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Introduction



The rule against price fixing is the least controversial prohibition in competition law throughout the world, and the practice is universally subject to the law's harshest penalties. There is, however, far less consensus than meets the eye on what constitutes price fixing and on how legal regimes should determine its presence. More surprising, prevalent understandings are not grounded in oligopoly theory even though modern competition policy is widely taken to rest on economic substance rather than legal formalism.

This book's central aim is to provide an analytical foundation for designing policy toward coordinated price elevation in oligopolistic industries. In rough terms, the proper methodology is straightforward. First, one articulates the problem and undertakes welfare-based analysis to specify the benefits and costs of attempts to control it. Next, one examines how coordinated price elevation is best detected, attending to the error costs associated with different types of proof. Finally, one sets appropriate sanctions.

These elements of a direct approach have received remarkably little attention in the literature. Instead, commentators, government agencies, and courts display some tendency to focus on penalizing certain sorts of interfirm communications that facilitate coordinated oligopoly pricing. Although such punishment has great value for unmasked cartels, systematic comparison with a more direct, functional approach reveals conventional means to be inferior and in important respects counterproductive in cases without smoking-gun evidence. In those settings, a direct approach dominates the conventionally favored communications-based prohibition in that the former targets situations that involve both greater social harm and less risk of chilling

desirable behavior than those most likely to generate liability under the latter. The direct approach is also less difficult to administer, contrary to conventional wisdom.

On reflection, these conclusions are hardly unexpected. Direct approaches tend to be superior to indirect, circumscribed ones. Analysts, enforcers, and adjudicators usually do best by asking the right question—the one of direct social concern—rather than by attempting to answer a different one. Sometimes indirect tactics turn out to be superior, but this can be ascertained only after sustained analysis that articulates the competing methods and explicitly assesses their differences. It is therefore striking that many of the topics investigated here have been so neglected.

This book proceeds in three parts. Part I offers a fresh, in-depth exploration of competition law's horizontal agreement requirement. Many commentators and, to a degree, courts see this command as imposing a constraint on the inquiry and largely dictating the use of a communications-based prohibition rather than a direct approach to the problem of coordinated oligopolistic price elevation. This conventional view is shown to be incoherent, with the key statutory terms and underlying concepts actually being more in accord with a direct approach. Furthermore, much doctrine as well as practice, both in court and outside, is more consistent with a broader view of the law's prohibition. Finally, it is explained that the narrower interpretation of the agreement requirement has no analogue in modern oligopoly theory, so any attempt to maintain such a legal rule really has to be highly formalistic, divorced from economic precepts.

With much underbrush having been removed, part II analyzes the problem of coordinated oligopolistic price elevation, starting from first principles. The initial step is to assess—more explicitly, carefully, and completely than is usually done—the nature of the social problem, including the possible costs of regulation in terms of chilling desirable behavior through the risk of false positives. The second step is detection, which, it is emphasized, can be done in a number of ways that vary across contexts in their availability and accuracy. Third, one must apply sanctions, another topic that has suffered from too little attention. Contrary to much existing commentary, emphasis here is placed on the deterrent role of remedies, rather than on their *ex post* ability to

restore competition, because a well-functioning system will discourage most violations and prospective compliance is best achieved through the threat of sanctions, not legal injunctions that are more akin to command-and-control regulation.

Part III explicitly compares a direct approach to the orthodox one, a communications-based prohibition. There is an important sense in which this part is not logically necessary, for part II undertakes a ground-up analysis of the problem and a communications-based prohibition is not what emerges. However, given the nearly exclusive focus on this method by commentators as well as the belief that it reflects existing law, a systematic, side-by-side comparison seems valuable and proves instructive. Setting aside cases with sharp, conclusive evidence—in which the two approaches would both assign liability—the communications-based prohibition is seen to be defective in ways that are an immediate consequence of its design: aiming at a subset of symptoms rather than at the problem itself. Specifically, this indirect method requires addressing the same detection question as under the direct approach—identifying whether oligopolistic coordination has taken place—as well as tackling the further question of whether such was accomplished by particular means, prohibited communications. This explains why decision-making is rendered more rather than less complicated. Worse, if one accepts conventional views about aspects of this analysis (which views will be questioned), the consequence is to focus liability on situations involving less social danger and a greater risk of chilling costs.

