhaps for intent, and certainly for alternative explanations. And indeed, this "rule of reason" for monopolization cases required courts to try to determine the actual outcome of a firm's actions in each case, inevitably leading to expansive trials and much controversy. Together with judicial reluctance to tamper with firm structures, subsequent cases where the government has sought

[8] *U.S. v. Standard Oil Co. of New Jersey et al.,* 221 U.S. 1 (1911).

[9] *U.S. v. American Tobacco Co.,* 221 U.S. 106 (1911).

[10] *U.S. v. United States Steel Corp.,* 251 U.S. 417 (1920).

[11] *U.S. v. Aluminum Company of America,* 148 F.2d 416 (1945).

[12] *U.S. v. Grinnell Corp.,* 384 U.S. 563 (1966).

structural relief have been few in number.[13] Rather, government-initiated monopolization cases now usually seek a remedy that does not involve any restructuring but instead strives to prevent the firm's anticompetitive actions by imposing constraints on its conduct.[14]

OLIGOPOLY AND MARKET POWER

Economics

More common than monopoly, of course, are markets that can be described as oligopolies, and in these a merger would reduce the number of firms and perhaps give rise to price increases and other harmful outcomes. The essence of oligopoly is that the number of sellers is few enough so that each seller is aware of the identity of its rivals and also aware that its own actions affect their decisions. Since each can reasonably expect that the others have similar perceptions, this leads to complicated interactions, the opportunity for various types of behavior, and a market equilibrium that cannot be specified with certainty.

At one extreme, a disciplined cartel or a successfully coordinating industry may be able to maintain prices and quantities that approximate those of a monopoly; at the other extreme, if sellers engage in intense price competition in a commodity industry, they may end up exactly like a perfectly competitive industry—and that might occur even if there are only two sellers. As will be discussed more thoroughly in Part II, economic theory identifies many factors other than the number of sellers that affect the final market outcome, including the size distribution of sellers, conditions of entry, the characteristics of the sellers and of their products, and the characteristics of buyers.[15]

With all of these, the question becomes whether or not market structure—concentration, somehow measured—remains an important determinant of the outcome. The best evidence—from a variety of empirical studies and sources—suggests that market concentration, and changes in concentration, definitely matter. As the number of sellers decreases—other things being equal—firms' sense of interdependence generally strengthens, and the intensity of competition in the market diminishes. Two important phrases in that statement are "other things being equal" and "generally." Other things are rarely equal, so determining the outcome in the face of other changes can be difficult. In addition, while the relationship between

[13] A survey can be found in Scherer and Ross (1990, ch. 12). The government's success in achieving a 1982 consent decree that broke up AT&T involved vertical structural relief; see Noll and Owen (1994). Similarly, the government's short-lived remedy in its victory over Microsoft involved vertical structural relief; see Case 22 by Daniel Rubinfeld in Part III.

[14] See the case discussions in Parts II and III of this book.

[15] In addition to the discussion in Part II, see the overviews provided by Shapiro (1989) and, especially with respect to horizontal mergers, Jacquemin and Slade (1989).

concentration and, say, price generally holds, that does not imply that it does in each and every case.

These observations have two implications: first, structural changes that reduce the number of significant competitors to a modest level will often result in higher prices. That in turn is the fundamental economic motivation for an antitrust policy that seeks to block certain mergers. The second implication is that the relationship cannot be assumed to hold in all cases, so that each merger must be fully analyzed by itself. That analysis can be informed by evidence and past experience or by economic modeling; but ultimately a case-specific analysis may be required.

Antitrust

The primary tool for addressing mergers and structural market power is Section 7 of the Clayton Act. This prohibits mergers "where in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly."[16]

A series of government challenges to mergers in the 1950s and 1960s led to several important Supreme Court decisions, beginning with *Brown Shoe*[17] in 1962. In those decisions the Court indicated that it was ready to prohibit both horizontal mergers between competitors and vertical mergers between customers and suppliers, even in markets where the merging parties' shares were relatively small and entry seemed easy. In some cases the court found standard anticompetitive effects, but in others the Court opined that Congress had intended to halt mergers so as to preserve market structures with large numbers of firms, even at the sacrifice of some efficiency that might be achieved by a merger. However, the Court backed off from this tough position in two merger decisions in 1974.[18]

Based on the favorable Supreme Court decisions of the 1960s, the Department of Justice's Antitrust Division developed a set of *Merger Guidelines* in 1968. Those *Guidelines* set out some very stringent concentration conditions in which the Department of Justice (DOJ) would likely challenge mergers. While the *Guidelines* reflected the economic and policy understanding of the time, it soon became apparent that they were too restrictive. As a result they fell into disuse during the 1970s, awaiting an effort to revise them in accordance with advances in economics and different views about appropriate policy.

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[16] This language is from the 1950 Cellar-Kefauver Act, which fixed a loophole in the original 1914 Clayton Act. Until that revision, the act had no real bite.

[17] *Brown Shoe Co. v. U.S.,* 370 U.S. 294 (1962).

[18] See *U.S. v. General Dynamics Corp. et al.,* 415 U.S. 486 (1974), and *U.S. v. Marine Bancorporation et al.,* 418 U.S. 602 (1974).

A substantially revised version of the *Guidelines* was issued in 1982. Economists played a large role in their development as well as in subsequent revisions in 1984, 1992 (when the Federal Trade Commission [FTC] joined as an author), and 1997. A major revision to the *Guidelines* appeared in 2010.

