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Michael Whinston is one of the economists who have contributed most to the understanding of antitrust issues. His works, alone or with co-authors (especially Douglas Bernheim and Ilya Segal), have shed light on such issues as exclusive contracts, tying, and multi-market collusion among others. For this reason, the publication of his book *Lectures on Antitrust Economics* is an event many people have looked forward to.¹ They will not be disappointed.

The book is not intended to be comprehensive, as it limits itself to three particular topics, namely price-fixing, horizontal mergers, and exclusionary vertical contracts. However, the insights given, the new perspectives offered when surveying both theoretical and empirical work, and the depth with which the arguments chosen are treated, make the book well worth its price and the time devoted to read it.

Apart from economists who have a research interest in antitrust issues, the main audience for the book should be graduate students who have already a background in industrial organization. (The book takes for granted that the reader knows the basics of industrial economics and, to a lesser extent, of antitrust law: there is a brief introduction on U.S. law.) Indeed, the treatment is at too high-level for undergraduate students and for lawyers.

1 M. WHINSTON, *LECTURES ON ANTITRUST ECONOMICS* (MIT Press 2006).

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Graduate teachers may also use the book for a selected topics course in a Ph.D. program, if properly complemented with other readings. An alternative title for the book may have been “Invitation to Antitrust Economics” as graduate students and economists fluent in modern microeconomics but unfamiliar with antitrust might use this book for a first approach to the field. Hopefully, Whinston’s selection of topics and his thoughtful remarks will push some readers to know more of antitrust, and do research work on it.

The book is composed of a short introductory chapter and three chapters that I now succinctly describe and comment on. Since we economists suffer from the referee’s bias syndrome, I will focus more on those (rare) matters on which I have some critical remarks. But these minor remarks do not modify my overall conclusion that this is an excellent and thought-provoking book which is highly recommended. A consequence of this bias is also that I will mainly deal with Chapter 2, which I feel warrants more discussion, whereas I will say very little about Chapters 3 and 4, which are outstanding and very accomplished in my view.

Chapter 2 deals with price-fixing (i.e., agreements among competitors to restrict output or raise prices—synonyms include the terms “cartel” and “explicit collusion”), and it starts in a provocative way, by underlining that price-fixers may sometimes have pro-competitive justifications for their cartels. It also cites Mankiw and Whinston’s result from their 1986 paper that free entry may lead to too few (or too many) firms at equilibrium from the point of view of welfare: relaxing competition may therefore lead to higher welfare.² Only after a few pages does Whinston explain how the possible benefits from cartels are not likely enough to justify a rule of reason: given the exceptionality of welfare-improving cartels, it would be too costly for the courts to depart from a per se rule of prohibition of price-fixing (that is, there is no justification which can be invoked to allow a cartel).^{3,4}

2 See G. Mankiw & M.D. Whinston, *Free entry and social inefficiency*, 17 RAND J. Econ. 48-58 (1986).

d’Aspremont and Motta (2000) analyze the trade-off between concentration and competition. They show that—as Whinston argues—very fierce price competition may lead to too-concentrated an industry, but also that joint-profit maximization (the solution that a cartel would choose) is never optimal from the point of view of welfare. See C. d’Aspremont, C. & M. Motta, *Tougher Competition or Lower Concentration: A Trade-Off for Antitrust Authorities?*, in MARKET STRUCTURE & COMPETITION POLICY: GAME-THEORETIC APPROACHES (G. Norman & J. Thisse eds., 2000).

3 Incidentally, throughout the book Whinston repeatedly uses the theoretical result of Mankiw & Whinston (1986), to qualify welfare results obtained for exclusionary vertical restraints: for instance, he suggests that entry-deterrence by a monopolist might not be bad if the market led to too much entry (see Mankiw & Whinston, *supra* note 1, at 151, 166, and 188). However valid this argument from a theoretical standpoint (but how would one apply it in practice?), from the policy point of view it should be dismissed, for the same reasons Whinston uses to explain why the per se rule of cartel prohibition is appropriate: it would be too costly for courts to consider a monopolist’s claim that absent its predatory or exclusionary practices the market would have led to too much entry. Further, how many markets do we know where there are “too many” firms?

4 I would have not started a chapter on cartels by mentioning their possible pro-competitive effects, but I guess this was made intentionally, to arouse interest.