Because the exposition of all three parts is extensive, it is helpful at the outset to provide a more detailed overview of the analysis, beginning with part I, on the law of horizontal agreements. To set the stage, suppose that firms in a concentrated industry are able to charge the monopoly price and maintain it at this level because those that contemplate cheating (cutting price to enhance market share) fear sufficiently swift and substantial retaliation to render deviation unprofitable. The firms' actions and inactions are interdependent in that each firm's strategic assessment is notably influenced by how it expects the other firms to react.

A central question for competition law is whether such oligopolistic interdependence that produces supracompetitive prices should in itself

be deemed a violation or whether something additional—perhaps secret negotiations producing a signed cartel agreement, perhaps less formal arrangements—should be a prerequisite to liability. Most contemporary writers believe that the law does and should require more than interdependence. It is obscure, however, just what supplement is necessary. Moreover, as many appreciate, this bounded view of the law is in tension with a rejection of formalism and an embrace of economically based competition regulation because coordinated price elevation leads to essentially the same economic consequences regardless of the particular manner of interactions that generates this outcome.

Chapter 2 begins the investigation of the horizontal agreement question by presenting scenarios that illustrate the difficulty of defining agreement in a coherent fashion that successfully distinguishes pure interdependence (firms refrain from price cutting because of an expectation of retaliation derived from a shared appreciation of their circumstances)—deemed to be insufficient for liability—from classic cartels (firms meet secretly in hotel rooms to discuss prices and the consequences of cheating)—widely accepted to be more than sufficient. Of course, most legal categories give rise to line-drawing problems; it is notoriously difficult to distinguish similar shades of gray. The examples presented, however, are more corrosive because they demonstrate how hard it is to distinguish what many regard to be polar-opposite cases, analogous to black and white.

This chapter also scrutinizes the concepts used in discussing horizontal agreements. Initial examination suggests that the standard meaning of terms like agreement, concerted practice, and conspiracy—each of which contemplates a mutual understanding or meeting of the minds—readily encompasses interdependence, although under some alternative definitions this is not the case. There is widespread use of a number of terms having potentially different meanings, which generates substantial confusion. Even more dysfunctional, certain words associated with one category of behavior are sometimes used to denote the opposite category. Interpreting both court opinions and commentary can be almost impossible, and there is room for interpreters to depict key passages, including important canonical statements of the doctrine, as having whatever meaning is desired, especially when these pronouncements are taken out of context. More broadly, intelligent di-

ologue about the agreement requirement is undermined, perhaps without the participants recognizing the extent of misunderstanding that their statements may cause or their readings may involve. To some degree, this state of affairs reflects inattention. But it also is symptomatic of underlying substantive challenges; after all, it never is easy to state with precision ideas that themselves are foggy, inconsistent, or incoherent.

Chapter 3 examines interfirm communications that many, sometimes implicitly, take to be central in defining the law's concept of agreement. The core problem with making the existence of communications determinative is that communication is ubiquitous, among other reasons because most actions, certainly including the sale of a good at a price, themselves communicate pertinent information. If the use of communications constitutes agreement, then pure interdependence (indeed, less) would trigger liability. Therefore, if agreement is to depend on communications and yet be more restrictive, it is necessary to specify some subcategory of communications, perhaps based on the mode of communication or its content, the use of which is necessary and sufficient to constitute agreement. It is explained that this approach is tantamount to declaring the result of price fixing to be *per se* legal while designating as illegal only the use of certain means—and, moreover, suspending the agreement requirement with respect to the decision to use such means, despite the fact that the same agreement requirement is what exonerates price coordination when such means are not employed. Furthermore, if regulation is to be restricted to a particular subcategory of communications, it is necessary to decide whether firms' use of functional equivalents also gives rise to liability. If it does not, circumvention is invited. But if it does—which one might expect under a modern, nonformalistic view of the law—one returns to a prohibition on all successful interdependent coordination, for the function that is meant to be served by the communications in question is to succeed at coordination.