The *Guidelines* have proved influential in shaping antitrust lawyers', economists', and eventually judges' approaches to mergers (Werden 2003). They certainly shaped many of the economic arguments that were developed in the cases that are discussed in this Part. Accordingly, we next turn to a more detailed discussion of the *Guidelines*, with most of the attention on the recent 2010 revision.[19]

THE *HORIZONTAL MERGER GUIDELINES*

The *Horizontal Merger Guidelines* describe the competitive concerns with mergers and concentration, as well as the antitrust agencies' approach to analyzing mergers for the purpose of determining any competitive problems. The *Guidelines* start from the fundamental premise that the Clayton Act was intended to prevent the exercise or enhancement of market power that might arise as a consequence of a merger. They thus reject the populist notion that the pure sizes of the merging entities or other factors should be considerations in the evaluation of a merger.

Early versions of the *Guidelines* had been organized primarily around efforts to delineate a relevant antitrust market and then to measure the pre- and post-merger levels of seller concentration in that market. The combination of the level and the change in concentration was viewed as central to the analysis of a merger. Indeed, in the view of some, a significant size merger in an already concentrated market would be so likely to increase interdependence and facilitate coordination among firms that it should be subject to virtual prohibition. This view—common in the 1970s—implied that the task of merger policy was essentially to stop mergers that would result in such small numbers of sellers.

In the language of today's merger analysis, the underlying concern was with "coordinated effects." By the early 1990s, an alternative mechanism by which a merger could produce anticompetitive effects had been demonstrated.[20] This "unilateral effects" analysis focused on whether two firms that sell differentiated products might find it worthwhile to merge because a post-merger price increase on one product would shift some consumers to the substitute product that the merged firm now also controlled.

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[19] The 2010 *Guidelines* can be found at http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf. A compendium of discussions of the 2010 *Guidelines* can be found in the August–September 2011 issue of the *Review of Industrial Organization*; for an introduction to that special issue, see Blair (2011). See also Shapiro (2010) and Farrell and Shapiro (2010).

[20] See, for example, Willig (1991).

This recapturing of some sales that would otherwise be lost meant that the merged firm would not be easily deterred from the price increase. This unilateral effects mechanism is entirely different from coordinated effects since the price increase does not require cooperation or coordination with any other firm. Rather, it depends on the degree of substitution (or in the language of the *Guidelines*, "diversion") between the two products and the relevant profit margins.

Several other novel aspects of the 2010 *Guidelines* are worth noting: for one, the guidelines emphasize a more eclectic approach to analysis and evidence than in the past. The agencies are said to seek information about the competitive realities of the market or markets in which the two merging firms sell. The antitrust agencies also rely on any data and other information about likely price effects—including from related markets, past transactions, or "merger simulation" models—that can illuminate the merger that is being investigated. In addition, the *Guidelines* extend the coordinated effects analysis explicitly to procurement auctions, bidding markets, and other similar arrangements where, for example, sellers compete to be the supplier of distinct inputs that are being bought by a downstream firm or government.

Also for the first time, the 2010 *Guidelines* contain more than a passing reference to non-price outcomes of mergers. Important among these are quality and variety and, perhaps most of all, innovation, since for some mergers (such as pharmaceuticals or high-tech) these are the critical strategic variables—at least as important as price. The new *Guidelines* set out some principles for how the agencies will evaluate the effects of a merger on incentives to innovate—issues that are considerably more complicated than price effects.

In addition, there also is explicit mention of the fact that mergers that eliminate a potential competitor to an existing firm may be found to be anticompetitive, similar to eliminating another incumbent. The economic logic for treating both types of mergers with the same analytical framework is compelling, but the prior guidelines had omitted explicit mention of concern with potential competition (Kwoka 2001). And finally, there is explicit mention of concern with monopsony power—that is, that a merger might result in a diminished number (increased market power) of buyers, rather than sellers. Economic theory had long explained that buyer power could just as readily cause consumer harm, and the 2010 *Guidelines* incorporate this concern, which was an important issue in several recent mergers.

Despite these methodological advances, the tone and structure of the *Guidelines* remains focused on traditional coordinated effects. That structure emphasizes a formulaic approach to merger analysis that involves the following steps:

- The definition of the relevant market for merger analysis
- The identification of all participants in that market

- Calculation of participants' shares and overall concentration
- Comparison with some benchmark levels and changes in concentration that imply antitrust concerns
- The specific nature of the potential adverse effects of mergers
- The ease of entry into the market as a constraint on incumbents' market power
- Other characteristics of market structure that make the post-merger exercise of market power easier or more difficult
- The extent of any credible offsetting merger-related cost savings, efficiencies, and other benefits alleged by the merging firms

We will now address these in turn.

MARKET DEFINITION

The *Guidelines* define a relevant market for antitrust merger analysis as a product or set of products sold by a group of sellers that—if they acted in concert (as a "hypothetical monopolist")—could bring about "a small but significant and nontransitory increase in price" (SSNIP). In essence, can a hypothetical monopolist profitably raise price? If so, this is a product group over which market power can be exercised. To operationalize this language, the *Guidelines* indicate that a 5 percent nontransitory price increase is the relevant SSNIP value. Moreover, the smallest group of sellers that satisfies the SSNIP test is usually selected as the relevant market. These principles apply to the determination of both product markets and geographic markets. Under this definition, relevant markets might be as small as a neighborhood or as large as the entire global economy; the determining factor is simply whether or not buyers would switch away to the sellers of other products and/or in other locations in sufficient numbers to undermine the price increase.