Faithful to his declared objective “to unsettle the discourse a bit” in the most settled area of antitrust,⁵ Whinston offers a stimulating perspective in Chapter 2. Rather than dealing with what economics has achieved in explaining collusion,⁶ the chapter stresses where economics has been less successful in dealing with collusion. In particular, the main theme of the chapter deals with the difference between firms talking and not talking to each other; that is, the difference between tacit and explicit collusion. Indeed, economics has so far been unable to model this difference: the standard supergames literature applies to tacit collusion as much as to explicit cartels, and does not capture (at least not directly) the effect of competitors talking to each other (i.e., if they engage in price-fixing).⁷

Starting from this basic consideration, Whinston also surveys the empirical literature, trying to answer the question: does it really matter if firms talk to each

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other? He surveys works which have tried to estimate either the impact of conspiracies (to what extent have they led to higher market prices?), or the impact of antitrust interventions (have they led to a decrease in prices?), and concludes that overall “the published evidence on the effect of price-fixing conspiracies is somewhat mixed.”⁸ He also appeals to more scientific work in this area: while there is a whole branch of forensic economics that is busy in estimating damages in price-fixing cases, it is rare that this type of work appears in refereed publications.

I share Whinston’s concern that there should be more econometric work on the effects of cartels, but I am a little more skeptical about some of the studies mentioned here, in particular those that indicate scarce effects of antitrust inter-

5 WHINSTON, *supra* note 1, at 3.

6 Modern theory on collusion is based on supergames. Through simple models, we are able to understand the problems of firms’ incentives to collude and of firms’ coordination. We also know a lot about the factors that facilitate collusion, which is crucial for the design of policies against collusion. For a discussion of facilitating practices, not dealt with in this book, see, e.g., M. MOTTA, *COMPETITION POLICY: THEORY & PRACTICE* (Cambridge University Press 2004).

7 As Whinston observes:

Of course, most economists are not bothered by this [failure to explain formally the role of talking to each other], perhaps because they believe (as I do) that direct communication (and especially face-to-face communication) often will matter for achieving cooperation, and that pro-competitive benefits of collusion are both rare and difficult to document. Nonetheless, it would be good if economists understood better the economics behind this belief.

WHINSTON, *supra* note 1, at 26.

8 *Id.* at 38.

ventions (one way to see the impact of price-fixing is to see what happens to market prices when there is a cartel indictment).^{9,10} Some of the cited papers contain price data that are insufficiently disaggregated, others refer to old cartels, and it is therefore possible that the laws did not provide sufficient deterrence from collusion (Whinston himself underlines that cartel penalties have been increased to serious levels only recently). And finally in some cases a past (overt) agreement might provide focal points to the firms, which could continue to coordinate on high prices even without talking to each other: it is only with time, when demand and supply shocks change the industry conditions, that the impossibility to talk to each other will show its effects.¹¹

Speaking of changing industry conditions over time, let me mention what is, in my opinion, one of the most important challenges facing economists in the field of collusion, namely understanding how renegotiation affects collusion. The existing models of collusion are not satisfactory in this respect (and may even arrive at the paradoxical conclusion that the possibility to talk jeopardizes collusion by undermining the credibility of the punishment which should take place after a deviation from collusion) and yet this is probably where—together with helping solve coordination problems—talking to each other helps most. In the real and ever-changing world, firms cannot write complete contracts specifying what to do in any possible occurrence, and they need to talk to each other to fill the gap in their incomplete cartel contract (and to avoid misinterpreting as deviations actions which are instead undertaken because of a changing environ-

9 Connor (2005) reviews hundreds of studies and identifies 674 observations of cartel overcharges, in all times and countries. The median overcharge for all cartels is 25 percent, the mean is 49 percent. Estimating cartel overcharges is not an easy task, since it involves estimating the difference between actual price and a counterfactual, and it is unclear to me how many of the studies cited by Connor would satisfy current economic journals' standards. However, since the data are so numerous and are computed using so many different methods, and yet tend to give similar results, it is tempting to find some truth in them. See J. CONNOR, PRICE FIXING OVERCHARGES: LEGAL AND ECONOMIC EVIDENCE 4-17 (Purdue University, Staff Paper No. 04-16, 2005).

10 In very recent work, Langus and Motta (2006) look at the effects that dawn raids (the first publicly available information that a cartel is being investigated) and European Commission's decisions to fine firms for cartel activities have on the share prices of the infringing firms, by using EC antitrust data and event-study techniques. They find that on average the former decrease firms' valuation by 2.4 percent and the latter by around 1.5 percent. Most of the drop is not caused by the fines (which account for only roughly one percent), so it must be due to the likely cessation of the profitable cartel activity. In turn, this should imply that investors expect investigated and fined firms not to be able to sustain high prices any longer (or to a lower extent). Indirectly, this suggests that antitrust activity does have an effect on market prices. See G. LANGUS & M. MOTTA, THE EFFECT OF EU ANTITRUST INVESTIGATIONS AND FINES ON THE FIRM'S VALUATION (European University Institute, Working Paper, 2006).