The discussion of communications also considers a range of theories and bodies of evidence about language that seem pertinent but have not previously been applied to the present context. Human language is extremely flexible and adaptable, resisting efforts at regulation. It also can be difficult for outsiders to understand what is being communicated. These and other points are sharply highlighted by sign language—the

very existence of which is deeply problematic for those who implicitly seek to prohibit communication that uses language and yet freely permit the use of signs (like price signaling). It is also observed that standard approaches to defining agreement, which require the presence of particular, purely symbolic communications while excluding tangible behavior that communicates, have as their underlying logic the notion that “words speak louder than actions.” Of course, the more familiar, opposite maxim is better rooted in common sense and, not surprisingly, in the teaching of scholars of strategy, including business strategy with regard to the interaction of firms in an oligopoly.

Chapters 4 and 5 examine how the agreement requirement is reflected in existing doctrine. The provision of U.S. Sherman Act Section 1, which is rarely elaborated directly, does suggest some guidance, particularly through its use of the word “conspiracy.” This term had and continues to have an established legal meaning that is rather expansive. In fact, some of the earlier Supreme Court cases that provide seminal interpretations of Section 1 are also regarded as leading pronouncements on the more general law of conspiracy, and precisely for some of its broader features. More recent Supreme Court opinions contain more restrictive interpretations, although the agreement question was not formally before the Court in these cases and the statements themselves are difficult to give meaning. Practice in the lower courts is quite mixed. In spite of some direct pronouncements that are ambiguous or to the contrary, actual practice is often as if the law regarded successful interdependence to be illegal. Notable in this regard are the “plus factors” deemed sufficient to establish agreement, jury instructions on what must be found to establish an agreement, and damages rules that necessarily reflect a standard of liability due to the requisite causal nexus between liability and compensable injury. Interpretation of EU Article 101 (formerly 81) is also briefly considered. Although the details differ, it is not surprising that similar difficulties arise because the underlying economic problem is identical and the structure of the legal prohibition is almost the same.

Chapter 6 explores what is referred to here as the paradox of proof, a phenomenon that some have previously noted but none have analyzed in depth. This paradox grows out of the interplay of two starting points: (1) deeming agreement to require more than demonstration of success-

ful interdependence—such as by also using certain sorts of communications—and (2) needing to infer the existence of agreement from circumstantial evidence, out of a recognition that parties hide their actions from legal scrutiny. Think about the demand that these factors jointly impose. It is assumed that, in adjudication, it frequently will be impossible to observe the communications that the defendant firms employed. Nevertheless, the factfinder must infer whether or not certain means of communication were used, based on what can be observed about market conditions, notably, how conducive they are to successful oligopolistic coordination and whether such successful coordination appears to have occurred. Because the outcome, interdependent oligopoly pricing, might have come about in any number of ways, the process of making inferences about whether the unobserved communications employed by the defendants were of one type rather than another is challenging, to say the least.

There is also a particular feature of the inference process that seems paradoxical: Evidence indicating that the conditions are more conducive to successful coordination—which makes successful price elevation more likely—may reduce the likelihood of the existence of an agreement, defined for present purposes as the use of specified means of communication rather than others. Conventional wisdom suggests that, beyond some point, the greater the danger of coordinated oligopoly pricing, the stronger will be defendants' claim that they were able to accomplish it without using any prohibited means. Chapter 6—with later elaboration in chapter 17—explores this logic and a number of important variations in detail. The conclusion is that the information, about both oligopoly behavior in general and the particular nature of the industry and its firms, that is necessary to assess the likelihood of the use of prohibited communications is highly complex and subtle, posing a serious obstacle to factfinding. Moreover, the implications for parties' litigation strategies are jarring. It will be highly case-dependent which party should be on which side of many factual disputes, and whichever side does make sense for each party could readily flip mid-stream, such as if some witness proves to be more or less powerful than the parties had anticipated. In all, careful analysis of the paradox of proof has a whimsical feel, seemingly far removed from what appears to be the standard practices of firms, their lawyers, and adjudicators. It is

thus difficult to reconcile, on one hand, the reasoned implications of what many claim that the law on agreement is and should be with, on the other hand, what the law in action is in fact or with what one might ever imagine it could be.