The sole exception to this approach to defining markets arises when a group of sellers could practice price discrimination by raising prices significantly for an identifiable subgroup of customers in geographic space or by business function. In such a case, that group of customers may also be considered to be a relevant market.

The *Guidelines* stress that many different types of information can be helpful to the antitrust agencies determination of the relevant market. These are said to include any information about how customers shifted purchases in the past in response to price changes, information (including surveys) from buyers, business documents from sellers or other industry participants, objective information about product characteristics, or costs and delays in product switching, among other sources.

Seller Concentration

Once the market boundaries are determined, the analysis turns to the post-merger level of overall seller concentration in the relevant market and the merger-induced change in that concentration. For the particular merger in question, these values would then be compared to stated benchmarks for enforcement attention. As noted before, the basis for this approach is the belief that cooperative conduct among sellers is more likely (other things being equal) at higher seller concentration levels.

The *Guidelines* use the Herfindahl-Hirschman Index (HHI) for measuring concentration. The HHI for a market is computed by summing the squared market shares (expressed as percentages) of all of the sellers in the market. Thus, an atomistic market would have an HHI that is very close to zero; a pure monopoly would have an HHI of 10,000 ($100^2 = 10{,}000$); and a duopoly that consists of two firms with, for example, 70 percent and 30 percent market shares, respectively, would have an HHI of 5,800 ($70^2 + 30^2 = 5{,}800$).

The 2010 *Guidelines* classify markets into three categories, according to their HHI levels:

- Unconcentrated markets: HHI below 1,500;
- Moderately concentrated markets: HHI between 1,500 and 2,500;
- Highly concentrated markets: HHI above 2,500.[21]

The *Guidelines* then specify thresholds for what constitutes a problematic merger in terms of post-merger HHI levels and the changes in the HHI that occur because of the merger.[22] There are two "safe harbors," so that mergers that fall into these categories would seldom, if ever, face a challenge: these are mergers that cause an increase in the HHI of less than 100 and mergers that result in unconcentrated markets. For moderately and highly concentrated markets, however, different standards apply:

- In moderately concentrated markets, mergers that involve an increase in the HHI of more than 100 points "potentially raise significant competitive concerns and often warrant scrutiny."
- In highly concentrated markets, mergers that increase HHI between 100 and 200 points "potentially raise significant competitive concerns and often warrant scrutiny." Mergers in these markets that involve an increase

[21] There are two ways of translating the HHI thresholds into more familiar terms: (a) an HHI of 1,500 would be yielded by a market with six or seven equal-size firms (each with approximately a 15 percent market share); an HHI of 2,500 would be yielded by a market of four equal-size firms; (b) alternatively (since most markets do not have equal-size firms), the two HHI thresholds translate empirically (on the basis of simple correlations) to four-firm concentration ratios of approximately 60–65 percent and 85–90 percent, respectively (Kwoka 1985).

[22] A quick method of determining the pro forma change in the HHI due to the merger of two firms is to multiply their pre-merger shares and then double the result.

in HHI of more than 200 points "will be presumed to be likely to enhance market power."

These 2010 thresholds replace an older and more stringent set of criteria that were in place since 1982.[23] However, in practice, the enforcement agencies had been considerably more lenient than the thresholds indicated,[24] and these new *Guidelines* have continued to give a somewhat erroneous impression of actual HHI thresholds: the agencies have simply moved away from strict enforcement of this structural standard—sometimes called the "structural presumption"—in favor of a more wide-ranging inquiry that seemed often to find bases in entry, efficiencies, or other factors that outweighed the apparent implications of high concentration. Some observers have challenged the economic basis and policy wisdom of ratcheting back merger enforcement.

ADVERSE EFFECTS

As noted, the *Guidelines* present two major theories of possible harm from mergers: coordinated effects, and unilateral effects.[25] The first and more traditional approach holds that a heightened probability of coordinated behavior among sellers would result from a merger that reduced the number of sellers and increased the merged firm's market share. Coordination might be a concern in any market, in contrast to the second mechanism of competitive harm discussed in the *Guidelines*. Unilateral effects arise in markets where a single firm, post-merger, could find a unilateral price increase profitable that was not profitable prior to the merger. One obvious circumstance in which this might occur is when the two merging sellers are each other's major competitors in a differentiated product market, so that the elimination of competition between the two as a result of the merger significantly relaxes the prior pricing constraint that each felt.[26] Other scenarios are also possible, however.[27] All of these scenarios ultimately depend on information about consumer substitution patterns among products. A full evaluation

[23] Those former thresholds were at 1,000 and 1,800, rather than 1,500 and 2,500.

[24] This leniency (as compared with the *Guidelines*' formal HHI benchmarks) had been an open secret of merger enforcement for over two decades. Data released by the FTC and DOJ in the 2000s confirmed what was suggested far earlier by Leddy (1986). See, for example, FTC and DOJ (2003), FTC (2004), Kwoka (2004), Coate (2005), and Coate and Ulrick (2006).

[25] The *Guidelines* also mention the possibility that the enhanced market position of a merged firm may give it advantages in terms of exclusionary behavior.