11 Furthermore, in some cases an explicit agreement may entail market-sharing clauses with each firm selling in a separate geographic market. When this is the case, the end of an explicit agreement may not change things that much. A firm will think twice before entering its rivals' markets, anticipating that they would react by entering its own market. Moreover, to the extent that shocks are local, such a collusive situation may survive the existence of shocks.

ment), as described in Genesove and Mullin's beautiful account of the U.S. sugar cartel in their 2001 paper.¹²

The chapter concludes with some discussions on how the law should treat tacit vs. explicit collusion and asks a crucial question: given that firms may be able to reach collusive outcomes even without talking, would not a policy which prohibits explicit—but not tacit—collusion (which is the current policy in the United States and the European Community) be clearly insufficient? Here Whinston contrasts two opposite views. On the one hand, Turner's view that tacit collusion should not be seen as an infringement of antitrust law, and that instead one should intervene by adopting industrial restructuring policies (i.e., forced divestitures) that would lower industrial concentration and therefore reduce the possibility that tacit collusion be sustained (concentration is one of the structural conditions which favor collusion). On the other hand, there is Judge Posner's provocative view that economic and econometric evidence could be used to prove the existence of tacit collusion and thus be used by agencies to impose financial (but not criminal) penalties on firms.

Whinston correctly criticizes both views: because nobody would think today of massive de-concentration programs, among other things because we are much more aware of efficiency arguments; and because there is no court of law which would enter into a guessing game of whether a given firm's action is legitimate because of certain market conditions or illegal because it is undertaken with the objective of tacitly colluding.

The chapter ends here, with the recognition that these are difficult issues, and there should be more public debate on these issues. Yet, this is an area in which more could be said. First of all, modern industrial economics has identified a number of factors, beyond concentration, that facilitate collusion. Therefore, one could intervene (in the spirit of Turner) on the environment in which firms act by making it less likely that they could sustain collusion. Prohibiting firms from exchanging disaggregate information (which helps them monitor each other's actions), or preventing them from using certain price clauses or from coordinating on practices (such as resale price maintenance) that favor transparency on the sellers' side of the market, are some examples. (Incidentally, merger control has the same effects as industrial restructuring programs, except it is a preventive action: it prevents sectors from reaching the conditions that lead to tacit collusion.) Further, advances in the study of auctions illustrate how auctions could be designed to avoid bid-rigging.

Furthermore, it is far from clear that tacit collusion can be sustained over time without competitors talking to each other (see the points made above on the necessity for price-fixers to talk in order to deal with changing market condi-

12 D. Genesove & W. Mullin, *Rules, Communication, and Collusion: Narrative Evidence from the Sugar Institute Case*, 91 *AM. ECON. REV.* 379-98 (2001).

tions).¹³ After all, firms have known for a long time that they can sustain collusion without express agreements and yet agencies keep on uncovering documental evidence of meetings and communication among firms' managers. This observation somehow reduces the importance of the question of how to treat tacit collusion, and refocuses our attention on the issue of how to break and deter cartels (i.e., explicit collusion).

This is also an area in which there have been important developments, both from the theoretical and the policy point of view. First, the introduction of leniency programs (first in the United States, then in the European Community and in most OECD countries) has shown how firms (and their managers) can be induced to report evidence that allows agencies to successfully prosecute cartels, and to break price-fixing. Second, there has recently been a lot of debate on how to deter cartels, leading legislators around the world to increase financial penalties, introduce (e.g., in the United Kingdom) or increase (e.g., in the United States) criminal penalties, promote private actions for damages, discuss how to introduce compliance programs and codes of conduct for firms, and so on. Finally (and this is a point that Whinston also makes in this chapter), there is more attention on how to detect the existence of collusion, so as to allow agencies to direct their investigative efforts to those markets that may hide cartels.¹⁴

Chapter 3 deals with horizontal mergers and blends theoretical and empirical aspects in an outstanding way. The first part of the chapter starts with Williamson's trade-off between market power and efficiency saving (which is still the cornerstone of the analysis of mergers), proceeds with an insightful description of Farrell and Shapiro's model of mergers (which provides some useful clues for the practice of merger control), and closes with a detailed analysis of the U.S. merger guidelines. The second part of the chapter—the most interesting in my opinion—surveys the different empirical methods which can be used in the analysis of mergers, both in identifying the relevant antitrust markets (the first step in a merger analysis), and in predicting the likely effects of the mergers. Whinston also surveys (ex post) empirical evidence on the effects of actual mergers, something that is probably of less direct utilization for the practice of merger control, but which gives useful insights as to the reliability and limits of the different econometric methods that antitrust agencies could use.