Chapter 7 closes part I by assessing the relationship between modern oligopoly theory and the meaning of the agreement requirement. Because competition law seeks to regulate oligopoly behavior and, moreover, to ground such regulation in modern economic understandings, it would seem to follow that, if the law's notion of agreement reflects economic substance, the agreement requirement would correspond to a core distinction drawn in oligopoly theory. As it turns out, that theory, which is an application of game theory (particularly, that of repeated games), does have an explicit notion of agreement. But this notion refers to binding agreements and thus is irrelevant for present purposes because competition law renders horizontal price-fixing agreements void *ab initio*. When agreements are not taken to be automatically enforced by an outside authority, another branch of game theory is applicable. But the pertinent theory, models, and analysis are applicable equally to successful oligopolistic coordination accomplished through pure interdependence and to that effectuated in the form of a classic cartel. That is, the distinction that many would have the law make central is, as a first approximation, nonexistent in the relevant economic theory.

Modern oligopoly theory does, however, have a central concept—whether parties' strategies constitute an equilibrium—that may be applicable in a somewhat different manner. The concept of equilibrium is closely related to the idea of a meeting of the minds that both is at the very essence of interdependent oligopolistic coordination and constitutes a standard definition of agreement and related terms. Equating the concept of equilibrium with agreement is not without its problems, but it really is the only concept in the relevant theory that relates in a significant way to the notion of an agreement. This chapter also considers the roles of communications and of promises in oligopoly theory, finding each of potential relevance but neither hinging critically on a notion of agreement.

It is hoped that the first part of the book advances thought on the best way to regulate coordinated oligopoly behavior through competition law. Because the near consensus of present opinion centers on a

criterion—or, more likely, numerous differing criteria—of uncertain meaning and fails to appreciate many implications of the dominant view, it is important to clarify terminology, eliminate much underbrush, and begin the task of using modern oligopoly theory to analyze the problem directly. It is difficult to compare, say, liability based on interdependence with a rule requiring more if we do not know what that more is, how to identify its existence, or how it relates to the justification for limiting oligopolistic interaction. And even simple points about terminology are critical, for it is hard to assess competing arguments when they are couched in language susceptible to multiple, even opposite, interpretations. In addition, a partial but possibly substantial explanation for the almost complete avoidance of direct policy analysis in this realm seems to be the belief that existing law in most jurisdictions dictates a particular, immutable solution. Accordingly, showing that such is not the case in a number of important respects should free analysts and policy-makers to consider the problem anew.

It is tempting to go further and conclude from the analysis in part I that a different, concrete normative conclusion is established: that the horizontal agreement requirement is best interpreted as applicable to all interdependent behavior that is successful in producing elevated prices. After all, from each of the angles considered, virtually every difficulty derives from attempting to define agreement as requiring something more, whatever that may be. But such a conclusion would be premature. Competition policy is not best advanced by relying on a formal, interpretive enterprise, even when that undertaking seems to yield an outcome that is in accord with modern economic teachings. Instead, the thesis advanced here is that competition policy should be grounded directly in economic analysis of the pertinent issues, which the remaining two parts of this book undertake.

Part II comprises a three-step inquiry, focusing on articulation of the social problem, detection of its presence, and the application of sanctions. The first step begins in chapter 8 by examining the social welfare consequences of coordinated oligopolistic price elevation. From the outset, it is notable that none of the pertinent theory directly distinguishes between successful coordination due merely to recognized interdependence and that resulting from classic cartel behavior, or various cases in between. The harm from price coordination in

terms of allocative inefficiency or loss in consumer welfare depends most directly on the extent and duration of supracompetitive pricing, not on the means of reaching or maintaining an understanding to charge the heightened price.