[26] Farrell and Shapiro (2010) present a through discussion of the "upward pricing pressure" (UPP) that can arise as a consequence of unilateral effects. They also develop the concept of the "gross upward pricing pressure index" (GUPPI). At the heart of these concepts is the relative amount of one of the merging firm's products that is diverted to the products of the partner firm, multiplied by the profit margins on those latter products.

[27] For a stylized example, see Ordover and Willig (1993).

of such a merger would also necessarily incorporate any efficiencies. The formal mechanism together with an indicator of the forces at play are fully described by Farrell and Shapiro (2010). There, the concept of "upward pricing pressure" (UPP)—now in the *Guidelines*—is introduced.

Much of this formal modeling and apparatus is appropriate for the unilateral effects theory of competitive harm but has little application for coordinated effects concerns. By contrast, the *Guidelines* market definition paradigm is essential for the coordinated effects theory of adverse consequences of a merger, but that paradigm fits less well—indeed, it may well be redundant—in the context of the unilateral effects theory.[28] This makes it more important for any analysis to begin with some understanding of the theory of the case.

Entry

Since easy entry by new firms could thwart existing sellers' efforts to exercise market power even in highly concentrated markets, the *Guidelines* recognize entry as an important component of merger analysis. They note, however, that for entry to obviate concerns about the potential for post-merger exercise of market power, it must be "timely, likely, and sufficient in magnitude, character, and scope." Timeliness requires entry to occur within a period that would make the post-merger attempt at the exercise of market power unprofitable overall (roughly, two years). The criterion of likelihood is satisfied if the entrant would be profitable in the post-entry market. Sufficiency in magnitude, character, and scope requires that the entrant be capable of replicating the scale and strength of one of the merging firms.

In the discussion of entry, the *Guidelines* highlight the importance of "sunk costs" for the assessment of entry; "sunk costs" are "entry or exit costs that cannot be recovered outside the relevant market" and are therefore important considerations for a potential entrant's calculation of the profitability of entry and competition against an incumbent. Examples of sunk costs include specialized production equipment, marketing costs, training costs, research and development, advertising, etc. Firms that could enter easily (i.e., without the expenditure of significant sunk costs) are termed "rapid entrants" and are considered to be market participants, but where significant sunk costs or other impediments are present, the *Guidelines* focus on the considerations of timeliness, likelihood, and sufficiency.

Finally, as noted, the *Guidelines* specifically mention the importance of "potential entrants" and the possible anticompetitive effects of a merger between an incumbent and a potential entrant. Although the elimination of such a firm could relax the competitive constraint on an incumbent firm

[28] See, for example, White (2008). The 2010 *Guidelines* acknowledge that the direct finding of unilateral effects may reduce the need to proceed further with a more detailed market delineation analysis.

and thereby cause adverse effects similar to those from eliminating a direct competitor, explicit mention of potential competition had been dropped from the *Guidelines* beginning with the 1992 revision.[29]

Other Market Characteristics

The traditional theory of post-merger seller coordination recognizes that other market characteristics can influence the market outcome. Sellers always have an incentive to cheat on any implicit understanding or explicit agreement that tempers their competition and will do so if they believe that such cheating will be profitable. Accordingly, the ability of sellers to detect and somehow punish deviations from any understanding is important for the success of any sustained period of noncompetitive behavior.

The *Guidelines* discuss the major market characteristics that oligopoly theory recognizes as important determinants of sellers' abilities to detect and punish deviations and thus to coordinate their behavior:

- The availability to all sellers of key information about market conditions and individual transactions
- Typical pricing or marketing practices by firms in the market
- The level of concentration on the buyers' side of the market
- The degree of complexity in the quality and service dimensions of the product or products at issue; and
- The antitrust history of the sellers in the relevant market

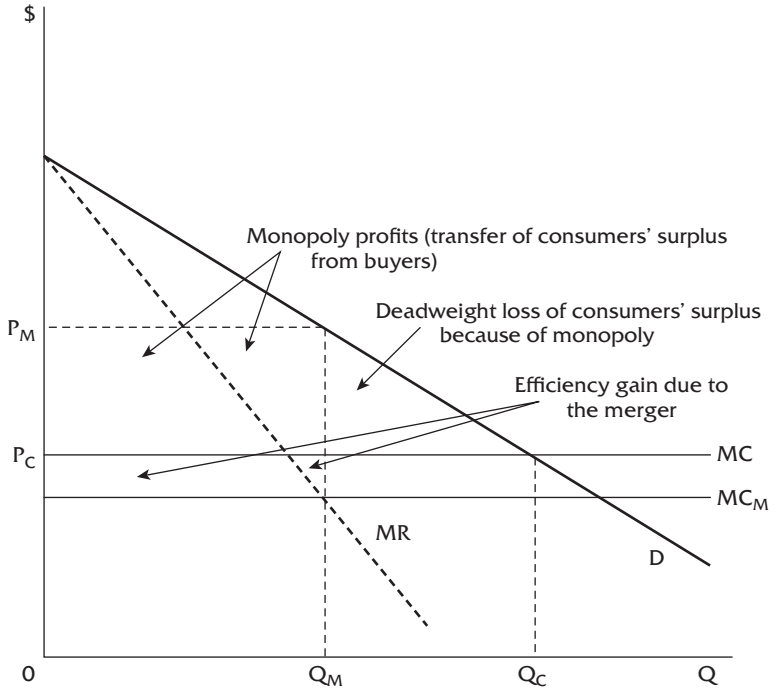
Cost Savings and Efficiencies

For some time, economics has recognized that cost efficiencies achieved by a merger could yield social savings that would more than compensate for the social loss created by the exercise of market power. Figure I-2, drawn from Williamson (1968), illustrates the trade-off: suppose that a merger confers market power in a previously competitive industry but in doing so also achieves cost efficiencies. The social gain is represented by the rectangle of reduced costs, while the social (deadweight) loss is the triangle. If the area of the rectangle exceeds the area of the triangle, the merger yields a net social gain. The overcharge rectangle (which is a transfer from buyers to sellers) may still be an obstacle to a merger if the goal of antitrust is considered to be solely to help consumers or if, as seems to be the case with policy, consumers matter more than do producers.