One might wish to receive a little more practical guidance from the author—for instance which methods to use under which circumstances—but admittedly this is an area where the most promising techniques are of very recent development, and it is therefore difficult to compare their validity and fully understand their limits and advantages. Chapter 3 is really an excellent introduction to the

13 Talking to each other might also be necessary to agree on a market allocation.

14 See, e.g., J. Harrington, *Behavioral Screening and the Detection of Cartels*, in *EUROPEAN COMPETITION LAW ANNUAL 2006: ENFORCEMENT OF PROHIBITION OF CARTELS* (C.-D. Ehlermann & I. AtanasIU eds., 2006).

econometrics of mergers, and is highly recommended to all those graduate students who want to apply econometric techniques to the analysis of mergers.

Finally, I also like the fact that Whinston devotes some attention to the long-run consequences of mergers, in particular the impact that they could have on research and development. This is an area in which we know very little and more research is needed.¹⁵

Chapter 4 is a masterly piece. It focuses on one particular class of vertical restraints, namely exclusivity clauses in vertical relationships.¹⁶ Here Whinston manages to provide a unifying conceptual framework to present all the different models which have appeared in the literature to deal with such issues. The central insight is that it is the existence of contracting externalities (either on parties which are not included in the contracting process or among parties which are included in the contracting process, but arising because contracts are bilateral) that allows understanding of when exclusive clauses will be signed, and what effects they will have on welfare. This idea was already present in Bernheim and Whinston's 1998 article,¹⁷ but here it is not only explained more simply, but is

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also extended to explain a number of contributions not discussed in their paper. For instance, the presentation of Hart and Tirole's model (in which exclusive territorial clauses are used by a manufacturer in order to restore the monopoly power it would lose due to a commitment problem)—with the contrast between the case in which retailers are independent local monopolists and the other extreme case where they sell undifferentiated products—is very illuminating.¹⁸

15 Mergers might also lead to restructuring of capital, which may have important consequences on prices and efficiency in the medium- and long-run. See, e.g., J. Chen, *The effects of mergers with dynamic capacity accumulation* (2006) (mimeo, U. California at Irvine) (on file with author).

16 Exclusivity clauses take the form of exclusive dealing when a retailer agrees to buy from one particular manufacturer only and not from other manufacturers (Whinston calls them "exclusives to reduce competition in input markets"), and of exclusive territorial protection when a manufacturer commits to sell to one retailer only and not to others ("exclusives to reduce retail competition").

17 B. Bernheim & M. Whinston, *Exclusive Dealing*, 106 *J. Pol. Econ.* 64-103 (1998).

18 However, treating exclusive dealing and exclusive territories as if they were the same phenomenon might be slightly misleading from the point of view of competition policy practice. The former affects inter-brand competition and the latter intra-brand competition, and most economists would agree that competition agencies should concentrate their efforts to vertical restraints that affect inter-brand competition, whereas a number of efficiency reasons may be invoked to justify clauses that restrict competition among retailers offering the same brand. Further, if I had to name a reason why exclusive territories may harm welfare I would mention Rey and Stiglitz (1995)'s argument that they relax competition among retailers and therefore lead to higher prices. See P. Rey & J. Stiglitz, *The Role of Exclusive Territories in Producers' Competition*, 26(3) *RAND J. Econ.* 431-51 (1995).

The analysis in most of this chapter (not only in Section 4.4, which Whinston himself recognizes as more difficult) is necessarily more advanced than in the other chapters, but the readers who are already familiar with the original papers (some of which are not easy to digest themselves) will find a lot of value in the presentation, which draws together different branches of the literature in a very insightful way. Further, this chapter is highly recommended to all those readers who are not familiar with the literature and want to approach one of the most exciting—and still developing—areas of antitrust.

Whinston also indicates some possible policy implications that can be drawn from the literature on exclusive clauses, and closes the chapter with a discussion of possible pro-competitive effects of exclusive contracts and a brief survey of the (very few) empirical works on the issues.

In sum, this is a nice book that I highly recommend. Hopefully, it will encourage discussions and economic research on a number of important topics. ▼