From a dynamic perspective, price elevation may also cause production inefficiency on account of excessive entry. There are some settings in which additional entry could be efficient due to insufficient product variety or other difficulties in recovering fixed costs. Such benefits might sometimes justify some price elevation, but—crucially for present purposes—do not directly distinguish the means by which it is accomplished. The expectation of above-marginal-cost prices also induces a number of other kinds of investments, many (but not all) of which are efficient. Such investment tends to be encouraged by the prospect of unilateral exercises of the market power created by such activity rather than by collective price elevation that is independent of it; indeed, incentives for efficient investment may be dampened by the presence of coordinated price elevation. This distinction provides the core rationale for prohibiting price fixing while ordinarily permitting unilateral price elevation by individual firms.

Chapter 9 presents a framework for assessing competition rules. An economic approach to limiting coordinated oligopolistic price elevation seeks to determine liability and apply sanctions based primarily on the deterrence benefits that result as well as any chilling of desirable behavior that may ensue, while also considering the expense of operating the regime. In assessing the cost of false positives, attention focuses on incidental negative behavioral effects, not on mistakes that are defined by reference to proxy legal standards and then given arbitrary weight. An example that will prove important involves imposing sanctions on firms that actually charged elevated oligopoly prices, the prospect of which deters such behavior. This outcome is favorable in terms of social welfare but under some legal standards would be deemed to be an undesirable error in cases in which the firms did not employ forbidden modes of communication. It will also be seen that examining the rate of false positives (properly conceived) provides a highly incomplete and potentially misleading (even backward) indication of how well a system is functioning, particularly with regard to achieving deterrence. In addition, the optimal legal policy depends heavily on empirical matters,

such as the extent of coordinated price elevation in the economy and the potential success of various means of detecting it; some evidence is reviewed, but important gaps in knowledge remain.

Chapters 10 and 11 explore the problem of detection, the greatest challenge in the control of interdependent oligopoly pricing. Firms naturally seek to hide illegal aspects of their behavior, and reliable indicators are not always readily obtainable by enforcers. One approach is to employ market-based evidence to identify successful oligopolistic coordination. Price elevation may be inferred from pricing changes over time, such as the observation of significant industry price increases not accompanied by corresponding changes in cost or of sharp price drops associated with price wars. Alternatively, markups might be determined from measures of price and marginal cost or inferred from the elasticity of firms' demand curves. Note that, as with most of the analysis throughout, these inquiries do not depend on whether detected price elevation originated through classic cartel behavior.

Also relevant to detection is the degree to which conditions are conducive to coordinated oligopoly pricing. Highly conducive conditions make inferences of successful interdependent pricing more credible whereas unconducive conditions cast doubt on its plausibility. However, due to the noisy empirical relationship between industry structure and performance as well as the possibility that conditions are highly conducive yet oligopolistic pricing is effectively deterred, conducive conditions do not in themselves strongly indicate coordinated price elevation—whereas highly unconducive conditions do significantly negate the inference. Conducive conditions also favor liability because false positives and concomitant chilling effects are less likely; unconducive conditions are more often associated with fairly competitive behavior and thus situations in which chilling effects are a greater concern. To preview chapter 17, this feature of sound detection strategy differs importantly from the results of focusing on the existence of particular interfirm communications because, under certain assumptions, more conducive conditions reduce the likelihood that such communications occurred even though they increase the magnitude of the net expected social harm from a failure to apply sanctions.

Another route to detection looks for internal evidence of whether coordinated oligopolistic price elevation took place. In addition to

attempts to observe behavior directly or to infer it from market activity, one can examine firms' internal understandings as reflected in their agents' thinking and actions. Yet another, more familiar form of evidence, often deriving from similar sources, concerns interfirm communications, the existence of which may likewise indicate what firms actually did. When such evidence is clear and powerful, it will generally be sufficient to establish liability, just as under a narrower communications-based prohibition. (The approaches to liability differ when such evidence is unavailable.)

Chapter 12 emphasizes that these internal sources of information are complementary to each other and to market-based techniques. In deciding whether to assign liability in a particular case, all such evidence on detection should be considered in light of the decision-theoretic approach articulated previously. Some forms of proof are more reliable than others and give rise to different risks of particular types of errors. For example, some market-based techniques that attempt to determine firms' marginal costs could result in adverse incentive effects in the case of underestimation, making it optimal to find liability only if the measured price elevation is substantial or other confirming evidence is present. The chapter also considers two additional matters: liability for attempts and the problem of determining which firms should be held liable.