If, however, the cost reduction is great enough, the post-merger price could be lower than the pre-merger price, even taking into account the

[29] For further discussion of the competitive importance of potential entrants, see Kwoka (2001).

FIGURE 1-2 The Efficiencies/Market-Power Tradeoff



P_C = Competitive price
Q_C = Competitive quantity
MC_M = Post-merger marginal costs
P_M = Monopoly price
Q_M = Monopoly quantity

post-merger exercise of market power.[30] Or, as is sometimes argued,[31] the post-merger efficiencies may change the dynamic within a sluggish oligopolistic industry and allow the merged firm to challenge the industry leader aggressively. More often, however, some modest efficiencies may result from a merger, leaving the enforcement agencies and/or the courts with the task of making a judgment about the extent of the possible price increase that might be risked in order to achieve cost savings.

In practice, efficiencies are easy to promise before a merger but often difficult to deliver. There are numerous impediments to the post-merger firm's efforts to integrate personnel, equipment, systems, and cultures from the two pre-merger firms.[32] The *Guidelines* offer the assurance that

[30] The 2010 *Guidelines* explicitly recognize this as a possibility for a unilateral effects analysis; see also Farrell and Shapiro (2010) and Shapiro (2010).

[31] See, for example, the discussion of the Heinz–Beech-Nut proposed merger in Baker (2009).

[32] See, for example, the discussion of the UP–SP merger in Kwoka and White (2004).

the agencies "will not challenge a merger if cognizable efficiencies are of a character and a magnitude such that the merger is not likely to be anti-competitive in any relevant market." But they make clear that the only "cognizable" efficiencies are those that are merger-specific—not achieveable in some other way that does not raise competitive concerns—and verifiable. Evidence in support of efficiencies is likely to be given greater credence by the enforcement agencies if it is present in "normal course of business" documents, rather than in documents that are specially prepared at the time of the merger proposal.

In recent years many of the claimed benefits from mergers seem to be improvements in quality rather than traditional cost savings of the sort just analyzed (Kwoka and Kilpatrick 2018). Quality improvements might take the form of seamless integration of components produced or services now of higher quality from the merged firm, both having greater value to consumers. The analysis of quality improvements and their value to consumers are considerably more challenging tasks than measuring cost differences, since quality changes essentially shift demand curves up by some amount and result in gains in consumer surplus. These effects are not subject to straightforward calculations (see, e.g., Israel et al. [2014]).

MERGER ENFORCEMENT PROCEDURES

Under the provisions of the Hart-Scott-Rodino Act of 1976 (as amended in 2001), the parties to all prospective mergers that exceed specified thresholds[33] must notify the FTC and DOJ of their intentions to merge and provide basic information about the companies involved.[34] The agencies then decide which one of them will be responsible for reviewing the merger based on expertise about the industry within the agency, but also workload and other factors. Most reported mergers receive a quick screening and are found to be innocuous.[35] In instances where there is potential for anti-competitive effects, a group of lawyers and economists within the relevant agency is assigned to undertake further analysis.

The agency ordinarily has 30 days from the initial notification during which the merger cannot be consummated without the agency's agreement.

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[33] The Hart-Scott-Rodino (H-S-R) thresholds for notification involve the dollar sizes of the parties and of the transaction. Beginning in 2005 the dollar thresholds have been adjusted annually by the percentage changes in U.S. nominal GDP. As of 2018, the primary threshold is as follows: the acquiring firm must have at least $168.8 million in assets or in annual sales, and the acquired firm must have at least $16.9 million in assets or annual sales.

[34] The H-S-R Act was the response to complaints by the enforcement agencies that they sometimes found out about mergers late or even only after the event and that attempting legally to "unscramble the eggs" of a completed merger created an unnecessary extra burden on merger enforcement.

[35] Between 1999 and 2008 the annual number of reported mergers that were quickly cleared ranged from 95.7 percent to 97.9 percent; see Shapiro (2010).

At the end of that period the parties can consummate their merger unless the agency makes a "second request" for more information. In that case, the parties must first comply with the information request, after which the agency technically has another 30 days in which to decide if it wishes to challenge the merger.[36] In reality this second period is often extended considerably in order to allow the agency enough time for an orderly process of decision.

If the agency concludes that a merger does pose a potential problem, the parties and the agency will try to determine if there is an acceptable remedy that would alleviate the agency's competitive concerns and still allow the merger partners to gain the efficiencies or other advantages that they seek from the merger.[37] In recent years, where competitive problems can be foreseen, the merging parties might initially offer a remedy, in what is called a "fix-it-first" approach.