The analysis of sanctions in chapter 13 concentrates primarily on deterrence. In many instances, reflecting current practice, the most important instruments are fines levied by government enforcers and, where permitted, damages collected by injured parties. If the probability of sanctions and their magnitude are sufficient, most coordinated price elevation will be deterred. A major challenge in setting monetary sanctions is determining the extent of price elevation, although this magnitude will often be indicated by much of the evidence on detection considered in chapters 10 and 11. The measurement problem is conceptually the same whether price elevation was accomplished through secret meetings, mere recognition of interdependence, or in any other manner. The threat of imprisonment as well as fines assessed against individual actors can be a useful supplement, particularly in light of agency problems within firms. Injunctions are also considered. Although much aca-

demic commentary fixates on injunctive relief, it is not evident that it is important in controlling coordinated oligopoly pricing.

Chapter 14 examines unilateral market power, a possibility set to the side in the rest of the book and ignored in most prior work on the subject. The exercise of such power sometimes constitutes a competing explanation for price elevation in oligopolistic industries. This possibility raises three questions: whether exercising unilateral market power is also usually socially undesirable and thus should be prohibited by competition law; if it is not, how one can distinguish it from coordinated price elevation; and how one should err in cases of uncertainty. Analysis focuses both on industries with homogeneous goods and on those with differentiated products, the former of which are more relevant for present purposes because coordinated pricing is generally thought to be difficult when differentiation is substantial.

Chapter 15 addresses two additional subjects. Institutional issues, which influence the cost and accuracy of investigation and adjudication, are important in fashioning competition rules. Second, coordinated behavior may involve not only price—the focus of this book—but also nonprice terms, such as product characteristics, territories, and other dimensions of competitive strategy. The logical structure of the analysis presented throughout is largely relevant to nonprice coordination, although, as will be discussed, the relative importance of different considerations, particularly concerning detection, can differ significantly depending on the nature of the coordination involved.

As suggested at the outset of this introduction, part II would seem to offer a complete analysis of the regulation of price fixing by considering the nature of the problem, how to detect its presence, and what remedies to apply. In the course of this investigation, the commonly advocated approach of attacking only express and perhaps also tacit agreements, variously defined, barely surfaces. That is, it does not emerge from a systematic consideration of how best to address coordinated oligopolistic price elevation. Nevertheless, it is useful to compare these methods more explicitly, which is done in part III.

Chapter 16 begins by defining the conventional prohibition in an operational fashion. As we know from part I, this is a daunting task. Most views can be captured by supposing that the price-fixing prohibition is

limited to certain sorts of interfirm communication, whether designated by mode, content, or otherwise. This formulation on its face seems problematic because it focuses not on whether the means employed in fact caused harm in a given case but rather on whether one versus another means was employed. Preliminary consideration of social welfare consequences suggests a negative assessment, for the distinction drawn has little relationship to welfare.

Moreover, making this type of distinction central to the prohibition suggests that detection will often prove difficult, which chapter 17 indicates is indeed the case. The essential contrast with the direct approach outlined in part II is that the communications-based prohibition uses a large portion of the most relevant evidence indicative of undesirable behavior in an indirect way and also counts evidence concerning conduciveness of conditions backward, generating what chapter 6 already expounds, the paradox of proof. Specifically, under certain assumptions that many endorse, evidence of a high danger of successful coordinated oligopoly pricing exonerates firms instead of raising the likelihood that they will be subject to sanctions. It is explained in chapter 17 that, if one calibrates the burden of proof under the direct approach to find liability in the same number of situations as under the communications-based prohibition, then the direct approach dominates. The cases it targets involve both greater social danger and less risk of chilling desirable behavior than those most likely to generate liability under commentators' favored rule.

This comparison can be further illuminated from another perspective. If the major concern with too aggressive an approach toward coordinated oligopolistic price elevation is the risk of chilling desirable activity as a consequence of the anticipation of false positives, then the best response would naturally be to raise the burden of proof under a direct approach. The communications-based prohibition does not take this route. Instead, it requires demonstration of particular behavior that not only is hard to identify but also is not well correlated with high deterrence benefits and low chilling costs—indeed, in certain ranges, it may be negatively correlated with both. If one attempts to optimize the proof burdens (adjust the liability/no liability boundaries) under this circumscribed prohibition, one is led to reshape it into the direct approach.

In addition, the communications-based prohibition raises the cost and complexity of investigation and adjudication. The rule requires that one not only determine the presence of interdependent oligopoly pricing—the focus of the direct approach elaborated in part II—but also identify the means by which it was accomplished. The latter compels additional effort. Also, because the difference between permitted and prohibited means is formally rather than functionally determined, there is little empirical evidence that can guide the necessary inference process, so substantial conjecture is required. As a consequence, the conventional approach—in addition to producing inferior substantive outcomes—is significantly more challenging to apply, which is ironic in light of its widely being favored on administrability grounds.

Chapter 18 considers a number of additional subjects: the determination of sanctions under a communications-based prohibition; an alternative rule under which liability cannot be based on circumstantial evidence, contrary to the long-standing norm in competition law; implications of the contrasting approaches for other areas of competition law, such as the stringency of limits on horizontal mergers and the regulation of practices that might facilitate oligopolistic coordination; and the manner in which rapid evolution in communications technology might influence the analysis, particularly concerning detection.

Finally, the leading three arguments offered in favor of the traditional view—although responded to in substance at various points earlier in the book—are related explicitly to the foregoing analysis. One argument asserts a difficulty in attacking purely interdependent behavior because such would involve commanding firms to behave irrationally. This criticism is mistaken because it omits consideration of deterrence: applying heavy sanctions to certain choices will change what firms find it rational to do. Another objection is that making price elevation by oligopolists illegal is inconsistent with the legality of price elevation by monopolists. This point ignores the aforementioned purpose of separate, more stringent prohibitions on group behavior and, moreover, the notion implies that classic cartels should be legal. Third, it is argued that remedies, particularly injunctive relief, directed at price elevation are problematic because they amount to price regulation. This claim is misconceived because, as mentioned, effective control is best accomplished through penalties that achieve deterrence rather than by relying on directive

legal commands. However, the argument is suggestive of an important concern with competition policy regarding price fixing that is underdeveloped in the existing literature, namely, that the detection of violations can be quite difficult, raising the problem of false positives, the prospect of which chills desirable behavior. As emphasized throughout part II, this concern should indeed be central in shaping the optimal legal regime, but the analysis shows that it does not imply the desirability of the conventional approach over a direct method that takes explicit account of possible chilling costs.

Parts II and III of this book, which contain the policy analysis, are qualitatively different from most prior work on what rule should govern coordinated oligopolistic price elevation. Indeed, as noted earlier, there is little overlap even in the topics that are addressed. The central reason for this divergence is that the focus here is not on the question that has preoccupied much previous discussion: “How should we define the term ‘agreement’?” Instead, this book concentrates on the question: “What approach toward coordinated oligopoly pricing best promotes social welfare?” In answering the latter, it is natural to proceed by examining the nature of the problem and then determining how to identify its presence and to remedy it.

Modern competition law emphasizes real economic effects over legalistic formalities, has an open-ended, flexible expression, and could be amended. Also, as part I argues at length, a more substantive approach conforms better to the statutory language, much of the relevant precedent, and aspects of existing practice than does the more formalistic method that is widely endorsed. Even if prevailing doctrine does impose significant constraints, it is best to start by trying to determine what in principle is the most sensible way to address coordinated price elevation.

Coming to a firm conclusion on the best competition policy toward price fixing remains quite difficult even when the problem is properly formulated and analyzed. The optimal rule depends greatly on empirical evidence in realms where existing understanding is incomplete. One set of issues concerns the extent of coordinated oligopolistic price elevation that would prevail under various regimes. Another involves the manner in which such coordinated pricing is achieved—for example, with resort to what sorts of communication—and, more broadly, how

much of it can be detected, by which methods, and at what error cost. Without further knowledge, it is difficult to identify the best rule with any confidence. However, the proffered framework not only guides that decision in the interim but also sharpens the research agenda so that better strategies might be devised in the future.