Remedies can take two basic forms: most often they involve identifying competitive overlaps—the products that are produced by both merging parties that raise competitive concerns—and requiring that one of the merging partners divest its product line, or assets, or facilities, as the case may be. For example, in mergers between two large banks with overlapping branch networks in multiple metropolitan areas, a standard remedy is to require the merging banks to sell off sufficient branches to smaller rivals so as to decrease the HHI levels in each metropolitan area to acceptable levels.[38] The agency oversees this process in order to ensure that the divested assets are sufficient as a free-standing operation and that the buyer is capable of integrating those assets into its own operation and running them successfully.

Sometimes divestitures of this sort are impractical, and the agency nonetheless chooses not to challenge the merger. In such cases the agency might seek what is called a "conduct" or "behavioral" remedy. These permit the merger to proceed but subject the merged firm to a set of prohibitions and requirements as to how it should operate in the competitively problematic areas of its business. For example, the remedy might prohibit divisions of the newly merged firm from exchanging certain types of information that would give it an unfair advantage or require it to continue to supply independent rivals with some product that they require and which one of the merging companies previously had supplied to the independent rivals. These types of remedies have become controversial due to concerns about

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[36] The parties' lawyers often request meetings with agency officials to present their case for the absence of competitive harm, to which they typically bring company executives and economics consultants/experts.

[37] This was true, for example, of the BP–ARCO merger that is discussed by Bulow and Shapiro (2004) and of the Ticketmaster–Live Nation merger that is discussed by John Kwoka in Case 8 in this Part.

[38] An interesting analysis of these remedies can be found in FTC (1999).

whether or not they succeed in their objective of preserving the same degree of competition as existed in the pre-merger market (Kwoka 2015).

If an acceptable remedy cannot be found, the agency will indicate its intention to challenge the merger in court. Often, this announcement alone will cause parties that are unwilling to endure the additional delays, costs, and uncertainties of a court challenge to abandon the merger.[39] If they choose to contest the agency's action, the agency will typically ask for a preliminary injunction (PI). Usually, within a few weeks the judge conducts a small-scale trial, lasting a week or two, that is nominally about the fairness of granting a PI but is really a mini-trial on the merits of the two sides' arguments about the potential anticompetitiveness of the proposed merger.

The judge's decision on the motion for the PI is often determinative: if the agency wins, the parties are unwilling to appeal and simply cancel the merger;[40] if the parties win, the agency drops the case. But appeals to a federal circuit court of appeals by either side are possible.[41] Or the losing party can (but only rarely does) request a full-scale trial on the merits of the case, which can take many months or even years of pretrial maneuvering, extensive document requests and depositions, and a lengthy trial itself.[42]

It should be noted that not all mergers are reviewed by the DOJ or FTC or are even subject to the *Merger Guidelines* standards. In regulated industries, primary antitrust authority sometimes rests with the regulatory agency,[43] or authority is shared with the DOJ or FTC.[44] The regulatory agencies usually evaluate mergers under a broader "public interest" standard, of which antitrust concerns constitute only one part. In addition, sometimes private parties can bring suit where they can demonstrate the nature and significance of the adverse effects of a merger on them—and therefore to consumers more generally.

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[39] This happened, for example, in the MCI WorldCom–Sprint proposed merger discussed by Pelcovitz (2004) and in the AT&T–T-Mobile proposed merger discussed by Patrick DeGraba and Gregory Rosston in Case 6 in this Part.

[40] This happened in the Staples–Office Depot proposed mergers in 1997 and 2016 that are discussed in Case 9 by Serdar Dalkir and Frederick Warren-Boulton in this Part.

[41] This happened in the Heinz–Beech-Nut proposed merger that is discussed Baker (2009).

[42] If the DOJ is the prosecuting agency, the trial takes place in federal district court, and the losing party can then appeal to a circuit court of appeals and then to the Supreme Court. If the FTC is involved, the case is adjudicated by an administrative law judge (ALJ), who then reaches a decision and writes an opinion. The losing party can then appeal to the full Commission for a final agency decision. If the merging parties are unhappy with the Commission's decision, they can appeal to a circuit court of appeals.

[43] This was true of the UP–SP merger discussed by Kwoka and White (2004).

[44] This was true of the proposed EchoStar-DirecTV merger discussed by Gilbert and Ratliff (2009), the proposed Exelon–Public Service merger discussed by Wolak and McRae (2009), the NBC–Comcast merger discussed by Rogerson (2014), and the proposed Comcast–Time Warner Cable discussed by William Rogerson in Case 18 in Part III.

WHITHER MERGER ANTITRUST POLICY?

The modern *Merger Guidelines* were controversial when introduced in the early 1980s, but after over three decades they have clearly stood the test of time as an organizing framework for the antitrust analysis of mergers. That does not mean, however, that all controversy has disappeared. Increasingly vocal critics believe that too many mergers are being approved that turn out to be anticompetitive, and there is some evidence suggesting that may be the case. Other critics would like to see antitrust enforcement return to its populist roots and embrace other concerns, ranging from sheer size of companies to pursuit of jobs and other non-efficiency objectives.[45]

On the other hand, there are those who believe that the agencies are not giving sufficient weight to the prospects of efficiencies that can be created by mergers and to objectives such as innovation.[46] Some economic models show that the benefits from efficiencies and innovation can dwarf any short-term deadweight losses from market power.

The debate on these issues is likely to persist for as long as merger policy remains a feature of antitrust; a resolution that is satisfactory to both sides seems highly unlikely. This debate also highlights, however, the continuing importance and relevance of merger policy in the U.S. economy.

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[45] See, for example, American Antitrust Institute (2004) and Khan (2017).

[46] This, for example, was prominent in the Antitrust Modernization Commission's (2007, ch. I.B.) discussion of merger policy. Another critique that is sometimes raised is that the *Guidelines* do not provide sufficient guidance/certainty for prospective merging parties—but also (sometimes by the same critics) that the *Guidelines* need to be more "flexible." It should be clear that both goals are unlikely to be achieved simultaneously.

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CASE 1

The *Aetna-Humana* Proposed Merger (2017)

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INTRODUCTION

In 2015, numerous companies offered health insurance in the United States, but there were five clear leaders in terms of revenue: UnitedHealth Group, Anthem, Aetna, Cigna, and Humana. On July 3 of that year, Aetna announced an agreement to purchase Humana for $37 billion in a combination of cash and stock. A few weeks later, the second and fourth largest health insurers, Anthem and Cigna, announced their own proposed merger. Suddenly, it was possible that the five leading health insurers could merge into just three. In this chapter we discuss the economic analysis in the proposed Aetna-Humana merger.

Aetna and Humana ("the defendants") provide a wide range of insurance products to, at the time of the merger, 23 and 14 million enrollees, respectively. The products offered include medical, pharmacy, dental, life, and disability plans, as well as plans for Medicare- and Medicaid-eligible individuals.

On July 21, 2016, after a yearlong investigation, the Department of Justice and several state attorneys general (the "government") filed Complaints that sought to enjoin both proposed mergers. The investigation led the government to bring non-overlapping cases that focused on different markets, so each case proceeded separately. The *Aetna* Complaint alleged harm in two sets of markets: (a) the Medicare Advantage insurance market

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in 364 counties; and (b) insurance sold on the Affordable Care Act ("ACA") public exchanges in 17 counties.

The *Aetna* bench trial took place in December 2016 and lasted three weeks. The economic debate focused almost exclusively on Medicare Advantage insurance products, described in more detail in the next section, and specifically on two key questions:

First, whether Medicare Advantage plans constituted a relevant antitrust product market separate from Original Medicare options. Market definition had important repercussions for concentration and competitive effects, as the defendants jointly accounted for a large share of Medicare Advantage enrollees across the counties at issue. However, if the relevant product market included at least some Original Medicare options in addition to Medicare Advantage plans, this would considerably reduce market concentrations.

Second, whether several mitigating factors could offset the competitive harm that would be caused by the proposed merger. These included a proposed divestiture. Defendants offered to divest the Medicare Advantage plans of one defendant in each of the 364 counties at issue to Molina, a smaller health insurer with a limited and unsuccessful track record in Medicare Advantage.

In many ways the debate in this case was relatively standard, with a focus on market definition, which had strong implications for competitive effects, and then a debate over entry, efficiencies, and divestures. The debate did not involve any fundamentally new theories and was mostly about how to measure and quantify relatively standard effects. The general takeaways from this case have to do with how best to present empirical analysis that is often complex, so that courts can understand and trust the results.

The court ultimately found for the government. The decision relies on documents but also provides a detailed discussion of the various economic and econometric arguments made during the expert testimony when discussing market definition, competitive effects, entry, and efficiencies.[1] The decision provides good insight into what analysis the judge ultimately found more convincing. Even though *a priori* many observers thought that this would be a close call, the decision sides with the government's arguments on all of the major issues.

The remainder of this chapter is organized as follows: In the next section, we provide background on Medicare Advantage plans. We then discuss the debates that surrounded the definition of the relevant antitrust market and competitive effects. For each, we first summarize the government's case, then the defendants' case, and the government's rebuttal. Next, we present the arguments over factors that could have potentially offset the proposed merger's competitive harm, including entry, the efficiencies that were claimed by the defendants, and the proposed divestitures. We then summarize the court's decision and conclude.

[1] The exhibits that the government used in trial can be found at https://www.justice.gov/atr/case/us-and-plaintiff-states-v-aetna-inc-and-humana-inc.

BACKGROUND ON MEDICARE ADVANTAGE

The Medicare program, which is administered by the federal government through the Centers for Medicare and Medicaid Services ("CMS"), provides health insurance to eligible seniors aged 65 and older. Medicare partially covers the enrollee's costs of hospital care (Part A) and other medical care costs, such as outpatient care, medical supplies, and preventive services (Part B). Enrollees in Medicare pay deductibles, coinsurance, and copayments in addition to paying the monthly Part B premium. Enrollees have no network, and can seek care from any provider that accepts Medicare rates, which is the vast majority of all medical providers in the United States.

Medicare enrollees can offset the out-of-pocket costs by purchasing a Medigap plan and/or Medicare Part D coverage from a private insurer at additional premiums. Medigap plans supplement Medicare by covering some or all of the cost-sharing requirements in the Medicare plan, such as coinsurance and copayments. Medicare Part D provides seniors with prescription drug coverage in exchange for a premium that is paid to private insurers. For the rest of this chapter, we will refer to the different combinations of Medicare with or without supplements as the "Original Medicare" options that are available to a senior.

Alternatively, seniors can enroll in a comprehensive "Medicare Advantage" insurance plan. These were the products that were central to the *Aetna* case, and the key market definition question was whether they were sufficiently different from Original Medicare options to constitute a separate antitrust product market.

An important difference between Medicare Advantage plans and Original Medicare is that the former are administered by private insurers and use a network of providers, much like employer-sponsored insurance plans. Unlike Original Medicare, Medicare Advantage insurers require or encourage their enrollees to use in-network providers, have a primary care physician, seek preventative and proactive care, select less costly forms of care, and avoid ineffective medical services.

In exchange for these restrictions, Medicare Advantage plans provide seniors with potentially substantial cost savings. Medicare Advantage plans are heavily subsidized by the federal government. Insurers receive from CMS a risk-adjusted fixed fee for each enrollee that is independent of the actual costs that are incurred by the insurer. As a result, most Medicare Advantage plans do not charge seniors a premium. Their total premiums, including the Part B premium that is paid to CMS, tend to be substantially lower than the total premiums that are associated with Original Medicare options. Another salient difference is that many Medicare Advantage plans also offer supplemental benefits in addition to standard coverage under Original Medicare, such as dental, vision, and a variety of other potential benefits.

In 2016, Humana was the largest insurer in individual Medicare Advantage plans, with over 2.5 million enrollees and a nationwide market

share of 21.2%, followed by UnitedHealth with roughly a 20.1% nationwide market share. Aetna was the fourth-largest Medicare Advantage insurer nationally, with a 6% nationwide market share.

MEDICARE ADVANTAGE MARKET DEFINITION

Defining the relevant antitrust market serves two purposes when assessing the potential competitive effects of a proposed merger: First, with a properly defined relevant antitrust market, it is possible to determine the market concentration prior to the proposed merger and the subsequent increase in market concentration as a result from the proposed merger. These measures, often called the "structural analysis," are indicators of whether a proposed merger is likely to lessen competition in the relevant market. Second, market definition frames the set of products that customers view as close substitutes for the products that are sold by the merging parties: the products to which customers might readily turn if the merged firm were to raise all or some of its prices. This identifies the significant competitive constraints that are faced by the merging firms. As a result, market definition highlights where competitive concerns are most likely to occur and provides a focus for modeling competitive effects.[2]

Market definition has two components: geographic, and product. Geographic market definition was not a point of contention in *Aetna*. The government and the defendants agreed that U.S. counties constituted relevant antitrust geographic markets for Medicare Advantage plans. This was largely driven by three factors: First, CMS regulations mandate that a plan that is offered in a county offer convenient coverage and be offered at the same terms throughout the county, so counties were not too large to be a relevant market. Second, CMS regulations require that seniors purchase plans that were offered in their county. Third, evidence presented at trial suggested that insurers would adjust their portfolio of plans at the county level. Therefore, counties were also not too small to be a relevant market.

With both sides in agreement on the appropriate definition of the geographic market, the debate over the relevant product market became the key market definition issue. The government argued that Medicare Advantage plans constituted a relevant antitrust product market that was separate from Original Medicare options in each of the 364 counties at issue. These counties held 1.7 million of the approximately 11.5 million individual Medicare Advantage enrollees in the country. Under the government's market definition, market concentrations were high and would increase substantially after the merger. Defendants jointly had a 59% market share across those counties and a 100% market share within 70 of the 364 counties.

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[2] U.S. Department of Justice and Federal Trade Commission, "Horizontal Merger Guidelines," August 19, 2010 ("Guidelines"), at § 4, available at https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf.

The defendants, on the other hand, argued that a properly defined relevant antitrust product market should include at least some Original Medicare options in addition to Medicare Advantage plans, in which case markets would be less concentrated. There were some minor disagreements between the parties on the exact number of relevant seniors that choose Original Medicare, but even the smaller number offered by the government suggested that roughly half of the potential enrollees choose this option. In some (mainly rural) counties the fraction choosing Original Medicare was as high as 90 percent. The defendants claimed that Original Medicare was an "eight hundred pound gorilla" and that leaving it out of the market distorted the view of competition.

The Government's Medicare Advantage Market Definition Argument

To support its product market definition, the government offered a fact-based story by building up from documentary and other easier-to-understand evidence to more technical, econometric evidence. The government's argument was not that Medicare Advantage plans do not compete with Original Medicare options at all, but rather that this competition was insufficient to prevent prices from increasing, or quality from falling, after the proposed merger.

The government and its expert began by presenting documents that directly supported its market definition. For example, they pointed to an Aetna internal document that stated that Medicare Advantage and Original Medicare were "apples and oranges."[3] As can be expected, the defendants offered counter-examples. This kind of direct documentary evidence is suggestive, but may not be sufficient to prove a market definition claim.

Some of the documents provided important guidance and support for subsequent economic analysis. For example, an internal Humana analysis presented a decision tree that laid out Humana's view of how seniors make choices, with one branch representing Medicare Advantage and the other Original Medicare. The deciding factor separating the two branches was whether the senior was "willing to accept network restrictions."[4] See Figure 1-1.

Viewing the choice between Medicare Advantage and Original Medicare as a threshold decision that was made prior to choosing amongst different plans was a feature of the econometric model that the expert later presented. The key argument for the government's market argument was that Medicare Advantage appealed to a different set of seniors; consequently, despite its large size Original Medicare did not impose a significant competitive constraint.

The government also pointed to the defendants' organizational structure as evidence for its market definition. For example, economic logic suggests that a profit-maximizing firm will price its products jointly when

[3] PX00021, at 5 (Sept. 22, 2014).

[4] DX0490; PX0519-017.